



# STRUCTURAL PRODUCTS DESIGN MANUAL

*Trus Joist is the world's leader in the manufacture and application of engineered lumber products. We provide the most comprehensive line of structural products in the industry for applications from residential and multi-family dwellings, to retail stores, office buildings, schools, hotels and other commercial structures.*

*For ease of use, this manual has two divisions; refer to the appropriate division for full technical information on the applications that best suit your needs.*

## **Division I: Commercial Products**



These products are primarily intended for use in retail stores, office buildings, schools, restaurants, hotels, warehouses, nursing homes, etc. They are typically designed, manufactured and sold by Trus Joist for each specific job. For additional information, contact your Trus Joist representative or call **1-800-628-3997** for the Trus Joist representative nearest you.

## **Division II: Residential Products**



These products are primarily intended for use in single and multi-family dwellings. They are readily available through our nation-wide network of distributors and dealers. For additional information, contact your Trus Joist representative or call **1-800-628-3997** for the Trus Joist representative nearest you.

# Introduction

## Trus Joist

From its founding in Boise, Idaho, in 1960, Trus Joist has established a record of phenomenal growth, becoming one of the world's leading manufacturers of roof and floor structural components. More than 175 technical representatives serve architects, engineers and builders throughout the United States and Canada from over 90 sales offices and 16 manufacturing plants. The growth and success of the company is based upon recognition and acceptance of Trus Joist's unique product line and many years of proven performance. All products are manufactured in Trus Joist facilities to rigid standards. It is the continuing commitment of Trus Joist to maintain the highest possible standards for both product quality and customer service.

## Research and Development

The Trus Joist Research and Development group is one of the most active and prolific in the wood products industry. All Trus Joist products were created and developed by this department, as was most of the machinery used in the manufacture of those products. The department is also recognized throughout the industry for having contributed a significant amount of the present technology utilized in the gluing of structural wood, as well as considerable research into the strength of various wood species. Currently, research continues into ways of achieving even more efficient utilization of wood fiber and into new and innovative product engineering.

It is through Research and Development that Trus Joist has succeeded in providing the construction industry with a line of unique structural components. These components have enabled architects to expand their design horizons, engineers to achieve new levels of structural precision, and builders to gain new efficiencies in construction.

## Engineering

Trus Joist maintains a large staff of professional engineers and technical specialists charged with ensuring product and application integrity for each project. The most advanced technology in the industry helps Trus Joist design each product application quickly and with precision.

Trus Joist engineers also supervise a rigid quality control program which demands that all Trus Joist products be manufactured to precise tolerances and that they meet or exceed code requirements. Trus Joist engineers are available to advise customers with specific design or detailing requirements related to our products.

## Technical Support

Trus Joist fields a sales force of more than 175 technical representatives, many of whom have design and engineering backgrounds. Their services include consultation, computer-assisted design and layout, delivery coordination and installation review. They'll suggest cost-

cutting installation techniques and check special application requirements. And, of course, they're backed by a staff of engineers who give complete technical support as needed. Special requests are accommodated wherever practical, including comprehensive cost analysis, engineering analysis, help with building code approvals, or the creation of special product applications versatile enough to accommodate bold and innovative designs. The goal of Trus Joist technical support is to help the architect or specifier achieve quality design applications with the most cost efficient product selection possible.

## Installation Review

Although responsibility for proper installation lies with the contractor-builder, Trus Joist provides detailed installation suggestions and guidelines. If requested, a Trus Joist representative will visit the site to verify the contractor's understanding of proper installation. Trus Joist engineers also are available to help solve job site application problems.



***Every precaution has been taken to ensure that all data and information contained in this manual are as accurate as possible. However, Trus Joist cannot assume responsibility or liability for errors or omissions resulting from the use of this Design Manual in the preparation of plans or specifications.***

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## TJI® Joist

The TJI® joist offers a lightweight roof and floor joist for residential, multifamily, institutional, commercial and light industrial applications.

This product is available in several series to provide the most cost effective system. See page 3.1 for dimensions and details.



## TJL™, TJLX™, TJW™ Truss

The design flexibility of the TJL™, TJLX™ and TJW™ open-web trusses permit utilization in many innovative and unusual structural configurations in the midspan range.

TJL™, TJLX™ and TJW™ open-web trusses are available in many different profiles, including parallel, curved, crescent, cantilevered, tapered and pitched.

See page 4.1 for dimensions and details.



## TJS™ Truss

The TJS™ series offers excellent profile flexibility and optimum efficiency. It carries heavier loads at longer spans than the TJL™ truss and has proven popular in schools, office complexes and other construction requiring large open areas or few load-bearing walls.

TJS™ series trusses can be designed in a wide variety of roof profiles, including parallel, tapered, pitched and curved.

See page 4.1 for dimensions and details.



## TJM®, TJH™ Truss

The heavier duty trusses, the TJM® and TJH™ series, can efficiently carry heavy loads with long spans in warehouses, shopping centers, auditoriums and other large area buildings.

The TJM® and TJH™ series are available in parallel, pitched or single tapered configurations.

Capable of spanning up to 120' clear span, this series is the answer to your long span needs.

See page 4.1 for dimensions and details.



## TimberStrand® LSL

We use a patented technology to produce this remarkable new generation of engineered lumber from fast-growing species such as aspen or yellow poplar. Large TimberStrand® laminated strand lumber (LSL) billets are cut to each customer's most exacting specifications in lengths up to 48'. And every inch has the same strength, dimensional stability, nailability and reliability as the last.

See page 8.2 for additional information.



## Microllam® LVL

Introduced in 1971, a result of Trus Joist's advanced technology, Microllam® laminated veneer lumber (LVL) has been acclaimed as the most significant development in utilization of wood fiber since plywood. This engineered, laminated veneer lumber makes possible design innovations, efficiencies and cost savings when used as headers or beams in all types of buildings. It is available in lengths up to 80' and in a variety of depths.

See page 8.2 for additional information.



## Parallam® PSL

This award-winning advanced wood fiber technology creates beams of exceptional strength, consistency and beauty. All the construction benefits of wood—and more—can be found in Parallam® parallel strand lumber (PSL). This engineered composite lumber will carry more load per section size than most any traditional wood member. It's available in lengths up to 66'.

See page 8.2 for additional information.





# Product Features

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While each Trus Joist product is custom engineered, all share the high performance characteristics, light weight and installation efficiencies that make them the most economical in-place system available.

## Light Weight

Maximum strength from the least possible combination of materials means lighter weight than comparable components. The result is lower erection costs, faster construction and less costly footings, foundations and bearing walls.

## Nailable Chords

Decking and ceiling materials go on quickly, thanks to the wide nailable chords and flanges on all Trus Joist products.

## Minimum Waste

Since TJI® joists virtually eliminate twisting and shrinking, and are cut to size at the factory, there's no time or material waste prior to installation.

## Mechanical Access

Ductwork, plumbing and wiring can easily slip through all open-web series trusses. Knockouts for flexible conduit and ventilation are provided in the web of the TJI® joists. The web can also be cut or drilled to accommodate larger ductwork without adverse effect (see page 3.3). Costly suspended ceilings may be eliminated.

## Compatible

Trus Joist products fit equally well into frame, masonry or steel construction. All series accommodate a wide variety of decking and ceiling materials, including plywood, wood, steel and gypsum.

## Total Packages

All necessary framing accessories are available, including pre-cut blocking panels, web stiffeners and bridging. Special end cuts are also available.

## Detailed Layout Drawings

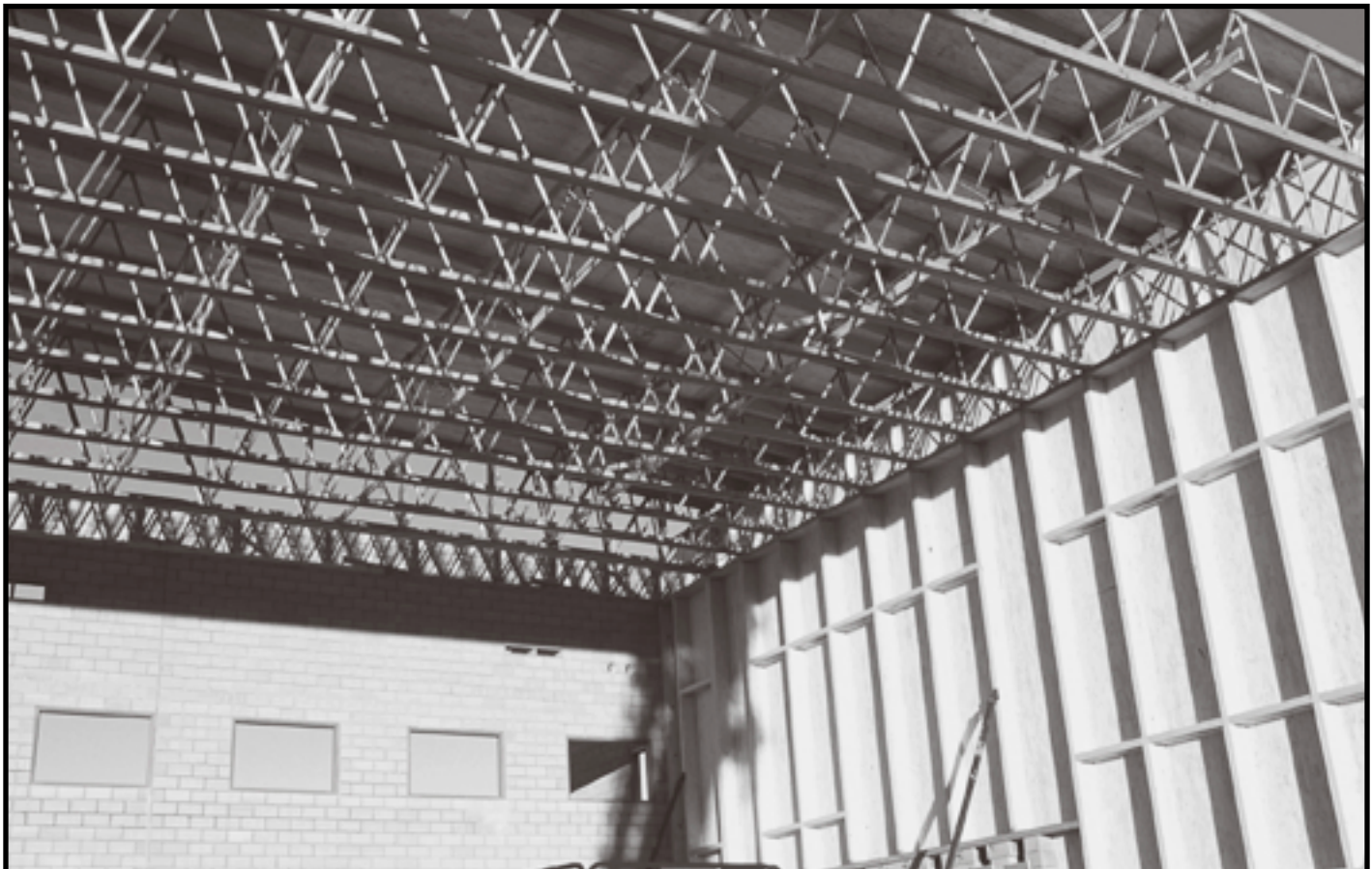
Some of the most detailed layout drawings and installation instructions in the industry are available upon request. They lighten the burden and speed the work of all parties involved in a project.

## Dependable Delivery

Because Trus Joist has a network of many plants within key market areas, you can expect a quick, reliable response. Each Trus Joist plant is staffed with experienced personnel who understand and respond to your local problems and special requirements.

## Special Requests

If you're looking for comprehensive cost analysis, prospect engineering or help with building code approvals, or if you need materials versatile enough to accommodate bold and innovative designs, we have the product and expertise you need and more. Your local Trus Joist technical representative is your key to the kind of specialized knowledge you're looking for.



The Commercial FrameWorks® Building System from Trus Joist offers the widest selection of structural engineered lumber products, as well as the highest quality customer service in the industry. Trus Joist is prepared to deliver building products and services to accommodate your project needs.

## Engineering Services

Upon request, Trus Joist will provide the following services on products described in this division of the Structural Products Design Manual:

- A complete design package, including engineered layout drawings (ELDs) and detailed design calculations

- Review and analysis of the application
- Drawings or calculations sealed by a professional engineer
- Installation review

## Product Selection

This manual has been developed to give the specifier technical information on the Trus Joist product line. However, when viewed from the relationship between span, design constraints and load carrying capacity, you will find that there are many possible products that will satisfy any given application. Your local Trus Joist representative, backed by our network of regional engineering offices, can assist in the process of choosing the

best system for your application.

Please feel free to contact us for any of the following services:

- Product selection
- System selection (Commercial FrameWorks® Building System packages, consisting of horizontal framing, main carrying beams, headers, wall framing, mansard framing and accessories)
- Building Department calculations
- Complete cost analysis



### ENGINEERING RESPONSIBILITY POSITION STATEMENT

Trus Joist is a manufacturer of proprietary structural components. It employs a staff of engineers to aid in the development, manufacture and marketing of its products. Trus Joist does not accept the responsibility of the design professional of record for any structure.

Trus Joist accepts the delegation of engineering responsibility only for the products it manufactures, provided the application conditions are specified by the design professional of record, or other responsible party when a design professional is not engaged. Trus Joist provides engineering in the design of its products and does not displace the need on any project for a design professional of record.

## 1.0 GENERAL

### 1.1 Scope

This work includes the complete furnishings and installation of all TJI® joists as shown on the drawings herein specified and necessary to complete the work.

### 1.2 Code Approvals

These products shall be designed and manufactured to the standards set forth in the National Evaluation Service, Inc. (NES) Report No. NER-200, ICBO Evaluation Service Report No. PFC-4354 or the Canadian Construction Materials Centre (CCMC) Report No. 12832-R.

### 1.3 Related Work Specified Elsewhere

- A. Carpentry and Millwork
- B. Glu-Laminated Members

### 1.4 Design

A. *Products:* Trus Joist products shall be designed to fit the dimensions and loads indicated on the plans.

B. *Design Calculations:*

- \_\_\_ A complete set of design calculations shall be prepared by Trus Joist.
- \_\_\_ Not required.

### 1.5 Submittals

A. *Drawings:*

- \_\_\_ Drawings showing layout and detail necessary for determining fit and placement in the building shall be provided by Trus Joist.
- \_\_\_ Not required.

B. *Production:* Fabrication and/or cutting shall not proceed until the architect and/or engineer have approved the submittal package.

## 2.0 PRODUCTS

### 2.1 Materials

Flange members, web members and adhesives shall conform to the provisions of NES Report No. NER-200, ICBO ES Report No. PFC-4354 or the CCMC Report No. 12832-R.

### 2.2 Fabrication

TJI® joists shall be manufactured by Trus Joist in a plant listed in the reports referred to above and under the supervision of an approved third-party inspection agency.

### 2.3 Tolerances

- Depth:  $\pm 1/16"$
- Flange Width:  $\pm 1/16"$

### 2.4 Identification

Each of the joists shall be identified by a stamp indicating the joist series, NES, ICBO ES or CCMC evaluation report number, manufacturer's name, plant number and the independent inspection agency's logo.

### 2.5 Hardware

Not applicable.

## 3.0 EXECUTION

### 3.1 Installation

TJI® joists, if stored prior to installation, shall be stored in a vertical position and protected from the weather. They shall be handled with care so they are not damaged. TJI® joists are to be installed in accordance with the plans and any Trus Joist drawings and installation suggestions. Temporary construction loads that cause stresses beyond design limits are not permitted. Safety bracing is to be provided by the installer to keep the TJI® joists straight and plumb as required and to ensure adequate lateral support for the individual TJI® joists and the entire system until the sheathing material has been applied.

### 3.2 Installation Review

The contractor shall give notification to the Trus Joist representative—prior to enclosing the TJI joists—to provide an opportunity for review of the installation.

### 3.3 Performance Standards

Products shall be proven by testing and evaluation in accordance with the provisions of ASTM D-5055.

### 3.4 Fire Rating/Sound Ratings

Fire and sound ratings are to be established in accordance with assemblies as detailed in NES Report No. NER-200, ICBO ES Report No. PFC-4354 or the *Directory of Listed Products*, published by Intertek Testing Services.

### 3.5 Warranty

The products delivered shall be free from manufacturing errors or defects in workmanship and material. The products, when correctly installed and maintained, shall be warranted to perform as designed for the normal and expected life of the building.

## 4.0 ALTERNATES AND/OR EQUALS

### 4.1 Base Bid

Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that TJI® joists be used in the base bid.

### 4.2 Alternate Manufacturers

Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code.

### 4.3 Alternate Products

Alternate products will only be permitted if written approval and acceptance is obtained by both architect and owner at least \_\_\_ days prior to the bid date.

### 4.4 Acceptable Alternates

At the discretion of the specifier of record, accepted alternates will be listed on the final addendum prior to the bid date.

# Open-Web Truss Specifications

## 1.0 GENERAL

### 1.1 Scope

This work includes the complete furnishings and installation of all Trus Joist open-web trusses as shown on the drawings herein specified and necessary to complete the work.

### 1.2 Code Approvals

These products shall be designed and manufactured to the standards set forth in the National Evaluation Service, Inc. (NES) Report No. NER-148 or ICBO Evaluation Service Report No. PFC-4354.

### 1.3 Related Work Specified Elsewhere

- A. Carpentry and Millwork
- B. Glu-Laminated Members

### 1.4 Design

A. *Products:* The Trus Joist products shall be designed to fit the dimensions and loads indicated on the plans.

B. *Design Calculations:*

- \_\_\_ A complete set of design calculations shall be prepared by Trus Joist.
- \_\_\_ Not required.

### 1.5 Submittals

A. *Drawings:*

- \_\_\_ Drawings showing layout and detail necessary for determining fit and placement in the building shall be provided by Trus Joist.
- \_\_\_ Not required.

B. *Production:* Fabrication and/or cutting shall not proceed until the architect and/or engineer have approved the submittal package.

## 2.0 PRODUCTS

### 2.1 Materials

Materials shall comply with NES Report No. NER-148 or ICBO ES Report No. PFC-4354. Chord members, web members, connecting pins and bearing hardware/attachments shall be of material and size as required by design.

### 2.2 Fabrication

Trusses shall be manufactured by Trus Joist in a plant listed in the report referred to above and under the supervision of a third-party inspection agency.

### 2.3 Tolerances

Length bearing to bearing:	$\pm \frac{1}{8}"$
Depth:	$\pm \frac{1}{16}"$
Camber: Specified 0 - $\frac{7}{8}"$ :	$\pm \frac{1}{8}"$
Specified 1" - $1\frac{7}{8}"$ :	$\pm \frac{3}{16}"$
Specified 2" and over:	$\pm \frac{1}{4}"$

### 2.4 Identification

Each of the trusses shall be identified by a stamp indicating the truss series, NER or ICBO ES evaluation report number, manufacturer's name, plant number and the independent inspection agency's logo.

### 2.5 Hardware

Not applicable.

## 3.0 EXECUTION

### 3.1 Installation

Trus Joist open-web trusses, if stored prior to installation, shall be stored in a vertical position and protected from the weather. They shall be handled with care so they are not damaged. They are to be installed in accordance with the plans and any Trus Joist drawings and installation suggestions. Temporary construction loads that cause stresses beyond design limits are not permitted. Installation bracing is to be provided by Trus Joist to keep the trusses straight and plumb as required and to ensure adequate lateral support for the individual trusses and the entire system until the sheathing material has been applied.

### 3.2 Installation Review

The contractor shall give notification to the Trus Joist representative—prior to enclosing the TJI joists—to provide an opportunity for review of the installation.

### 3.3 Performance Standards

Not applicable.

### 3.4 Fire Rating/Sound Ratings

Fire and sound ratings are to be established in accordance with assemblies as detailed in NES Report No. NER-148, ICBO ES Report No. PFC-4354 or the *Directory of Listed Products*, published by Intertek Testing Services.

### 3.5 Warranty

The products delivered shall be free from manufacturing errors or defects in workmanship and material. The products, when

correctly installed and maintained, shall be warranted to perform as designed for the normal and expected life of the building.

## 4.0 ALTERNATES AND/OR EQUALS

### 4.1 Base Bid

Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that open-web trusses be used in the base bid.

### 4.2 Alternate Manufacturers

Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code.

### 4.3 Alternate Products

Alternate products will only be permitted if written approval and acceptance is obtained by both architect and owner at least \_\_\_ days prior to the bid date.

### 4.4 Acceptable Alternates

At the discretion of the specifier of record, accepted alternates will be listed on the final addendum prior to the bid date.



## 1.0 GENERAL

### 1.1 Scope

This work includes the complete furnishings and installation of all Microllam® laminated veneer lumber (LVL) as shown on the drawings herein specified and necessary to complete the work.

### 1.2 Code Approvals

These products shall be designed and manufactured to the standards set forth in the National Evaluation Service, Inc. (NES) Report No. NER-481, ICBO Evaluation Service Report No. ER-4979 or the Canadian Construction Materials Centre (CCMC) Report No. 08675-R.

### 1.3 Related Work Specified Elsewhere

- A. Carpentry and Millwork
- B. Glu-Laminated Members

### 1.4 Design

A. *Products:* Microllam® LVL shall be designed to fit the dimensions and loads indicated on the plans.

B. *Design Calculations:*

- \_\_\_ A complete set of design calculations shall be prepared by Trus Joist.
- \_\_\_ Not required.

### 1.5 Submittals

A. *Drawings:*

- \_\_\_ Drawings showing layout and detail necessary for determining fit and placement in the building shall be provided by Trus Joist.
- \_\_\_ Not required.

B. *Production:* Fabrication and/or cutting shall not proceed until the architect and/or engineer have approved the submittal package.

## 2.0 PRODUCTS

### 2.1 Materials

A. *Code Reports:* Materials shall comply with NES Report No. NER-481, ICBO ES Report No. ER-4979 or CCMC Report No. 08675-R.

B. *Adhesives:* Adhesives shall be of the waterproof type conforming to the requirements of ASTM D-2559.

### 2.2 Fabrication

Microllam® LVL shall be manufactured by Trus Joist in a plant listed in the reports referred to above and under the supervision of an approved third-party inspection

agency. It shall be manufactured in a continuous process with all grain parallel with the length of the members. All members are to be free of finger or scarf joints or mechanical connections in full-length members.

### 2.3 Tolerances

Finished Length (as specified):  $\pm \frac{1}{8}"$

Depth:  $\pm \frac{1}{16}"$

Width:  $\pm \frac{1}{16}"$

### 2.4 Identification

Microllam® LVL shall be identified by a stamp indicating the product type and grade, NER, ICBO ES or CCMC evaluation report number, manufacturer's name, plant number and the independent inspection agency's logo.

### 2.5 Hardware

Not applicable.

## 3.0 EXECUTION

### 3.1 Installation

Microllam® LVL, if stored prior to installation, shall be protected from the weather. It shall be installed in accordance with the plans and any Trus Joist drawings and installation suggestions. Temporary construction loads that cause stresses beyond design limits are not permitted. Safety bracing is to be provided by the installer to keep the Microllam® LVL straight and plumb as required and to ensure adequate lateral support for the individual Microllam® LVL members and the entire system until the sheathing material has been applied.

### 3.2 Installation Review

The contractor shall give notification to the Trus Joist representative—prior to enclosing the TJI joists—to provide an opportunity for review of the installation.

### 3.3 Performance Standards

Products shall be proven by testing and evaluation in accordance with the provisions of ASTM D-5456.

### 3.4 Fire Rating

The fire-resistive design provisions for heavy-timber construction in all U.S. model building codes are applicable to Microllam® LVL.

### 3.5 Warranty

The products delivered shall be free from manufacturing errors or defects in workmanship and material. The products, when correctly installed and maintained, shall be warranted to perform as designed for the normal and expected life of the building.

## 4.0 ALTERNATES AND/OR EQUALS

### 4.1 Base Bid

Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that Microllam® LVL be used in the base bid.

### 4.2 Alternate Manufacturers

Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code.

### 4.3 Alternate Products

Alternate products will only be permitted if written approval and acceptance is obtained by both architect and owner at least \_\_\_ days prior to the bid date.

### 4.4 Acceptable Alternates

At the discretion of the specifier of record, accepted alternates will be listed on the final addendum prior to the bid date.

# Parallam® PSL Specifications

## 1.0 GENERAL

### 1.1 Scope

This work includes the complete furnishings and installation of all Parallam® parallel strand lumber (PSL) as shown on the drawings herein specified and necessary to complete the work.

### 1.2 Code Approvals

These products shall be designed and manufactured to the standards set forth in the National Evaluation Service, Inc. (NES) Report No. NER-481, ICBO Evaluation Service Report No. ER-4979 or the Canadian Construction Materials Centre (CCMC) Report No. 11161-R.

### 1.3 Related Work Specified Elsewhere

A. Carpentry and Millwork

B. Glu-Laminated Members

### 1.4 Design

A. *Products:* Parallam® PSL lumber shall be designed to fit the dimensions and loads indicated on the plans.

B. *Design Calculations:*

\_\_\_ A complete set of design calculations shall be prepared by Trus Joist.

\_\_\_ Not required.

### 1.5 Submittals

A. *Drawings:*

\_\_\_ Drawings showing layout and detail necessary for determining fit and placement in the building shall be provided by Trus Joist.

\_\_\_ Not required.

B. *Production:* Fabrication and/or cutting shall not proceed until the architect and/or engineer have approved the submittal package.

## 2.0 PRODUCTS

### 2.1 Materials

A. *Code Reports:* Materials shall comply with NES Report No. NER-481, ICBO ES Report No. ER-4979 or CCMC Report No. 11161-R.

B. *Adhesives:* Adhesives shall be of the waterproof type conforming to the requirements of ASTM D-2559.

### 2.2 Fabrication

Parallam® PSL shall be manufactured by Trus Joist in a plant listed in the reports referred to above and under the supervision of an approved third-party inspection agency. It shall be manufactured from

strands of wood fiber in a continuous process with all strands oriented to the length of the member and then fed into a press in the desired lay-up pattern. All members are to be free of finger or scarf joints or mechanical connections in full-length members.

### 2.3 Tolerances

Finished Length (as specified):  $\pm \frac{1}{4}"$

Depth:  $\pm \frac{1}{16}"$

Width:  $\pm \frac{1}{16}"$

### 2.4 Identification

Parallam® PSL shall be identified by a stamp indicating the product type and grade, NER, ICBO, ES or CCMC evaluation report number, manufacturer's name, plant number and the independent inspection agency's logo.

### 2.5 Hardware

Not applicable.

## 3.0 EXECUTION

### 3.1 Installation

Parallam® PSL, if stored prior to installation, shall be protected from the weather. It shall be installed in accordance with the plans and any Trus Joist drawings and installation suggestions. Temporary construction loads that cause stresses beyond design limits are not permitted. Safety bracing is to be provided by the installer to keep the Parallam® PSL straight and plumb as required and to ensure adequate lateral support for the individual Parallam® PSL members and the entire system until the sheathing material has been applied.

### 3.2 Installation Review

The contractor shall give notification to the Trus Joist representative—prior to enclosing the TJI joists—to provide an opportunity for review of the installation.

### 3.3 Performance Standards

Products shall be proven by testing and evaluation in accordance with the provisions of ASTM D-5456.

### 3.4 Fire Rating

The fire-resistance of Parallam® PSL is equivalent to that of sawn lumber of equal depth and width when used in heavy-timber construction.

### 3.5 Warranty

The products delivered shall be free from manufacturing errors or defects in workmanship and material. The products, when

correctly installed and maintained, shall be warranted to perform as designed for the normal and expected life of the building.

## 4.0 ALTERNATES AND/OR EQUALS

### 4.1 Base Bid

Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that Parallam® PSL be used in the base bid.

### 4.2 Alternate Manufacturers

Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code.

### 4.3 Alternate Products

Alternate products will only be permitted if written approval and acceptance is obtained by both architect and owner at least \_\_\_ days prior to the bid date.

### 4.4 Acceptable Alternates

At the discretion of the specifier of record, accepted alternates will be listed on the final addendum prior to the bid date.

## 1.0 GENERAL

### 1.1 Scope

This work includes the complete furnishings and installation of all TimberStrand® laminated strand lumber (LSL) as shown on the drawings herein specified and are necessary to complete the work.

### 1.2 Code Approvals

These products shall be designed and manufactured to the standards set forth in the National Evaluation Service, Inc. (NES) Report No. NER-481, ICBO Evaluation Service Report No. ER-4979 or the Canadian Construction Materials Centre (CCMC) Report No. 12627-R.

### 1.3 Related Work Specified Elsewhere

- A. Carpentry and Millwork
- B. Glu-Laminated Members

### 1.4 Design

A. *Products:* TimberStrand® LSL shall be designed to fit the dimensions and loads indicated on the plans.

B. *Design Calculations:*

- \_\_\_ A complete set of design calculations shall be prepared by Trus Joist.
- \_\_\_ Not required.

### 1.5 Submittals

A. *Drawings:*

- \_\_\_ Drawings showing layout and detail necessary for determining fit and placement in the building shall be provided by Trus Joist.
- \_\_\_ Not required.

B. *Production:* Fabrication and/or cutting shall not proceed until the architect and/or engineer have approved the submittal package.

## 2.0 PRODUCTS

### 2.1 Materials

A. *Code Reports:* Materials shall comply with NES Report No. NER-481, ICBO ES Report No. ER-4979 or CCMC Report No. 12627-R.

B. *Adhesives:* Adhesives shall be of the waterproof type conforming to the requirements of ASTM D-2559.

### 2.2 Fabrication

TimberStrand® LSL shall be manufactured by Trus Joist in a plant listed in the reports referred to above and under the supervision of an approved third-party inspection

agency. It shall be manufactured from strands of wood fiber in a continuous process with all strands oriented to the length of the member and then fed into a press. All members are to be free of finger or scarf joints or mechanical connections in full-length members.

### 2.3 Tolerances

Tolerances for TimberStrand® LSL are product- and application-specific.

A. *Standard Tolerances:*

Finished length as specified:  $\pm \frac{1}{8}$ "

Depth:  $\pm \frac{1}{16}$ ", -0" (rim board)  
 $\pm \frac{1}{16}$ " (all other products)

Width:  $\pm \frac{1}{16}$ "

B. *Millwork and Furniture Frame Tolerances:*

Tolerances will vary based on manufacturers' requirements.

### 2.4 Identification

TimberStrand® LSL shall be identified by a stamp indicating the product type and grade, NER, ICBO ES or CCMC evaluation report number, manufacturer's name, plant number and the independent inspection agency's logo.

TimberStrand® LSL for use in millwork or furniture frames shall be identified on the product wrapping.

### 2.5 Hardware

Not applicable.

## 3.0 EXECUTION

### 3.1 Installation

TimberStrand® LSL, if stored prior to installation, shall be protected from the weather. It shall be installed in accordance with the plans, and any Trus Joist drawings and installation suggestions. Temporary construction loads that cause stresses beyond design limits are not permitted. Safety bracing is to be provided by the installer to keep the TimberStrand® LSL straight and plumb as required and to ensure adequate lateral support for the individual TimberStrand® LSL members and the entire system until the sheathing material has been applied.

### 3.2 Installation Review

The contractor shall give notification to the Trus Joist representative—prior to enclosing the TJI joists—to provide an opportunity for review of the installation.

### 3.3 Performance Standards

Products shall be proven by testing and evaluation in accordance with the provisions of ASTM D-5456.

### 3.4 Fire Rating

TimberStrand® LSL is permitted to be used in fire-resistive assemblies as a substitute for conventional wood framing. TimberStrand® LSL shall be sized for the same load-carrying capacity as the sawn lumber specified in the assembly, and its dimensions shall be equal to or greater than those specified for the sawn lumber. TimberStrand® LSL may also be used in lieu of conventional wood for fire blocking (1¼" [31.7mm] net thickness).

### 3.5 Warranty

The products delivered shall be free from manufacturing errors or defects in workmanship and material. The products, when correctly installed and maintained, shall be warranted to perform as designed for the normal and expected life of the building.

## 4.0 ALTERNATES AND/OR EQUALS

### 4.1 Base Bid

Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that TimberStrand® LSL be used in the base bid.

### 4.2 Alternate Manufacturers

Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code.

### 4.3 Alternate Products

Alternate products will only be permitted if written approval and acceptance is obtained by both architect and owner at least \_\_\_ days prior to the bid date.

### 4.4 Acceptable Alternates

At the discretion of the specifier of record, accepted alternates will be listed on the final addendum prior to the bid date.

# Parallam® PSL Heavy-Timber Specifications

## 1.0 GENERAL

### 1.1 Scope

This work includes the complete furnishings and installation of all architecturally exposed and finished Parallam® parallel strand lumber (PSL) heavy-timber trusses, beams and/or columns as shown on the drawings, herein specified and necessary to complete the work. Finishing may include any or all of the following: filling, sanding, staining.

### 1.2 Code Approvals

These products shall be designed and manufactured to the standards set forth in the National Evaluation Service, Inc. (NES) Report No. NER-481, ICBO Evaluation Service Report No. ER-4979 or the Canadian Construction Materials Centre (CCMC) Report No. 11161-R.

### 1.3 Related Work Specified Elsewhere

- A. Carpentry and Millwork
- B. Glu-Laminated Members

### 1.4 Design

A. *Products:* Parallam® PSL heavy-timber products shall be designed to fit the dimensions and loads indicated on the plans.

B. *Connections:* All connections to Parallam® PSL shall be designed for the forces generated by the loads and geometry indicated on the contract drawings.

C. *Design Specifications:* Fabricated trusses shall be designed in accordance with Trus Joist recommendations.

D. *Design Calculations:*

- ☐ A complete set of design calculations shall be provided by Trus Joist.
- ☐ Not required.

### 1.5 Submittals

A. *Parallam® PSL Finish Samples:*

- ☐ Two representative Parallam® PSL samples, shop finished with the selected stain or sealer, shall be provided by Trus Joist to the Architect for approval.
- ☐ Not required.

A. *Drawings:*

- ☐ Drawings showing layout and detail necessary for determining fit and placement in the building shall be provided by Trus Joist.
- ☐ Not required.

C. *Production:* Fabrication and/or cutting shall not proceed until the architect and/or engineer have approved the submittal package.

## 2.0 PRODUCTS

### 2.1 Materials

A. *Code Reports:* Materials shall comply with NES Report No. NER-481, ICBO ES Report No. ER-4979 or CCMC Report No. 11161-R.

B. *Adhesives:* Adhesives shall be of the waterproof type conforming to the requirements of ASTM D-2559.

### 2.2 Fabrication

#### 2.2.1 Parallam® PSL Manufacture

Parallam® PSL shall be manufactured by Trus Joist in a plant listed in the reports referred to above and under the supervision of an approved third-party inspection agency. It shall be manufactured from strands of wood fiber in a continuous process with all strands oriented to the length of the member and then fed into a press in the desired lay-up pattern. All members are to be free of finger or scarf joints or mechanical connections in full-length members.

#### 2.2.2 Heavy-Timber Fabrication and Finishing

A. *Approved Fabricator:* Fabrication and finishing of heavy-timber products shall be by a Trus Joist approved fabricator.

B. *Finish:*

- ☐ Parallam PSL shall be:
  - ☐ shop filled
  - ☐ sanded
  - ☐ stained. Staining, by Trus Joist, shall be shop applied consisting of a single coat. Final finish coat and touch up at the jobsite is the responsibility of the general contractor.
- ☐ Not required.

C. *Bearing Tolerances:* For connections within the assembled product, all end cuts bearing on wood or steel plates shall be accurately fabricated so that no partial gaps greater than 1/16" exist between the wood and/or the steel at any point, and such that at least 75 percent of the area is in full contact without any load. Bearing design shall be as per the requirements of the NDS.

D. *Hole Tolerances:* Bolt holes in wood and steel shall be located within 1/16" of true in addition to accurately aligning with corresponding holes in adjacent wood or steel connection members. Bolt holes shall be

perpendicular to the surface in which they are placed. Bolt holes in wood and steel shall be a maximum of 1/16" larger than the bolt diameter.

E. *Camber:* Heavy-timber products shall be cambered as required.

### 2.3 Parallam® PSL Component Tolerances

Finished length (as specified):	±1/4"
Depth:	±1/16"
Width:	±1/16"

### 2.4 Parallam® PSL Identification

Documentation of all Parallam® PSL heavy-timber components confirming the product species, grade and plant origin will be available from Trus Joist.

### 2.5 Hardware

All heavy-timber connection steel and hardware is to be specified and supplied by Trus Joist according to details contained in Trus Joist's production drawings. Connection steel and hardware used to attach heavy-timber products to the support structure is to be designed, fabricated, and supplied by others according to the details contained in the contract drawings. Connection details between the heavy-timber product and support structure shall be coordinated, reviewed, and approved by Trus Joist.

## 3.0 EXECUTION

### 3.1 Installation

A. *Storage and Handling:* Parallam® PSL heavy-timber products, if stored prior to installation, shall be protected from the weather. They shall be installed in accordance with the plans and any Trus Joist drawings, assembly and installation recommendations. Temporary construction loads that cause stresses beyond design limits are not permitted. Safety bracing is to be provided by the installer to keep the Parallam® PSL heavy-timber products straight and plumb as required and to ensure adequate lateral support for the individual Parallam® PSL heavy-timber members and the entire system until the sheathing material has been applied. Holes, cuts or notches not previously approved by Trus Joist engineering shall not be permitted.

B. *Installed Connections:* Size, placement and installation of all field-installed connections shall be as specified in the contract documents.



# Parallam® PSL Heavy-Timber Specifications

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## 3.2 Installation Review

The contractor shall give notification to the Trus Joist representative—prior to enclosing the TJI joists—to provide an opportunity for review of the installation.

## 3.3 Performance Standards

Parallam® PSL material shall be proven by testing and evaluation in accordance with the provisions of ASTM Standard D-5456.

## 3.4 Fire Rating

The fire-resistance of Parallam® PSL is equivalent to that of sawn lumber of equal depth and width when used in heavy-timber construction.

## 3.5 Warranty

The products delivered shall be free from manufacturing errors or defects in workmanship and material. The products, when

correctly installed and maintained, shall perform as designed for the normal and expected life of the building.

## 4.0 ALTERNATES AND/OR EQUALS

### 4.1 Base Bid

Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that Parallam® PSL be used in the base bid.

### 4.2 Alternate Manufacturers

Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code.

## 4.3 Alternate Products

Alternate products will only be permitted if written approval and acceptance is obtained by both architect and owner at least \_\_\_ days prior to the bid date.

## 4.4 Acceptable Alternates

At the discretion of the specifier of record, accepted alternates will be listed on the final addendum prior to the bid date.

## TJI®/L45T

<b>Web Material</b>	¾" Structural 1 Plywood
<b>Flange Material</b>	1½" x 1¾" Microllam® LVL
<b>Profiles</b>	Tapered Only

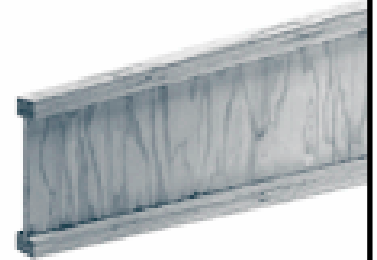
- Tapered depths beginning at 8"
- Weight – 2.3 to 4.9 lbs/ft



## TJI®/L60T

<b>Web Material</b>	1½" Structural Plywood
<b>Flange Material</b>	1½" x 2½" Microllam® LVL
<b>Profiles</b>	Tapered Only

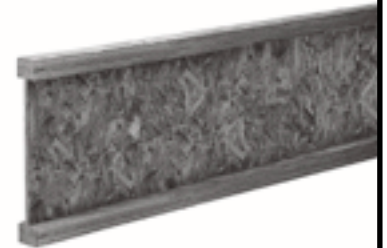
- Tapered depths beginning at 8"
- Weight – 2.8 to 5.1 lbs/ft



## TJI®/L65

<b>Web Material</b>	7/16" Performance Plus® Web
<b>Flange Material</b>	1½" x 2¾" Microllam® LVL
<b>Profiles</b>	Parallel

- 11⅞" and 14" through 30" in 2" increments
- Weight – 3.4 to 5.8 lbs/ft



## TJI®/L90

<b>Web Material</b>	7/16" Performance Plus® Web
<b>Flange Material</b>	1½" x 3½" Microllam® LVL
<b>Profiles</b>	Parallel

- 16" through 30" in 2" increments
- Weight – 4.7 to 6.6 lbs/ft

## TJI®/L90T

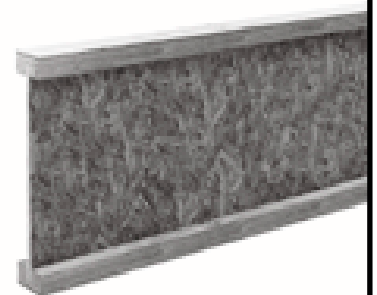
<b>Web Material</b>	1½" Structural 1 Plywood
<b>Flange Material</b>	1½" x 3½" Microllam® LVL
<b>Profiles</b>	Tapered only



## TJI®/H90

<b>Web Material</b>	7/16" Performance Plus® Web
<b>Flange Material</b>	1¾" x 3½" Microllam® LVL
<b>Profiles</b>	Parallel

- 11⅞" and 14" through 30" in 2" increments
- Weight – 4.6 to 7.1 lbs/ft



# Web Stiffeners and Bearing Distances

## The Importance of Web Stiffeners

Web stiffeners are an important part of almost all TJI® joist installations. Web stiffeners will:

- Stiffen the TJI® joist web material and prevent buckling
- Minimize the bearing distance required for the TJI® joist
- Help transfer reaction loads into TJI® joist web
- Provide stabilization in hangers

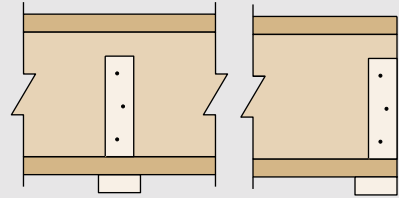
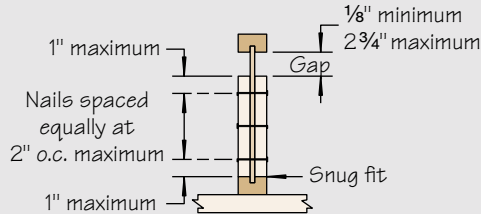
## To Ensure System Performance

- Web stiffeners must be installed at bearing points as shown in the details below, and at points of concentrated loads exceeding 1500 lbs.
- Web stiffeners are available from Trus Joist and are usually plant installed on joists 22" deep and deeper.
- Gap must be at top at all bearing conditions. In case of concentrated loads, the gap must be at the bottom (see details below).

## Web Stiffener Attachment

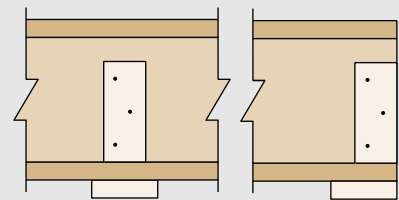
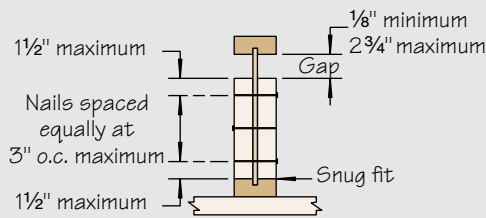
### TJI®/L45T, L60T and L65 Joists

- Web stiffener material shall be sheathing meeting the requirements of PS 1 or PS 2 or of CSA Standards O151, O325 or O437 with face grain vertical.
- Minimum web stiffener size is 1" x 2 $\frac{5}{16}$ " (5/8" x 2 $\frac{5}{16}$ " with TJI®/L45T joists; 7/8" x 2 $\frac{5}{16}$ " with TJI®/L60T joists).
- Use 8d (2 $\frac{1}{2}$ ") box nails minimum, spaced at 2" on-center maximum, clinched when possible.



### TJI®/L90, L90T and H90 Joists

- Web stiffener material shall be 2x4 construction grade or better.
- Use 16d (3 $\frac{1}{2}$ ") box nails minimum, spaced at 3" on-center maximum. **At intermediate supports with joist depths of 22" and greater, use 2 rows of 16d (3 $\frac{1}{2}$ ") box nails minimum, spaced at 3" on-center maximum.**



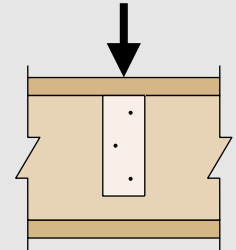
## Concentrated Loads Exceeding 1500 Pounds

### TJI®/L45T, L60T and L65 Joists:

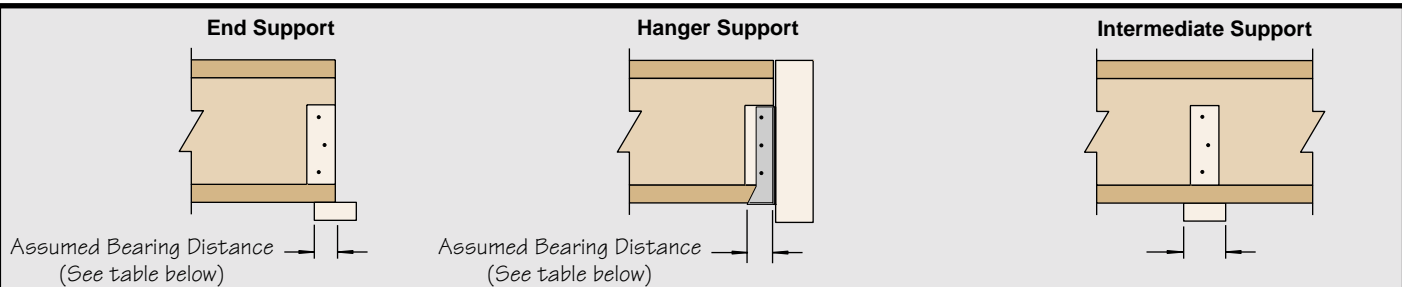
- Web stiffener material shall be sheathing meeting the requirements of PS 1 or PS 2 or of CSA Standards O151, O325 or O437 with face grain vertical.
- Minimum web stiffener size is 1" x 2 $\frac{5}{16}$ " (5/8" x 2 $\frac{5}{16}$ " with TJI®/L45T joists; 7/8" x 2 $\frac{5}{16}$ " with TJI®/L60T joists).
- Use 8d (2 $\frac{1}{2}$ ") box nails minimum, spaced at 2" on-center maximum, clinched.

### TJI®/L90, L90T and H90 Joists:

- Web stiffener material shall be 2x4 construction grade or better.
- Use 3-16d (3 $\frac{1}{2}$ ") box nails minimum.



## Assumed Bearing Distance



JOIST DEPTH <sup>(3)</sup>	ASSUMED BEARING DISTANCES FOR LOAD TABLES							
	Tapered TJI®/L45T Joists		TJI®/L65, L90 and H90 Joists		Tapered TJI®/L60T		Tapered TJI®/L90T	
	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>
11 $\frac{7}{8}$ " <sup>(4)</sup>	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2"	3 $\frac{1}{2}$ "
16" <sup>(4)</sup>	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2"	3 $\frac{1}{2}$ "
16"	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2"	3 $\frac{1}{2}$ "
18"	1 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
20"	1 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	2 $\frac{3}{4}$ "	5 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
22"	2 $\frac{1}{4}$ "	5 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	3"	5 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "
24"	2 $\frac{1}{4}$ "	5 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	5 $\frac{1}{4}$ "	3"	5 $\frac{1}{4}$ "	3"	5 $\frac{1}{4}$ "
26"	N/A	N/A	2 $\frac{1}{2}$ "	7"	3 $\frac{1}{2}$ "	7"	3 $\frac{1}{4}$ "	7"
28"	N/A	N/A	2 $\frac{1}{2}$ "	7"	3 $\frac{1}{2}$ "	7"	3 $\frac{1}{4}$ "	7"
30"	N/A	N/A	2 $\frac{1}{2}$ "	7"	3 $\frac{1}{2}$ "	7"	3 $\frac{1}{2}$ "	7"

(1) The minimum bearing length may be reduced for joists supported by hangers if supplemental nail attachment to the end web stiffeners is provided.

(2) Dimensions shown are for maximum load. Specific application may permit reduction in this criteria.

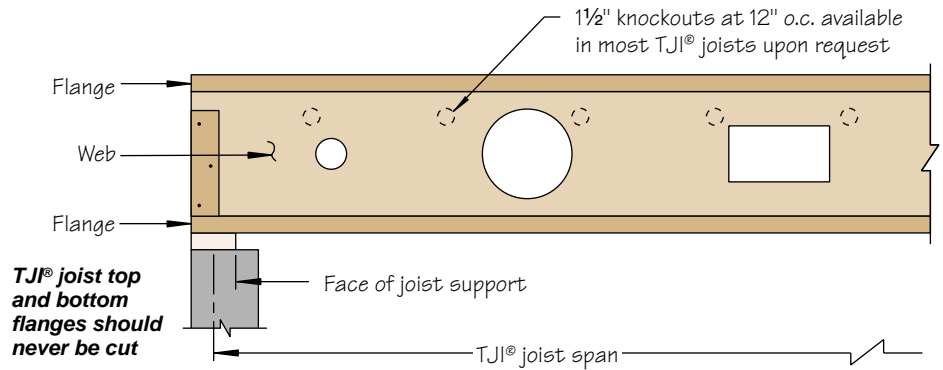
(3) For tapered TJI® joists, use next higher depth.

(4) These depths not available in all series. See page 3.1.

# TJI® Joist Web Hole Chart

## Instructions:

1. Determine the joist depth and desired hole size and find the hole factor or hole location in Table 1. If the table reports a hole factor, proceed to step 2.
2. In Table 2, locate the cell where the joist span and hole factor intersect. The dimension shown is the required minimum distance from nearest edge of hole to inside face of support.



**Example: 18" TJI® joist with Performance Plus® web, 8" dia. round hole, 21'-0" joist span (center-to-center of support).**

1. From Table 1, the hole factor is C.
2. From Table 2, the nearest edge of the hole must be at least 4'-3" from inside face of support.

**Table 1 – Hole Factors and Locations**

	Round Hole Size	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"	16"	17"	18"	19"	20"
	Rectangular Hole Size	1 1/4"	1 3/4"	2 1/4"	3"	3 1/2"	4"	4 3/4"	5 1/4"	6"	6 1/2"	7"	7 3/4"	8 1/4"	9"	9 1/2"	10"	10 3/4"	11 1/4"	12"
Joist Depth	11 7/8"	A	A	B	C	E														
	14"	A	A	B	C	C	D	E												
	16"	A	A	A	B	C	C	D	E	E										
	18"	4"	1'-3"	A	A	B	C	C	D	E	E									
	20"	4"	1'-3"	A	A	B	B	C	C	D	D	E	E							
	22"	4"	1'-3"	1'-3"	A	A	B	B	C	C	D	D	E	E						
	24"	4"	4"	1'-3"	A	A	A	B	B	C	C	D	D	E	E	E				
	26"	4"	4"	1'-3"	A	A	A	B	B	B	C	C	D	D	D	E	E			
	28"	4"	4"	1'-3"	1'-3"	A	A	A	B	B	B	C	C	D	D	D	E	E	E	
	30"	4"	4"	4"	1'-3"	1'-3"	A	A	A	B	B	B	C	C	C	D	D	E	E	E

**Table 2 – Hole Locations**

Joist Span (Center to Center of Support)	Hole Factor				
	A	B	C	D	E
14'	1'-3"	2'-0"	2'-6"	3'-9"	5'-0"
15'	1'-3"	2'-0"	3'-0"	4'-0"	5'-3"
16'	1'-3"	2'-3"	3'-3"	4'-6"	5'-9"
17'	1'-6"	2'-9"	3'-9"	5'-0"	6'-3"
18'	1'-6"	3'-0"	4'-3"	5'-6"	6'-9"
19'	1'-9"	3'-0"	4'-3"	5'-6"	7'-0"
20'	1'-9"	3'-0"	4'-3"	5'-6"	7'-0"
21'	2'-0"	3'-0"	4'-3"	5'-9"	7'-3"
22'	2'-0"	3'-0"	4'-3"	5'-9"	7'-3"
23'	2'-0"	3'-3"	4'-3"	5'-9"	7'-6"
24'	2'-3"	3'-3"	4'-6"	5'-9"	7'-6"
25'	2'-3"	3'-6"	4'-9"	5'-9"	7'-9"
26'	2'-3"	3'-9"	4'-9"	6'-0"	7'-9"
27'	2'-6"	3'-9"	5'-0"	6'-3"	7'-9"
28'	2'-6"	4'-0"	5'-3"	6'-6"	8'-0"
29'	2'-6"	4'-0"	5'-6"	6'-9"	8'-3"
30'	2'-9"	4'-3"	5'-9"	7'-0"	8'-6"
31'	3'-0"	4'-3"	5'-9"	7'-3"	8'-9"
32'	3'-0"	4'-6"	6'-0"	7'-6"	9'-3"
33'	3'-0"	4'-9"	6'-3"	7'-9"	9'-6"
34'	3'-0"	5'-0"	6'-6"	8'-0"	9'-9"
35'	3'-3"	5'-0"	6'-6"	8'-3"	10'-0"
36'	3'-3"	5'-0"	6'-9"	8'-6"	10'-3"

## Assumptions:

Tables are based on **uniformly loaded applications** or building code provisions for concentrated loads (2000 lbs over 2 1/2 feet square) with 25 psf dead and 20 psf partition loading. For joists supporting concentrated loads or other conditions or possible exceptions, contact your Trus Joist representative.

Tables are based on **simple span applications**. For uniformly loaded cantilever and continuous span applications, the holes must be located one inch further from the support for each foot of joist span than the values indicated in the tables. **Do not cut holes in cantilever area without consulting your Trus Joist representative.**

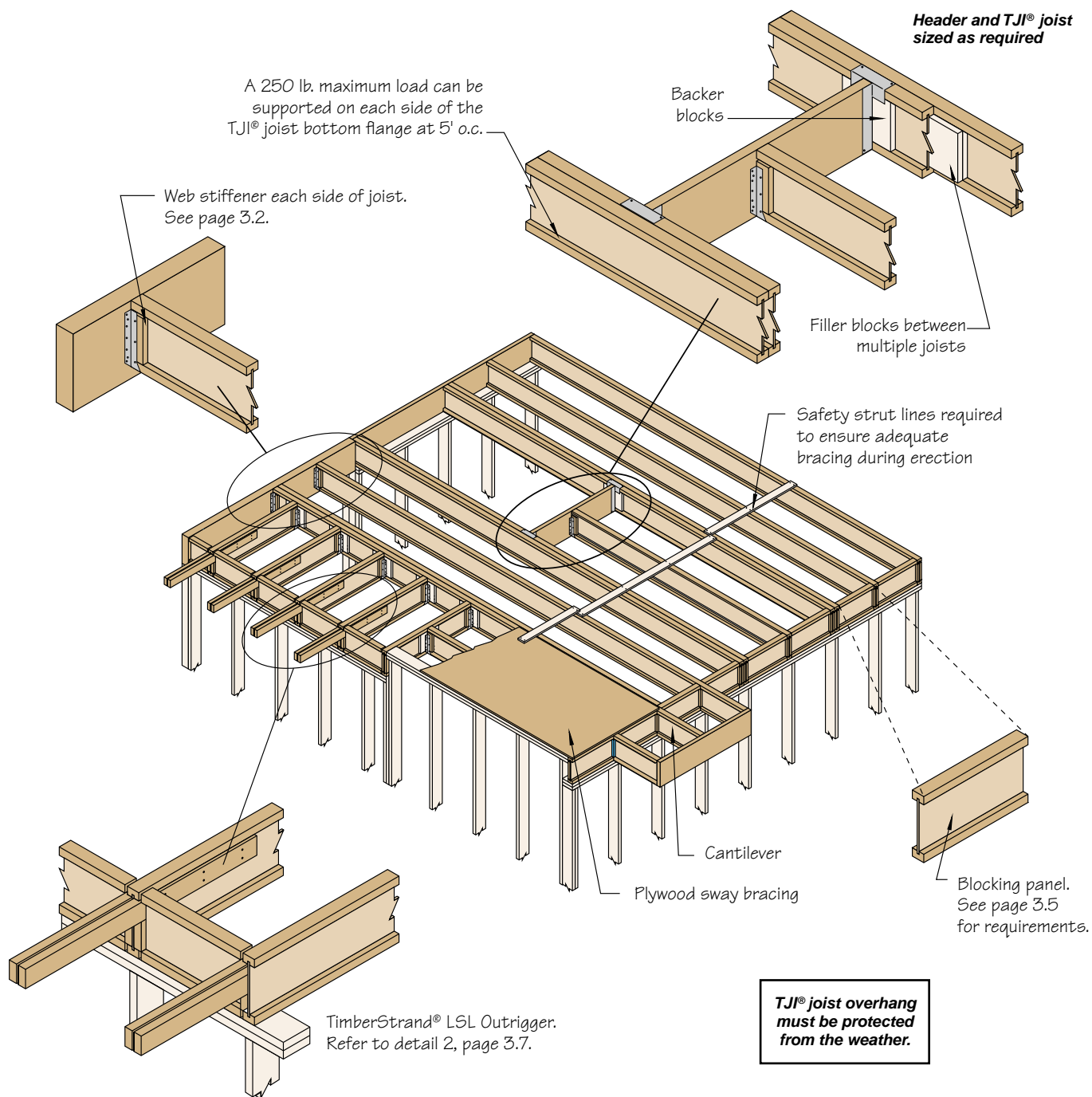
## General Notes:

**Multiple Holes:** Where more than one hole is to be cut in the web, the length of the uncut web between holes must be twice the length of the longest dimension of the largest adjacent hole.

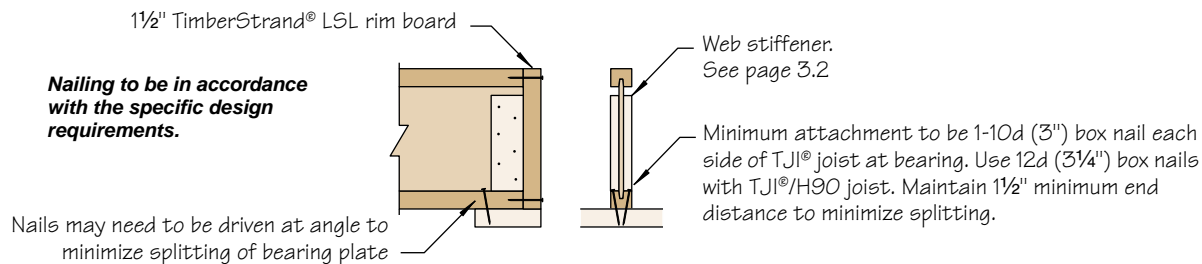
**Hole Sizes:** The sizes given in the table are hole sizes, not duct sizes. Rectangular hole sizes are based on measurement of the longest side.



# TJI® Joist Details



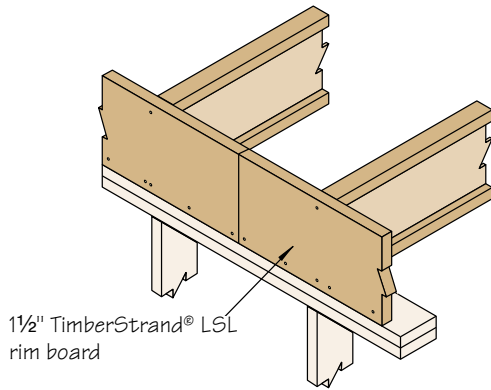
## Attachment of TJI® Joists to Plate



### General Notes:

- Details shown on pages 3.4 through 3.9 are conceptual. Attachments and connections shall be made to the supporting structure in accordance with the specific design requirements.
- TimberStrand® LSL rim board or TJI® blocking panels (or an equivalent alternate) shall always be used to prevent rollover and to provide structural attachment of plywood deck to the supporting structure in accordance with the specific design requirements.

# TimberStrand® LSL Rim Board



## Minimum TimberStrand® LSL rim board attachment:

**Toenail TimberStrand® LSL rim board to bearing plate with 10d (3") box nails at 6" on-center or 16d (3 1/2") box nails at 12" on-center. When used for shear transfer, nail to bearing plate with connections equivalent to decking nail schedule.**

## TimberStrand® LSL rim board may be used for:

- Shear transfer – Shear transfer nailing must be established by design.
- Vertical load transfer
- General closure
- Helping prevent rollover during installation of joists

TimberStrand® LSL rim board is available from Trus Joist.

When used for vertical load transfer the following values may be used in pounds per lineal foot of 1 1/2" TimberStrand® LSL rim board:

## Allowable Uniform Load For 1 1/2" TimberStrand® LSL Rim Board (plf)\*

1 1/2" TimberStrand® LSL Rim Board Depth			
11 7/8" to 24"	26"	28"	30"
4140	3600	3130	2740

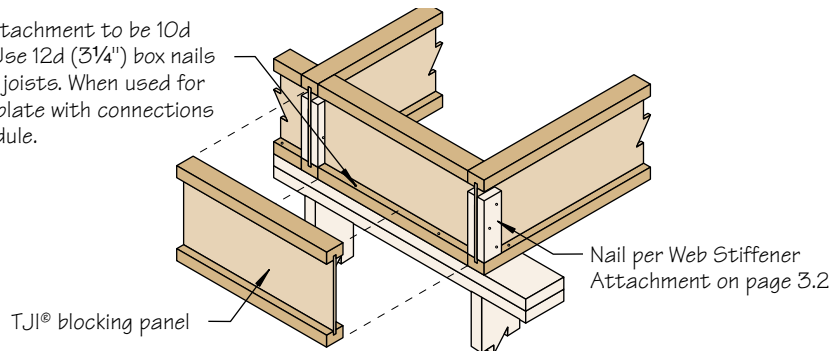
\* Loads shown may not be increased for duration of load.

## Closest On-Center Nail Spacing Per Row

Nail Size					
8d (2 1/2") box	8d (2 1/2") common	10d (3") 12d (3 1/4") box	10d (3") 12d (3 1/4") common	16d (3 1/2") box	16d (3 1/2") common
3"	3"	3"	4"	3 1/2"	6"

# TJI® Blocking Panels

Minimum TJI® blocking panel attachment to be 10d (3") box nails at 6" on-center. Use 12d (3 1/4") box nails at 6" on-center with TJI®/H90 joists. When used for shear transfer; nail to bearing plate with connections equivalent to decking nail schedule.



## TJI® blocking panels may be used for:

- Shear panels — Design limits are to be based upon web material for specific series used. For capacity, use plf shear values for an 11 7/8" deep joist of the series used. Shear transfer nailing must be established by design.
- Vertical load carrying panels
- General closure
- Helping prevent rollover during installation of joists

TJI® blocking panels are available from Trus Joist.

When used for vertical load transfer the following values may be used in pounds per lineal foot of TJI® blocking panel:

## Allowable Uniform Load For TJI® Blocking Panels (plf)

TJI® Joist Series	TJI® Blocking Panel Depth						
	11 7/8"-14"	16"-20"	22"	24"	26"	28"	30"
TJI®/L65 and TJI®/L90	2700	2700	2400	2100	1750	1450	1150
TJI®/H90	3150	2700	2400	2100	1750	1450	1150

- Allowable uniform loads for TJI® blocking panels or TJI® joists as a wall section.
- Loads shown may not be increased for duration of load.

## Concentrated vertical loads:

Concentrated vertical loads on blocking panels are to be limited to the proportion of the uniform load capacity defined by the applied load area increased by a 45° load distribution through decking and flange to the web tip.

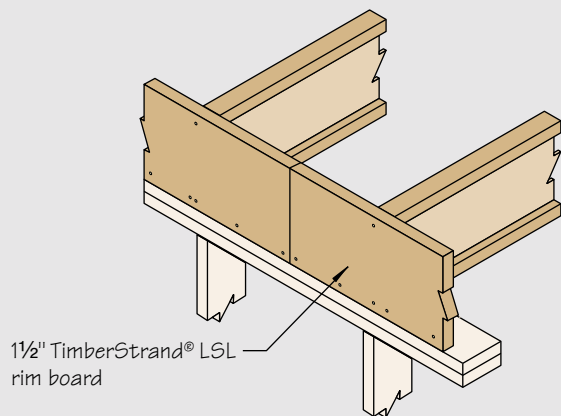
### Example:

4x4 post applied to a 20" TJI®/L65 joist through 3/4" plywood sheathing.

$$P_{\text{allowable}} = 2700 \left[ \frac{3.5 + 2(.75) + 2(.875)}{12} \right] = 1519 \text{ lbs}$$

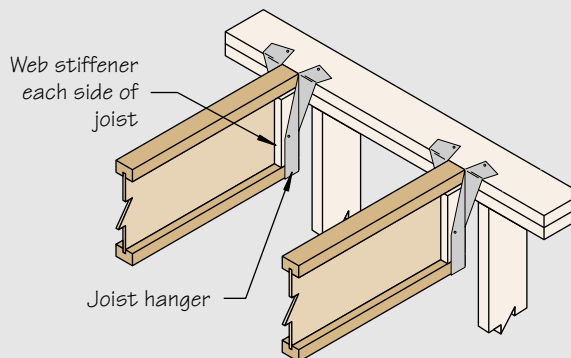
Loads beyond this should be supported by squash blocks.

## ① TimberStrand® LSL Rim Board

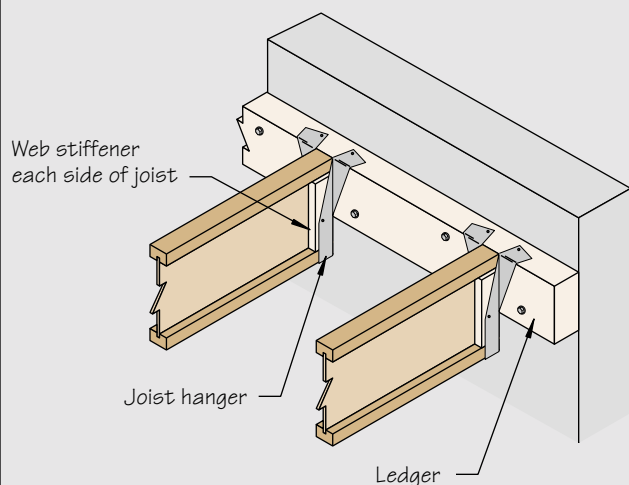


**For rim board nailing requirements and possible TJI® blocking panel detail, see page 3.5**

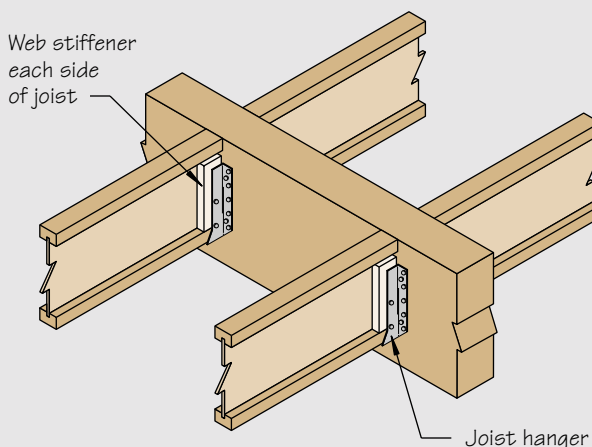
## ② Hanger on Stud Wall



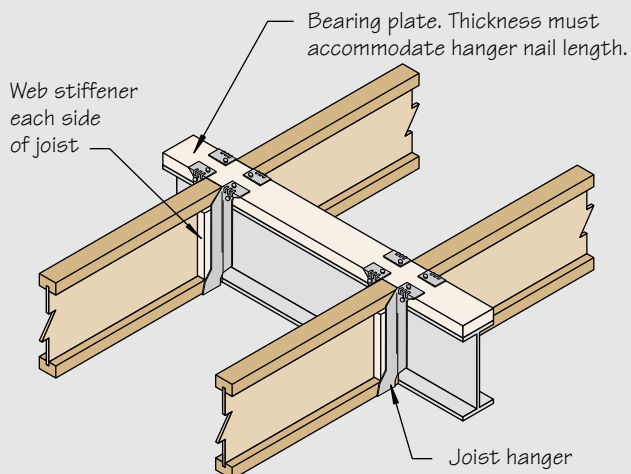
## ③ Hanger on Ledger



## ④ Hanger on Beam

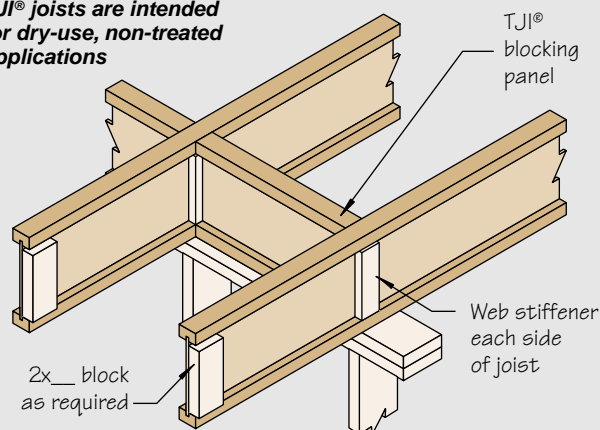


## ⑤ Hanger on Steel Beam



## ⑥ Cantilever

**TJI® joists are intended for dry-use, non-treated applications**



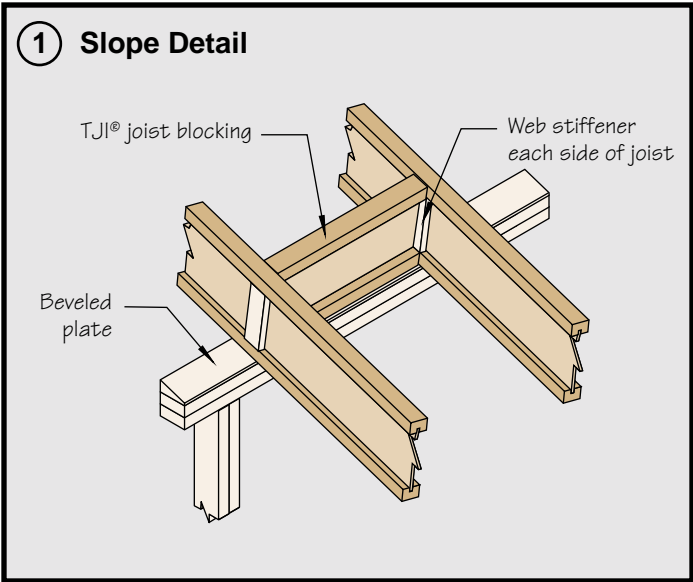
**Roof loads bearing on cantilevers will require engineering check**



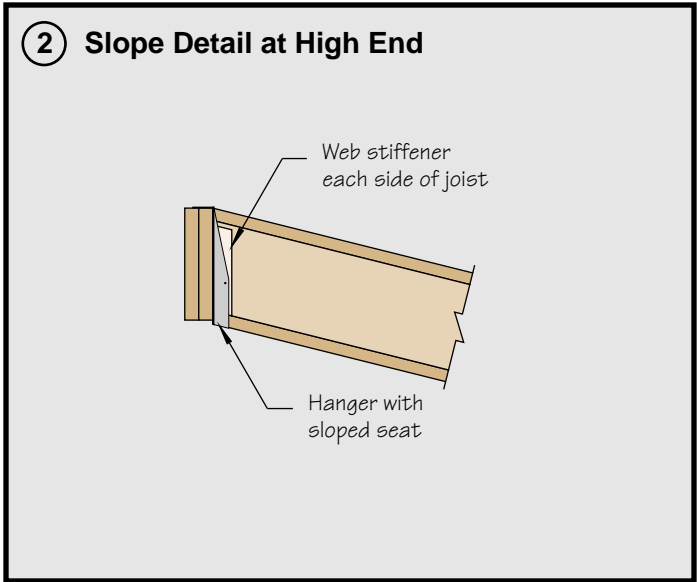


# TJI® Joist Details

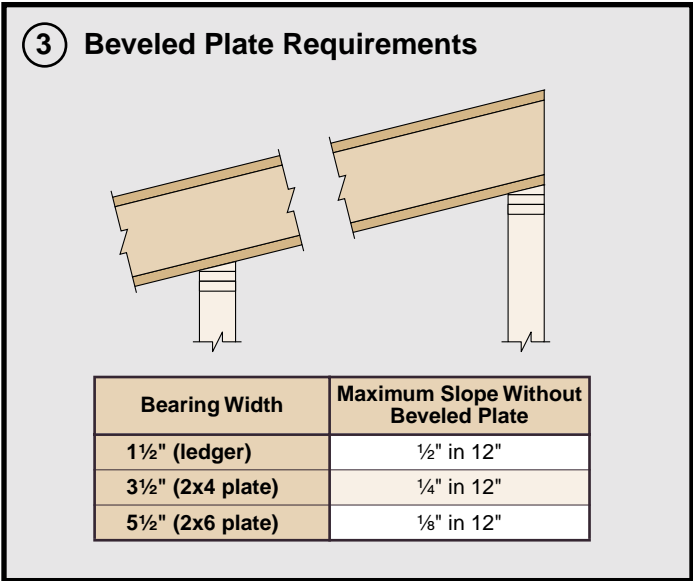
## 1 Slope Detail



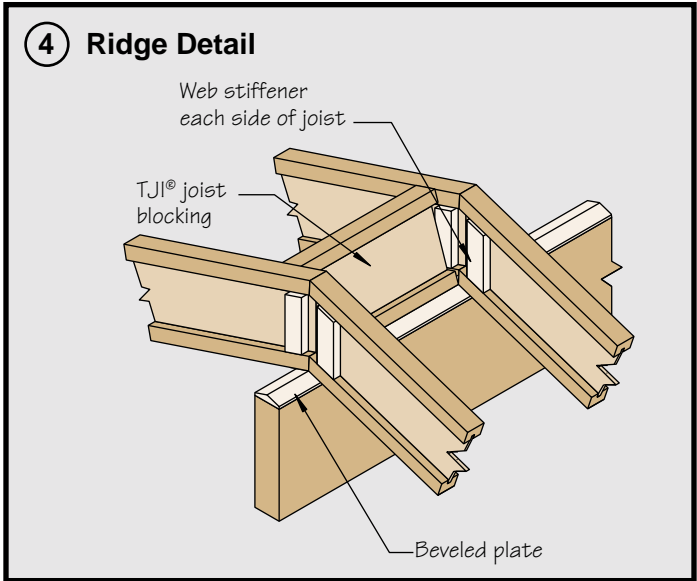
## 2 Slope Detail at High End



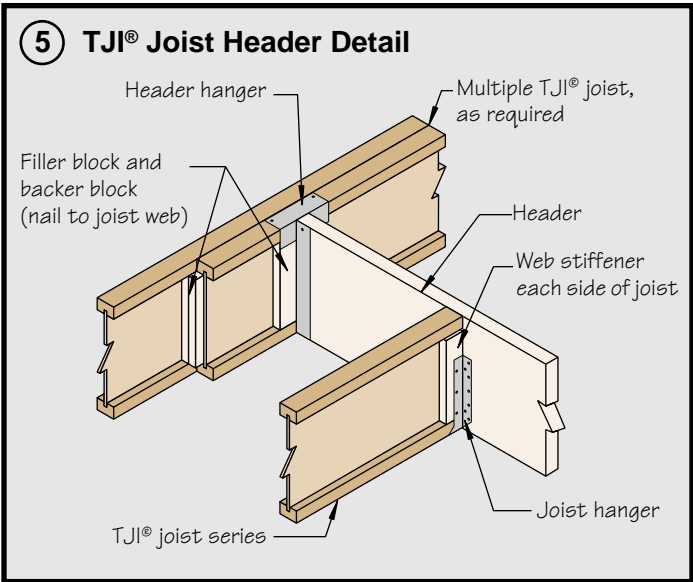
## 3 Beveled Plate Requirements



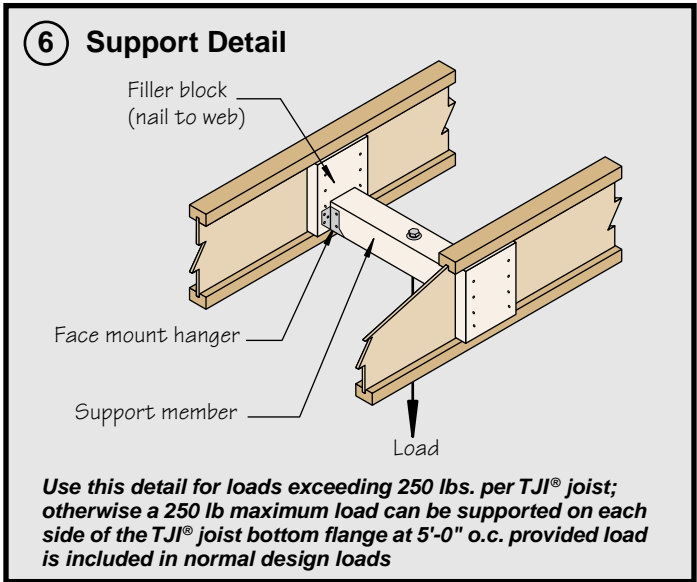
## 4 Ridge Detail



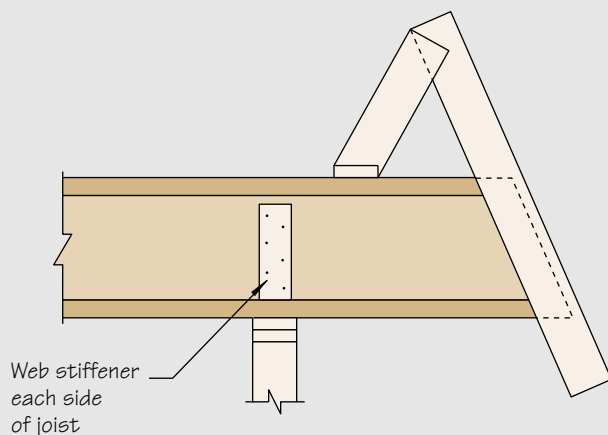
## 5 TJI® Joist Header Detail



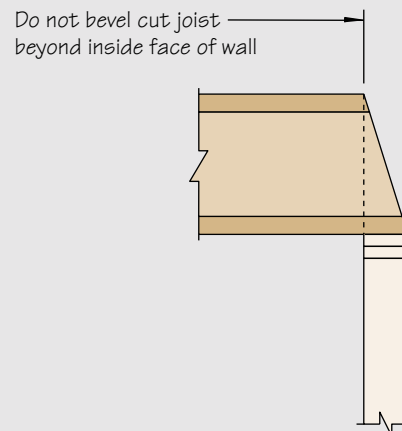
## 6 Support Detail



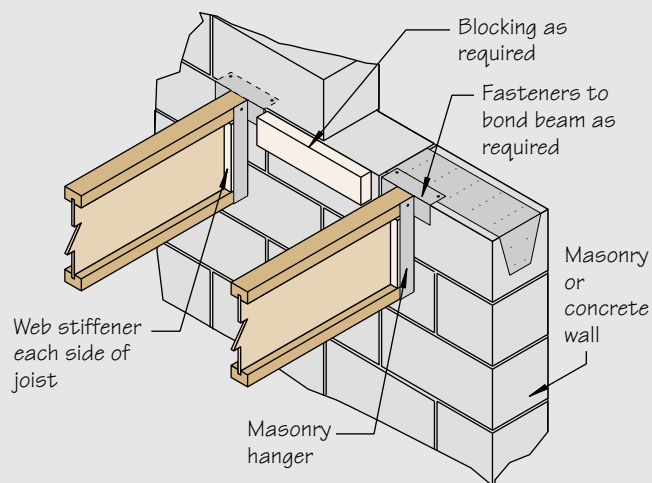
## ① Cantilever with Mansard Framing



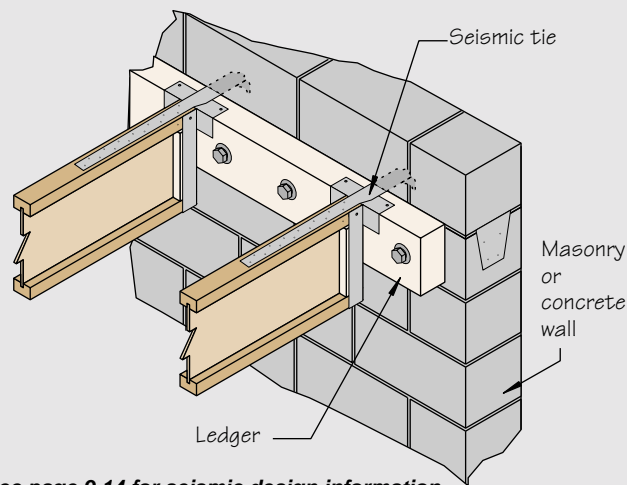
## ② Bevel Cut or Firecut



## ③ Hanger on Masonry Wall

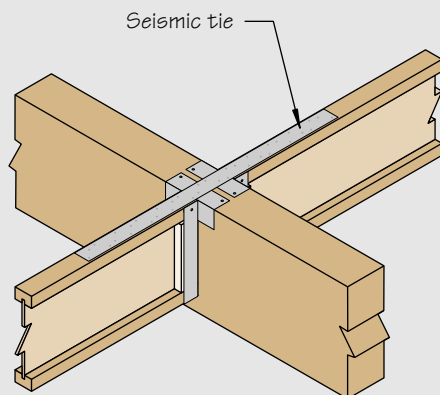


## ④ Seismic Tie at Masonry Wall



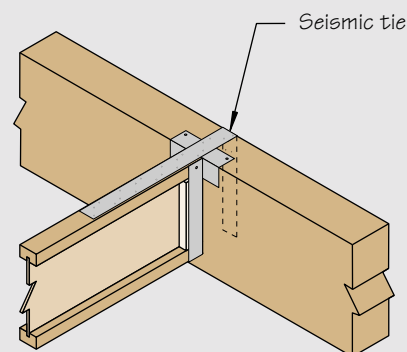
See page 9.14 for seismic design information

## ⑤ Seismic Tie at Butting Joists



See page 9.14 for seismic design information

## ⑥ Seismic Tie at Beam



See page 9.14 for seismic design information

# Open-Web Truss Descriptions



## TJL™, TJLX™, TJW™ Truss

**Top and Bottom Chords:**

TJL™ & TJLX™ Truss – 1.5" x 3.5" machine stress rated lumber  
TJW™ Truss – 1.5" x 4.75" machine stress rated lumber  
TJL™ trusses with Microllam® LVL top chords may be available; contact your Trus Joist representative.

**Webs:**

1" and 1½" diameter tubular steel members varying in gauge and diameter according to requirements. 45,000 psi minimum yield.

**Weight:**

TJL™, TJLX™ Truss: 3.75 to 4.25 lbs/ft  
TJW™ Truss: 4.5 to 5.25 lbs/ft

**Depths:**

Min. depth at wall 14"  
Max. depth at wall 50"  
Max. pitched ridge depth 50"

Any depth between minimum and maximum is available.



## TJS™ Truss

**Top and Bottom Chords:**

Double 1.5" x 2.3" Microllam® LVL

**Webs:**

1", 1¼" and 1½" diameter tubular steel members varying in gauge and diameter according to requirements. 45,000 psi minimum yield.

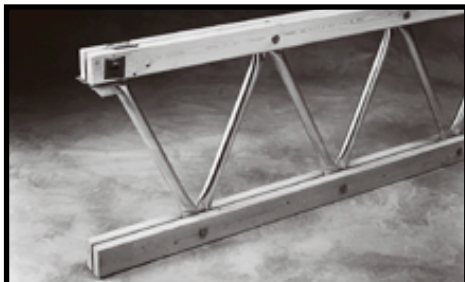
**Weight:**

4.75 to 5.75 lbs/ft

**Depths:**

Min. depth at wall 16"  
Max. depth at wall 64"  
Max. pitched ridge depth 84"

Any depth between minimum and maximum is available.



## TJM®, TJH™ Truss

**Top and Bottom Chords:**

TJM® Truss — Double 1.5" x 3.5" machine stress rated lumber  
TJH™ Truss — Double 1.5" x 5.5" machine stress rated lumber

**Webs:**

Up to 2" diameter tubular steel members varying in gauge and diameter according to requirements. 45,000 psi minimum yield.

**Weight:**

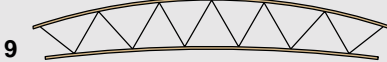
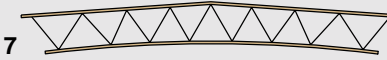
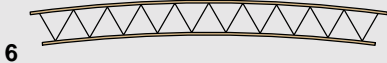
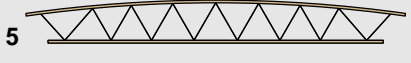
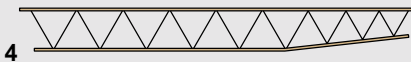
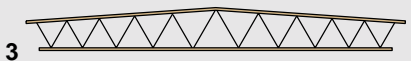
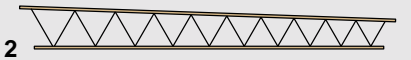
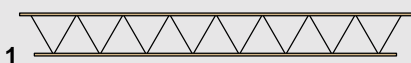
TJM® Truss — 8 to 9 lbs/ft  
TJH™ Truss — 10 to 12 lbs/ft

**Depths:**

	TJM®	TJH™
Min. depth at wall	20"	24"
Max. depth at wall	60"	72"
Max. pitched ridge depth	72"	114"

Any depth between minimum and maximum is available.

## Profiles



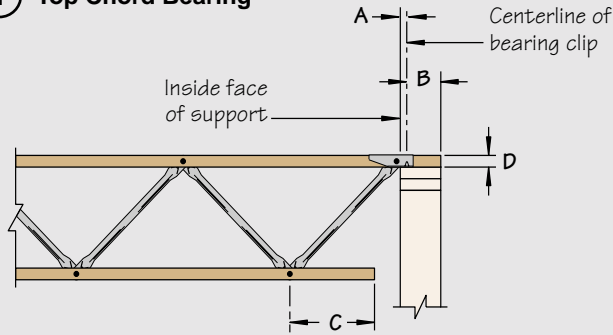
**Tightest Curvature available:**

Truss Series	1	2	3	4	5	6	7	8	9	10
TJL™, TJLX™, TJW™ Truss										
TJS™ Truss										
TJM® Truss										
TJH™ Truss										

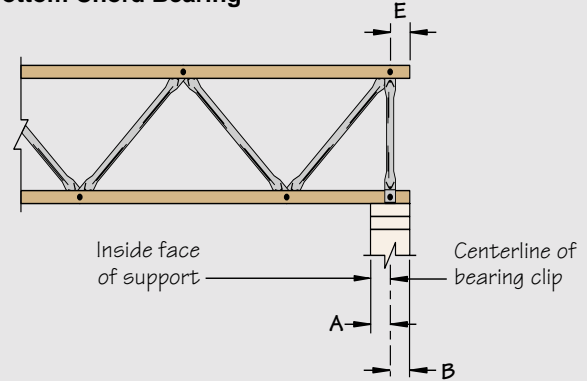
Truss Series	Profiles Available									
	1	2	3	4	5	6	7	8	9	10
TJL™, TJLX™, TJW™	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TJS™	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TJM®	✓	✓	✓	✓				✓		
TJH™	✓	✓	✓	✓				✓		

# Open-Web Truss Dimensions

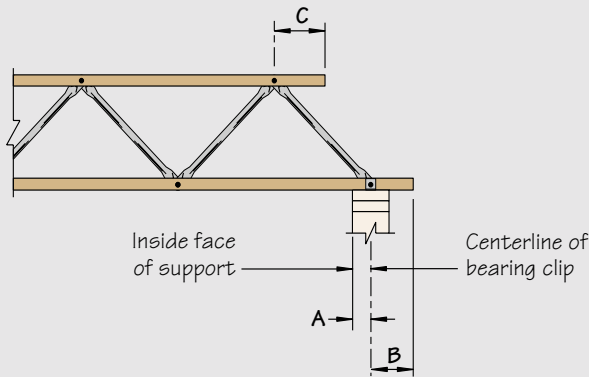
## 1 Top Chord Bearing



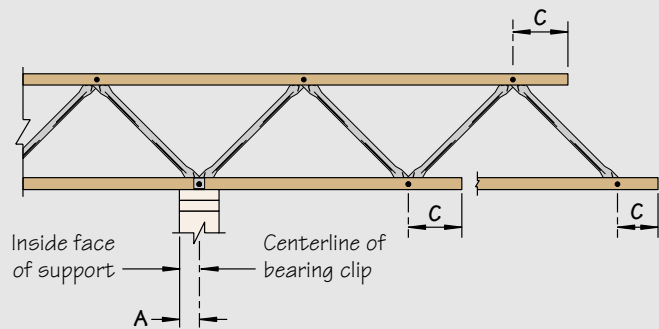
## 2 Bottom Chord Bearing



## 3 Bottom Chord Bearing without Vertical Web



## 4 Bottom Chord Cantilever



**Note:** When possible, locate bottom chord bearing clip at centerline of support.

## Dimensions For Detailing

Series	Bearing Clip	Top Chord Bearing <sup>(4)</sup>					Bottom Chord Bearing <sup>(4)</sup>				
		A	B	C		D	A	B	C		E
				Minimum per NDS-97 <sup>(1)(2)</sup>	Minimum Required at Maximum Load				Minimum per NDS-97 <sup>(1)(2)</sup>	Minimum Required at Maximum Load	
TJL™ TJLX™ TJLM™ TJW™	No-Notch Clip	7/8"	7/8"	23/16"	9"	1 1/2"	7/8"	7/8"	23/16"	9"	2 1/4"
	U-Clip	1"	1 1/4"	23/16"	9"	1 1/2"	1"	1 1/4"	23/16"	9"	1 1/4"
TJS™	S-Clip	1 3/8"	1 3/8"	2 5/8"	9"	3 1/2"	—	—	—	—	—
	Angle Clip	—	—	—	—	—	1 3/4"	1 3/4"	2 5/8"	9"	1 3/4"
TJM®	S-Clip	1 3/16"	1 15/16"	3 1/2"	12"	3 5/8"	1 3/16"	1 15/16"	3 1/2"	12"	3 1/2"
	Angle Clip	—	—	—	—	—	2"	2"	3 1/2"	12"	2"
	Pedestal Clip	1 3/4"	varies <sup>(3)</sup>	3 1/2"	12"	varies <sup>(3)</sup>	—	—	—	—	—
	Z-Clip	1 3/8"	1 5/8"	3 1/2"	12"	3 1/16"	1 3/8"	1 5/8"	3 1/2"	12"	3 1/2"
	T-Clip	—	—	—	—	—	1 1/2"	2"	3 1/2"	12"	2"
TJH™	Pedestal Clip	1 3/4"	varies <sup>(3)</sup>	4 3/8"	15"	varies <sup>(3)</sup>	—	—	—	—	—
	Z-Clip	1 3/4"	2 7/16"	4 3/8"	15"	5 3/4"	1 3/4"	2 7/16"	4 3/8"	15"	4 3/8"
	T-Clip	—	—	—	—	—	1 3/4"	2 5/8"	4 3/8"	15"	2 5/8"

(1) Actual pin to end distance is based on forces in truss chord. Minimum cut-off may not be acceptable.

(2) Based on NDS-97 minimum edge distance of 3.5D.

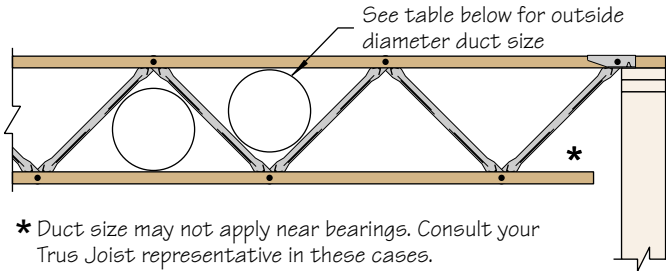
(3) Pedestal clip geometry is dependent on the starter web angle and top chord slope.

(4) Minimum support width equals A + B (2 x A at bottom chord cantilever).

### LEGEND

A =	Face of support to centerline of bearing clip
B =	Centerline of bearing clip to end of chord
C =	Pin to end of chord
D =	Bearing clip height
E =	Pin to end of chord with vertical web

## Round Ducts



Truss Depth (inches)	Load Range (plf)	Duct Size (inches)
<b>TJL™, TJLX™, TJW™ Truss</b>		
14	ANY	9
16	ANY	10
18	0-150	12
18	over 150	10
20	0-150	13
20	over 150	11
22	0-150	13
22	over 150	11
24	0-150	14
24	over 150	12
26	0-150	15
26	over 150	12
28	0-150	16
28	over 150	12
30	0-150	16
30	over 150	13
32	0-150	17
32	over 150	13
34	0-150	17
34	over 150	14
36	0-150	18
36	over 150	15

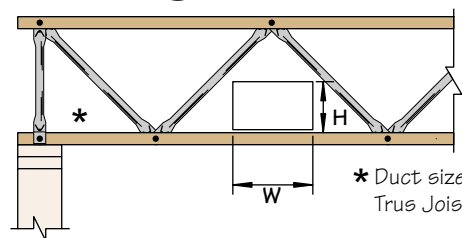
Truss Depth (inches)	Load Range (plf)	Duct Size (inches)
<b>TJL™, TJLX™, TJW™ Truss</b>		
38	0-150	18
38	over 150	16
40	0-150	19
40	over 150	18
<b>TJS™ Truss</b>		
16	ANY	9
18	ANY	11
20	0-250	13
20	250-350	12
22	0-250	14
22	250-400	13
24	0-175	16
24	175-370	14
26	0-150	18
26	150-250	16
26	250-400	14
28	0-150	19
28	150-250	17
28	250-400	15
30	0-100	21
30	100-180	19
30	180-300	17

Charts are applicable only for uniform loads. For trusses designed for office floor conditions requiring concentrated loads, or for any other non-uniform loads, call your Trus Joist representative.

Truss Depth (inches)	Load Range (plf)	Duct Size (inches)
<b>TJS™ Truss</b>		
32	0-115	22
32	115-180	20
32	180-300	18
34	0-115	23
34	115-180	21
34	180-380	18
36	0-115	24
36	115-200	21
36	200-350	19
38	0-110	25
38	110-190	22
38	190-350	20
40	0-110	26
40	110-180	23
40	180-360	20
42	0-125	26
42	125-225	23
42	225-350	21
44	0-115	27
44	115-200	24
44	200-300	21
46	0-115	27
46	115-200	25
46	200-300	22
48	0-115	28
48	115-200	25
48	200-300	22
<b>TJM® Truss</b>		
21	ANY	11
24	ANY	13
27	ANY	15
30	ANY	17

Truss Depth (inches)	Load Range (plf)	Duct Size (inches)
<b>TJM® Truss</b>		
33	0-110	21
33	110-200	19
33	200-300	17
36	0-100	24
36	100-150	22
36	150-280	19
39	0-80	26
39	80-150	23
39	150-250	20
42	0-75	28
42	75-150	24
42	150-275	20
<b>TJH™ Truss</b>		
30	ANY	16
33	ANY	17
36	ANY	18
39	0-150	23
39	150-300	20
42	0-150	25
42	150-300	21
45	0-125	27
45	125-250	23
45	250-300	21
48	0-125	29
48	125-200	27
48	200-300	23
51	0-120	30
51	120-180	28
51	180-300	24
54	0-130	32
54	130-200	29
54	200-300	24

## Rectangular Ducts



### How to read these tables:

H – Dimensions are in column headings

W – Dimensions are in body of table

### Example:

For a 24" TJL™ truss, possible sizes are 4" x 21", 6" x 18", 8" x 16" and 10" x 13"

Truss Depth (inches)	H			
	4"	6"	8"	10"
<b>TJL™, TJLX™, TJW™ Truss</b>				
14	15	10	5	–
16	17	13	8	4
18	19	15	11	7
20	20	16	13	10
22	20	17	14	11
24	21	18	16	13
26	21	19	17	14
28	22	20	17	15
30	22	20	18	16
32	23	21	19	17
34	23	21	19	17
36	23	21	20	18
38	23	22	20	18
40	23	22	20	19
42	24	22	21	19
44	24	22	21	20
46	24	23	21	20

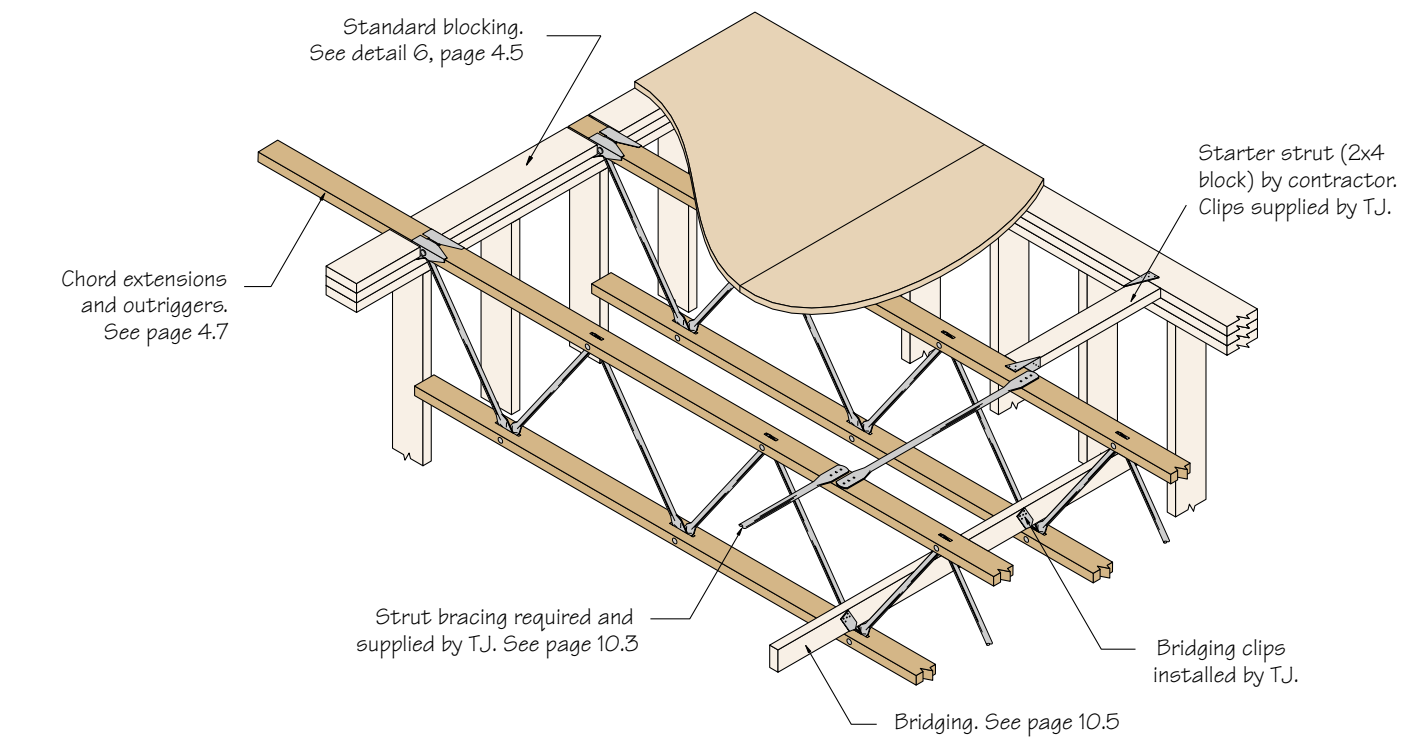
Truss Depth (inches)	H			
	4"	6"	8"	10"
<b>TJS™ Truss</b>				
16	25	20	14	9
18	27	22	17	12
20	28	24	19	15
22	29	25	21	17
24	30	26	23	19
26	30	27	24	21
28	31	28	25	22
30	31	29	26	23
32	32	29	27	24
34	32	30	27	25
36	32	30	28	26
38	33	30	28	26
40	33	31	29	27
42	33	31	29	27
44	33	31	30	28
46	33	32	30	28
48	34	32	30	29

Truss Depth (inches)	H			
	4"	6"	8"	10"
<b>TJM® Truss</b>				
20	25	21	16	12
22	26	22	18	14
24	27	23	20	16
26	28	24	21	18
28	28	25	22	19
30	29	26	23	20
32	29	26	24	21
34	29	27	25	22
36	30	27	25	23
38	30	28	26	24
40	30	28	26	24
42	30	29	27	25
44	31	29	27	25
46	31	29	27	26
48	31	29	28	26
50	31	30	28	26
52	31	30	28	27

Truss Depth (inches)	H			
	4"	6"	8"	10"
<b>TJH™ Truss</b>				
24	34	29	24	19
27	36	31	27	22
30	37	33	29	25
33	38	34	31	28
36	39	36	32	29
39	39	36	34	31
42	40	37	35	32
45	40	38	35	33
48	41	38	36	34
51	41	39	37	35
54	41	39	37	35
57	42	40	38	36
60	42	40	38	37
63	42	40	39	37
66	42	41	39	37
69	42	41	39	38
72	42	41	40	38

These tables are based on heaviest loads (shortest panels). Check with your Trus Joist representative for more precise sizing.

# TJL™/TJW™ Truss Details



**1 Top Bearing (No-Notch Clip)**

Contact your Truss Joist representative if reaction exceeds 2860 lbs for TJL™ or TJW™ trusses

7 3/16" TJL™ truss  
8 7/16" TJW™ truss

1 3/4"

**Pre-notched plate not required**

**2 Top Bearing (U-Clip)**

Pre-notched plate

1 9/16" 1 3/4"

6 1/2" TJL™ truss  
7 3/4" TJW™ truss

**3 Bottom Bearing**

1 3/4"

6 1/2" TJL™ truss  
7 3/4" TJW™ truss

**4 Pre-Notched Plate Requirements**

Pre-notched plate

**Roof**

- 14"-22" One row pre-notched plate
- 23"-34" Two rows pre-notched plate

**Floor**

- 14"-18" One row pre-notched plate
- 19"-34" Two rows pre-notched plate

Top chord on slope may affect these requirements.

Center of notch at truss o.c. spacing

Double notch pre-notched plate

**5 Beveled Plate Requirements**

Beveled bearing plates may be required for trusses with sloped top chords. Beveled plate serves two functions:

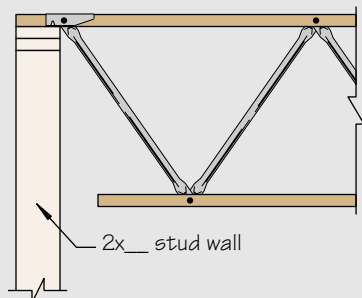
- Provides proper bearing for bearing clip.
- Avoids interference between top chord and bearing plate.

Bearing Condition		Slope at Which Plate Must be Beveled		
		2x8	2x6	2x4
All TJL™/TJW™ Bearing Clips	Low end	>1/4":12"	>3/8":12"	>1/2":12"
	High end	>3/8":12"	>3/8":12"	>1/2":12"

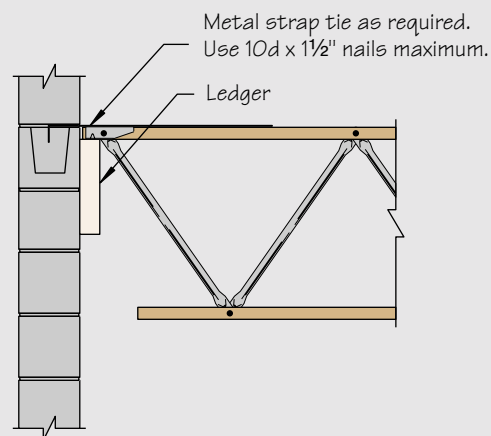
Beveled plate, to suit roof slope, is required at all common bearing and cantilevered bearings.



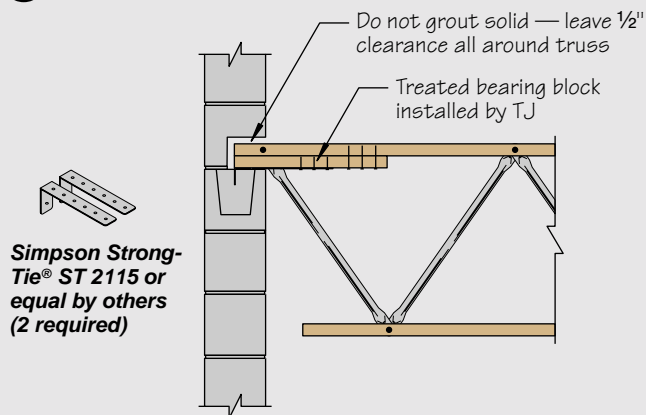
## ① Top Chord Bearing



## ② Top Chord Bearing Ledger

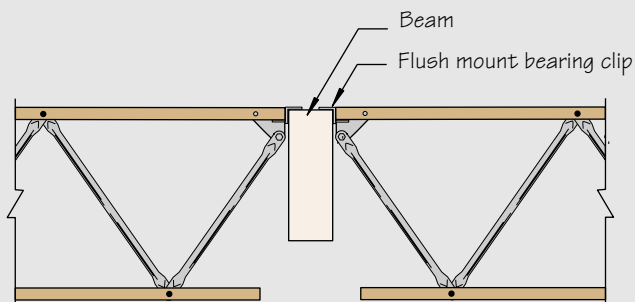


## ③ Bearing Block at Masonry Wall



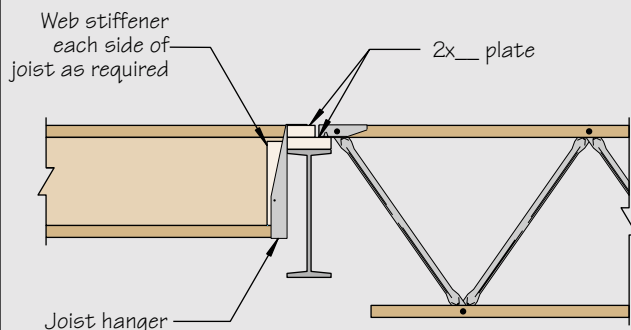
*Two bearing blocks may be required. See pre-notched plate requirements.*

## ④ Flush Mount Bearing on Beam

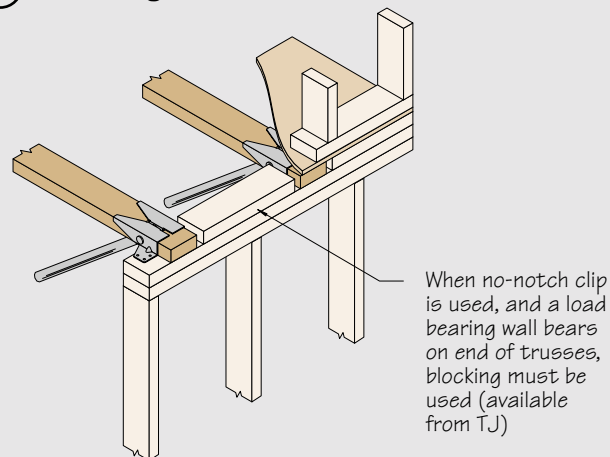


*See page 9.15 for seismic design information*

## ⑤ TJI® Joist Butting with TJL™/TJW™ Truss

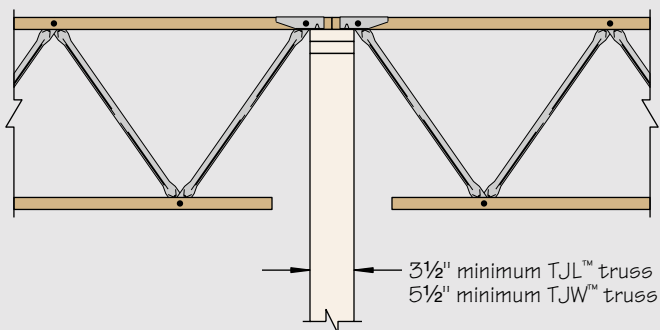


## ⑥ Blocking

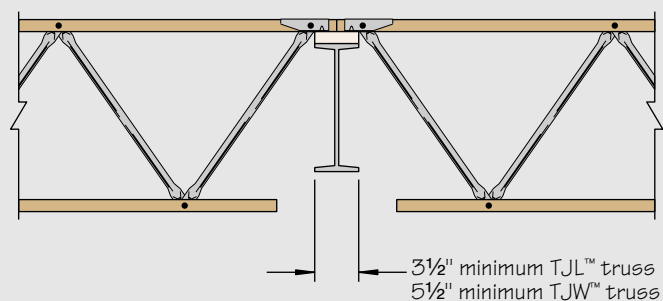


# TJL™/TJW™ Truss Details

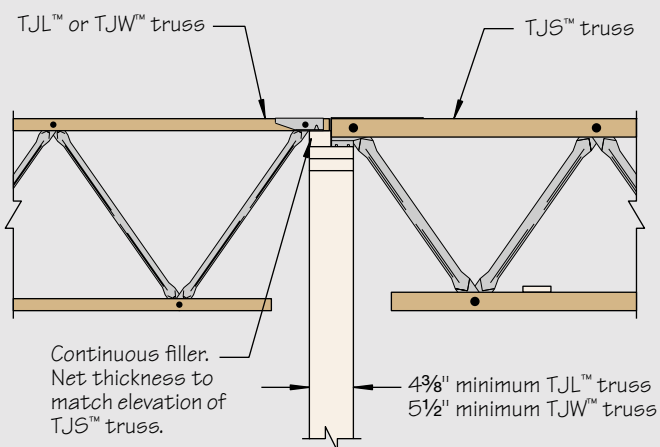
## ① Top Chord Bearing with Butting Trusses



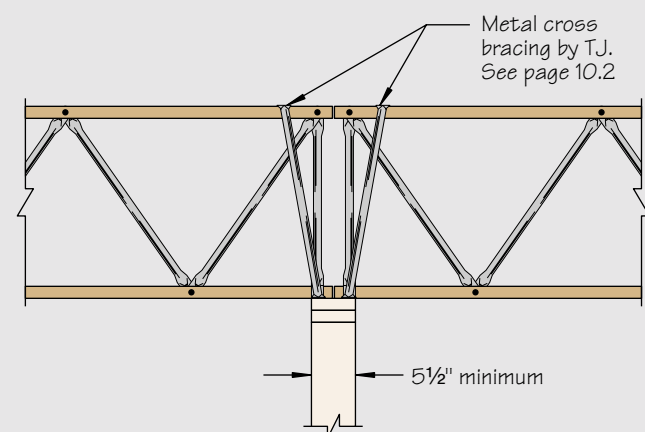
## ② Bearing on Steel Beam



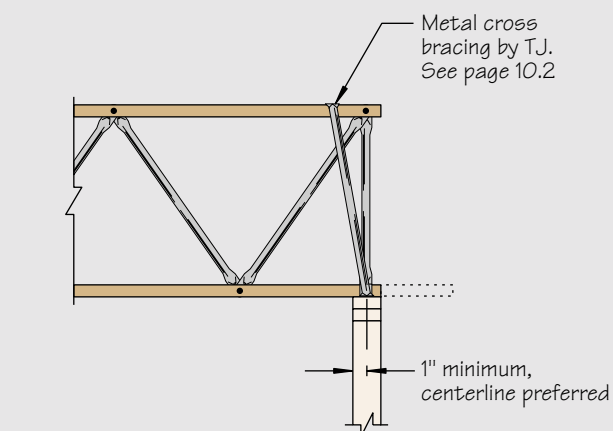
## ③ TJS™ Truss Butting with TJL™/TJW™ Truss



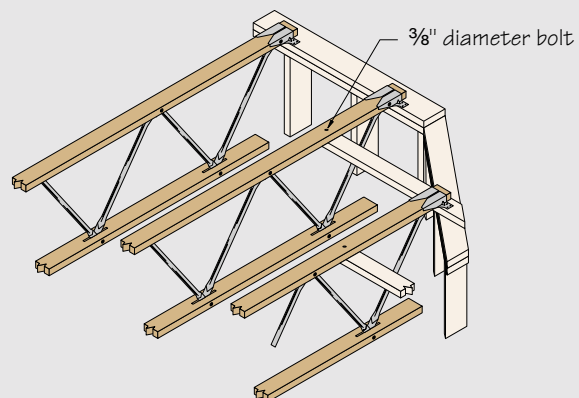
## ④ Bottom Chord Bearing with Butting Trusses



## ⑤ Bottom Chord Bearing

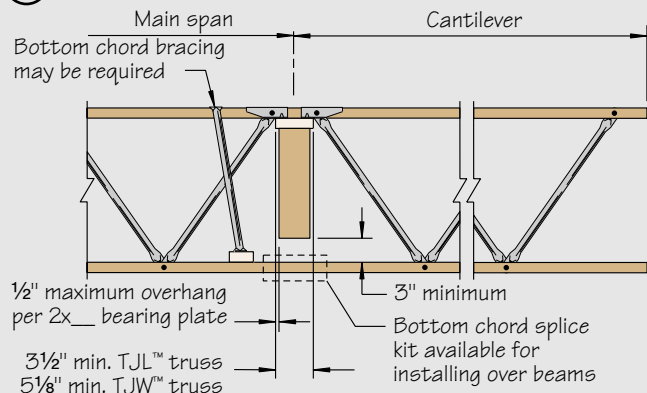


## ⑥ Skewed Wall Bearing



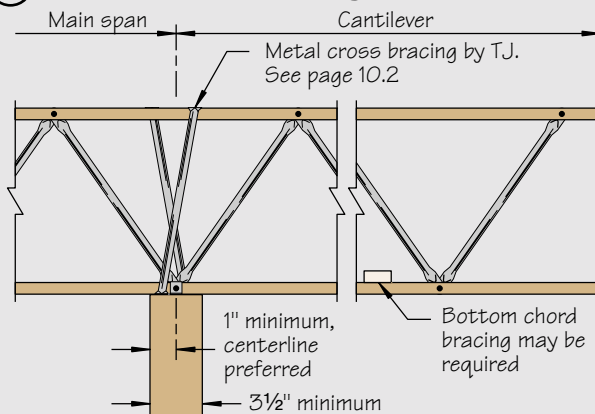
*Elevation of skewed wall should be  
adjusted for bearing block height*

## ① Top Chord Cantilever



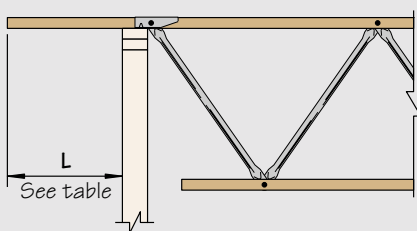
**Special inquiry if cantilever exceeds 1/3 of main span or if no-notch bearing clips are used**

## ② Bottom Chord Bearing Cantilever



**Special inquiry if cantilever exceeds 1/3 of main span**

## ③ TJL™ and TJLX™ Top Chord Extension



**For TJW™ series top chord extension capacities, contact your Trus Joist representative**

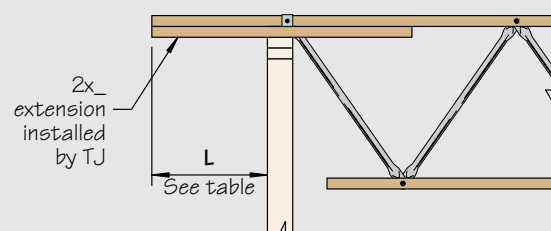
Length L	Capacity (plf)		
	Floor	Snow Roof	Non-Snow Roof
12"	263	302	328
14"	225	259	281
16"	197	226	246
18"	162	201	219

**Design criteria for Details 3 and 4:**

Deflection: 2L/360 TL for floors  $F_b = 2100$  psi  $F_v = 75$  psi  
2L/240 TL for roofs  $E = 1.8 \times 10^6$  psi

• Other capacities may be obtained by use of other grades of lumber.

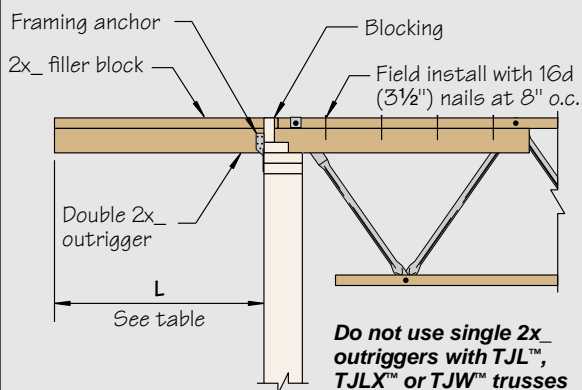
## ④ TJL™ and TJLX™ Double Top Chord Extension



Length L	Capacity (plf)		
	Floor	Snow Roof	Non-Snow Roof
12"	367	361	393
16"	367	361	393
20"	236	354	354
24"	137	205	205
28"		129	129
32"		87	87

• Values are limited by the published backspan capacity (plf).

## ⑤ Double 2x Outrigger



**Do not use single 2x outriggers with TJL™, TJLX™ or TJW™ trusses**

**The following criteria were used to develop the values:**

1.3E Grade

$F_v = 95$  psi

$F_b = 1700$  psi <sup>(1)</sup>

$E = 1.3 \times 10^6$  psi

(1) For 12" depth.

For other depths, multiply by  $\left[\frac{12}{d}\right]^{0.092}$

1.5E Grade

$F_v = 95$  psi

$F_b = 850$  psi <sup>(1)</sup>

$E = 1.5 \times 10^6$  psi

Outrigger Deflection:

2L/480 @ Live Load for Floors

(Live Load = 0.80 x Total Load)

2L/240 @ Total Load for Roofs

Outrigger Deflection =  $\frac{WL^4}{8EI}$

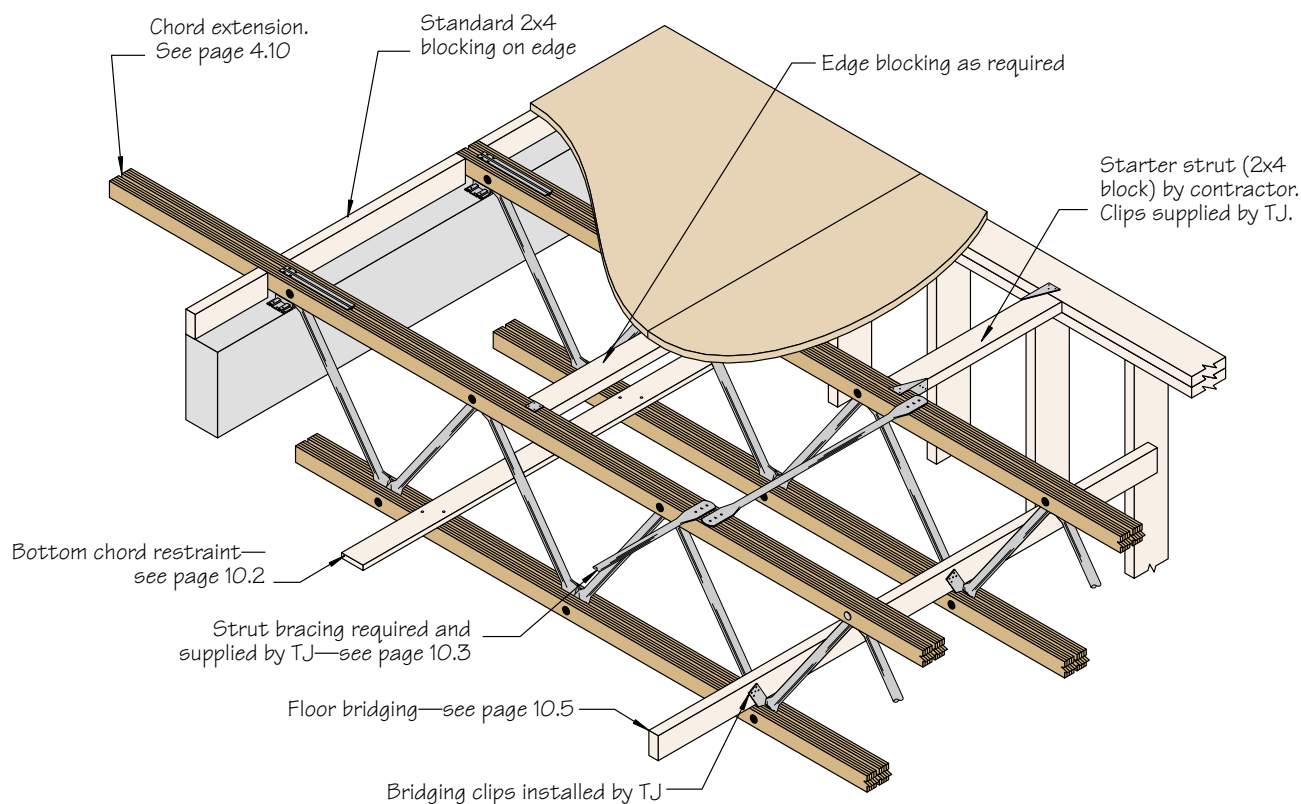
Double 2x Outrigger - Allowable Uniform Load Capacity (plf)								
2-2x4 1.3E Grade			2-2x6 1.3E Grade			2-2x8 1.5E Grade		
	Snow Roof	Non-Snow Roof		Snow Roof	Non-Snow Roof		Snow Roof	Non-Snow Roof
Floor			Floor			Floor		
367	361	393	367	361	393	367	361	393
258	358	389	367	361	393	367	361	393
149	239	239	367	361	393	367	361	393
94	150	150	365	361	393	365	361	393
63	101	101	244	331	360	279	321	349
44	71	71	172	261	275	221	254	276
32	52	52	125	200	200	179	206	223
			94	150	150	148	170	185
			72	116	116	124	143	155
			57	91	91	106	122	132
			46	73	73	91	105	114
			37	59	59	79	91	99
						70	80	87

• Values accompanied by ^ symbol are limited by plate bearing stress assuming a 3 1/2" wide S-P-F plate ( $F_{c\perp} = 425$  psi) and a nominal 3000 lb backspan reaction. Other conditions may apply. Plate bearing stress shall not be increased for duration of load.

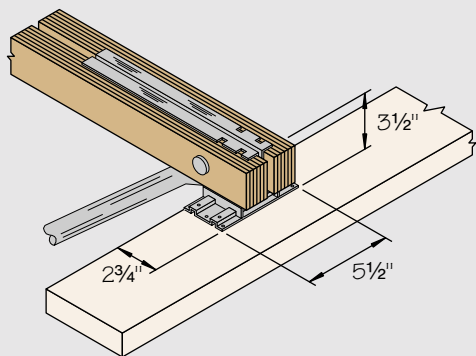
• Values in shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.

• Values are limited by the published backspan capacity (plf).

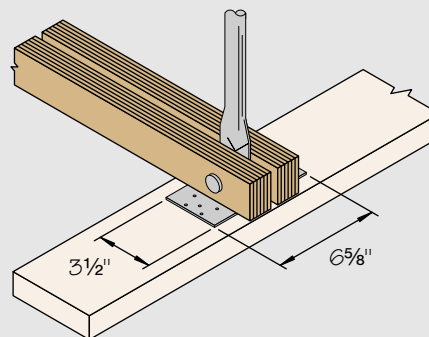
• Other capacities may be obtained by use of other grades of lumber.



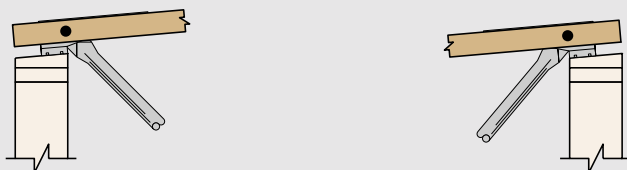
## ① Top Chord Bearing



## ② Bottom Chord Bearing



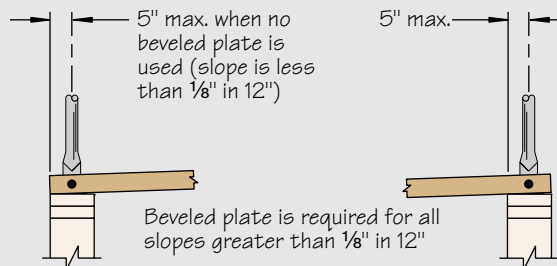
## ③ Beveled Plate Requirements – Top Chord Bearing



Beveled plate is required for all slopes greater than 1/4" in 12"

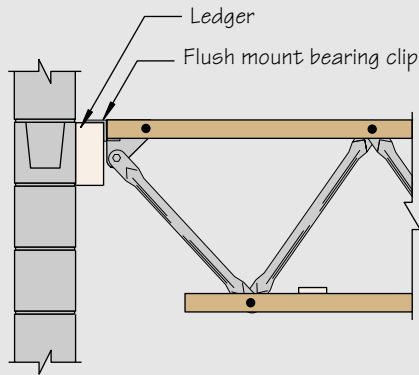
**Beveled plate is required for all slopes when trusses are cantilevered.**

## ④ Beveled Plate Requirements – Bottom Chord Bearing



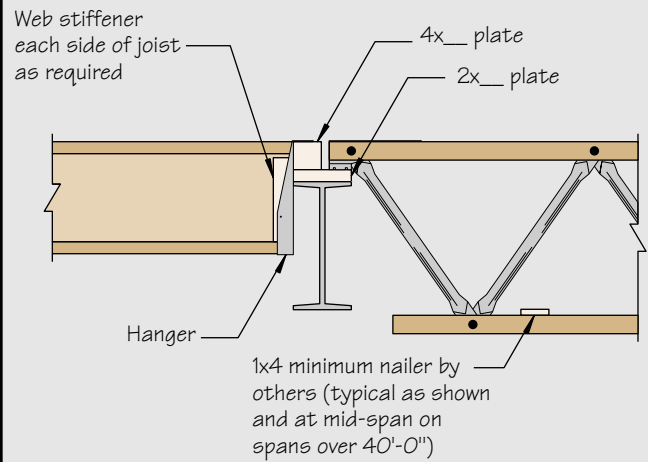
**Beveled plate is required for all slopes when trusses are cantilevered.**

## ① Flush Mount Bearing on Ledger

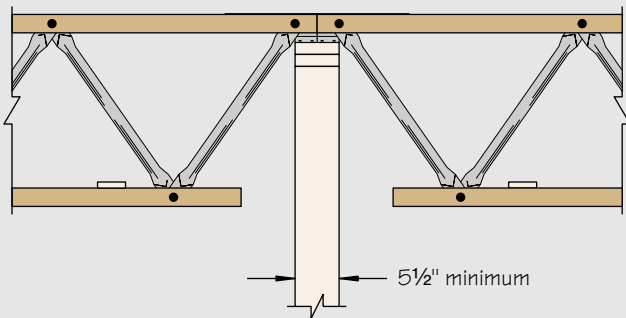


See page 9.15 for seismic design information

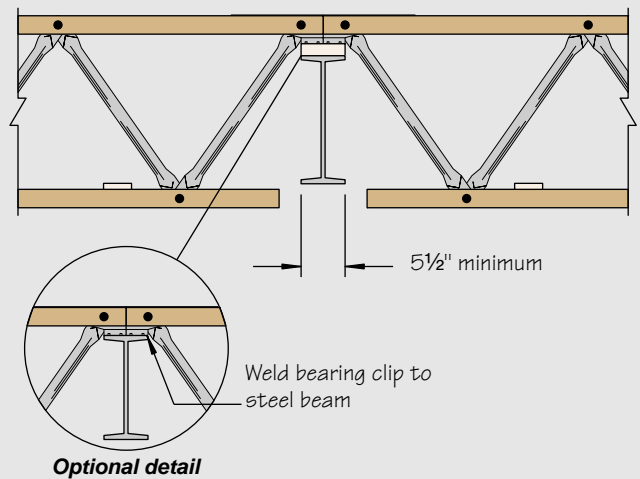
## ② TJI® Joist Butting with TJS™ Truss



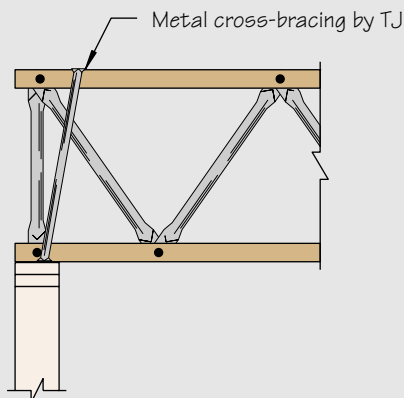
## ③ Top Chord Bearing with Butting Trusses



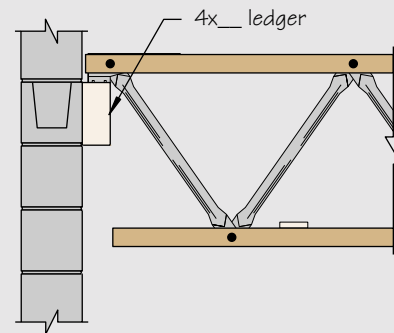
## ④ Top Chord Bearing with Butting Trusses



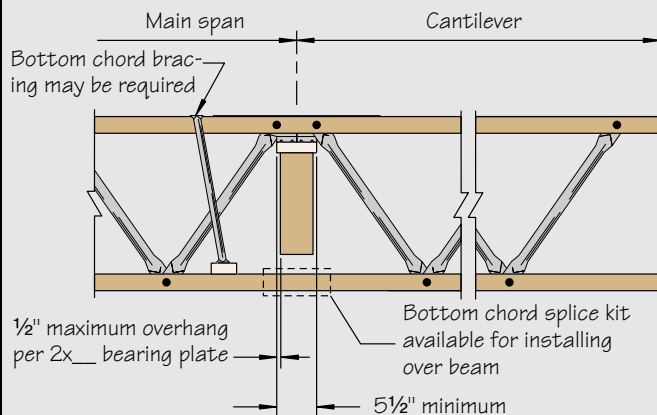
## ⑤ Bottom Chord Bearing



## ⑥ Top Chord Bearing on Ledger

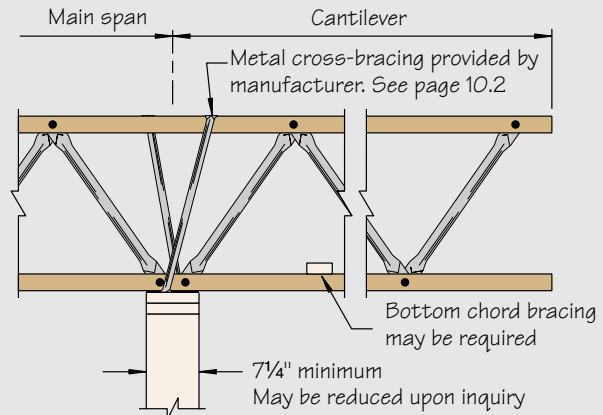


## ① Top Chord Bearing Cantilever



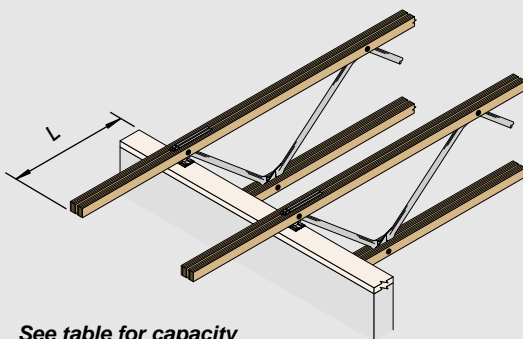
Special inquiry if cantilever exceeds 1/3 of main span

## ② Bottom Chord Bearing Cantilever



Special inquiry if cantilever exceeds 1/3 of main span

## ③ Top Chord Extension



The following criteria were used to develop the values:

$$F_b = 3000 \text{ psi}^{(1)}$$

$$F_v = 285 \text{ psi}$$

$$\text{Deflection} = 2L/360 \text{ TL for floors}$$

$$2L/240 \text{ TL for roofs}$$

$$E = 2.0 \times 10^6 \text{ psi}$$

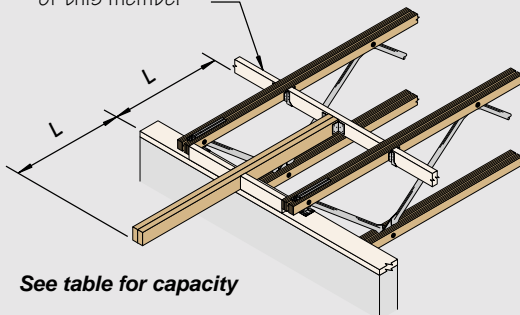
(1) For 12" depth.  
For other depths, multiply by  $\left[\frac{12}{d}\right]^{0.167}$

Chord Extension Capacity (plf)			
Length L	Floor	Snow Roof	Non-Snow Roof
15"	678	651	664
18"	556	651	664
21"	350	510	526
24"	235	352	352
27"	165	247	247
30"	120	180	180
33"	90	135	135
36"	70	104	104
39"	55	82	82
42"	44	66	66
45"	36	53	53

• Values are limited by the published backspan capacity (plf).

## ④ Double 2x Outrigger

Plywood layout should be considered in location of this member



Outriggers deeper than 2x4s require that spacer blocks be placed under the truss bearings

The following criteria were used to develop the values:

### 1.3E Grade

$F_v = 95 \text{ psi}$

$F_b = 1700 \text{ psi}^{(1)}$

$E = 1.3 \times 10^6 \text{ psi}$

(1) For 12" depth.

For other depths, multiply by  $\left[\frac{12}{d}\right]^{0.092}$

### 1.5E Grade

$F_v = 95 \text{ psi}$

$F_b = 850 \text{ psi}^{(1)}$

$E = 1.5 \times 10^6 \text{ psi}$

Outrigger Deflection:

$2L/480 @ \text{Live Load for Floors}$

(Live Load =  $0.80 \times \text{Total Load}$ )

$2L/240 @ \text{Total Load for Roofs}$

$$\text{Outrigger Deflection} = \frac{7WL^4}{24EI} + \frac{48^2WL}{EI}$$

Double 2x Outrigger - Allowable Uniform Load Capacity (plf)								
2-2x4 1.3E Grade			2-2x6 1.3E Grade			2-2x8 1.5E Grade		
	Snow Roof	Non-Snow Roof		Snow Roof	Non-Snow Roof		Snow Roof	Non-Snow Roof
Floor			Floor			Floor		
137	220	220	533	651	664	678	651	664
86	137	137	332	531	531	552^	584^	584^
55	88	88	212	340	340	460	487^	487^
36	58	58	141	226	226	365	417	417
25	40	40	98	156	156	258	321	349
			70	112	112	185	254	276
			52	83	83	137	206	219
			39	63	63	104	166	166
						80	129	129
						63	102	102
						51	82	82
						42	66	66
						34	55	55

• Values accompanied by ^ symbols are limited by mechanical connection values assuming two Simpson A34 connectors or equivalent at the outrigger to the header and 1-A34 from the header to the truss chord. Other conditions may apply.

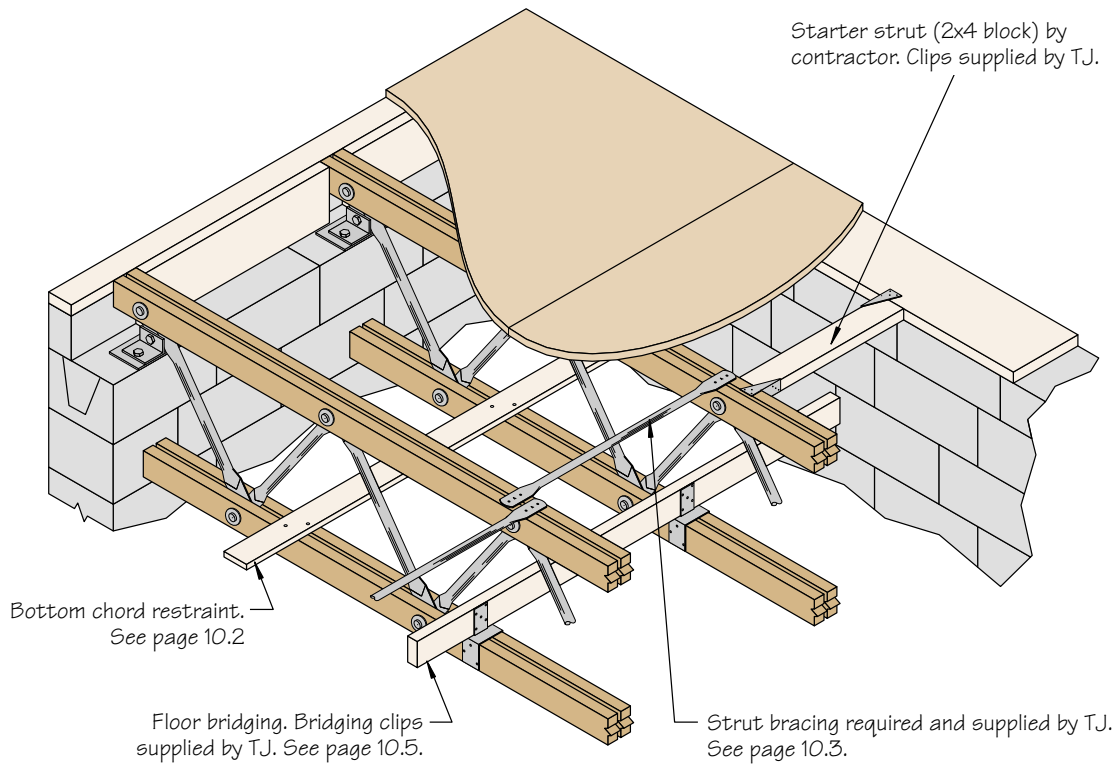
• Values are limited by the published backspan capacity (plf).

• All calculations assume a single 2x header of equal depth to the outriggers with trusses at 48 inches on-center.

• For single 2x outriggers, use 1/2 of allowable load shown for double outriggers.

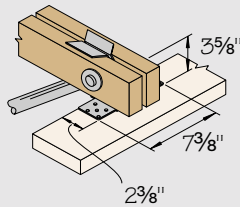
• Other capacities may be obtained by use of other grades of lumber.





## ① TJM® Series Top Chord Bearing Standard S-Clip

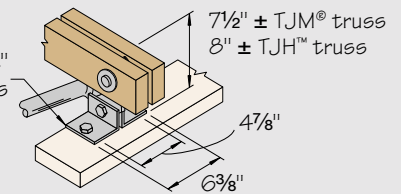
**Max. Reaction**  
100% 4000 lbs  
115% 4330 lbs  
125% 4330 lbs



## ② TJM®/TJH™ Series Top Chord Bearing TJM® Heavy Duty P-Clip TJH™ Standard P-Clip

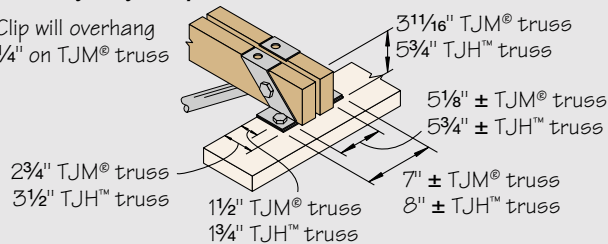
Clip will overhang 1/4" on TJM® truss

**Maximum  
4:12 slope**

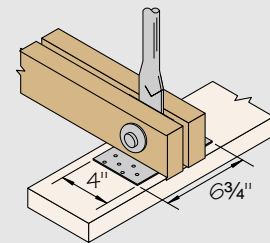


## ③ TJM®/TJH™ Series Top Chord Bearing Heavy Duty Z-Clip

Clip will overhang 1/4" on TJM® truss

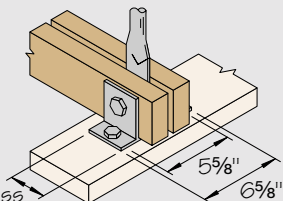


## ④ TJM® Series Bottom Chord Bearing Standard A-Clip



## ⑤ TJM®/TJH™ Series Bottom Chord Bearing TJM® Heavy Duty T-Clip TJH™ Standard T-Clip

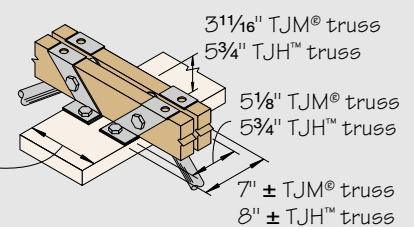
3" TJM® truss  
3 1/2" TJH™ truss



## ⑥ TJM®/TJH™ Series Top or Bottom Chord Cantilever Bearing Heavy Duty Z-Clip

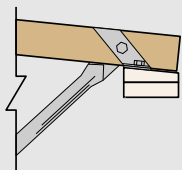
Clips will overhang 1/4" on TJM® truss

Plate width  
5 1/2" min. TJM® truss  
7" min. TJH™ truss



# TJM®/TJH™ Truss Details

## ① Beveled Plate Requirements

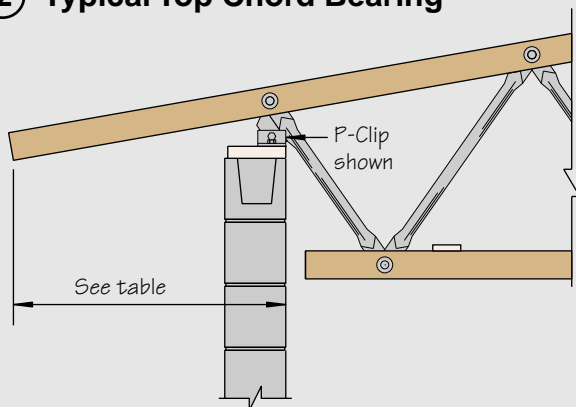


Beveled bearing plates may be required for trusses with sloped top chords. Beveled plate serves two functions:

1. Provides proper bearing for bearing clips.
2. Avoids interference between top chords and bearing plate.

Bearing Condition		Slope At Which Plate Must Be Beveled			
		S-Clip Z-Clip	A-Clip T-Clip	P-Clip	Cantilevers
Low End	2x8	$> \frac{1}{8}":12"$	$> \frac{1}{4}":12"$	N/A	Beveled plate required at all slopes
	2x6	$> \frac{3}{16}":12"$	$> \frac{1}{4}":12"$	N/A	
	2x4	$> \frac{1}{4}":12"$	$> \frac{1}{4}":12"$	N/A	
High End		$> \frac{1}{4}":12"$	$> \frac{1}{4}":12"$	N/A	

## ② Typical Top Chord Bearing



Chord Extension Capacity (plf)		TJM® Series		
		Floor	Snow Roof	Non-Snow Roof
Length				
30"	195	224	244	
33"	177	204	221	
36"	162	187	203	
39"	150	172	187	
42"	139	160	174	
45"	113	148	161	
48"	93	130	140	
51"	78	116	116	
54"	65	98	98	
57"	56	83	83	
60"	48	71	71	

Chord Extension Capacity (plf)		TJH™ Series		
		Floor	Snow Roof	Non-Snow Roof
Length				
45"	210	242	263	
48"	197	227	247	
51"	186	213	232	
54"	175	202	219	
57"	166	191	208	
60"	158	181	197	
63"	150	173	188	
66"	139	165	179	
69"	122	158	171	
72"	107	151	160	
75"	95	142	142	

The following criteria were used to develop the values:

$$F_b = 2100 \text{ psi}$$

$$\text{Deflection} = 2L/360 \text{ TL for floors}$$

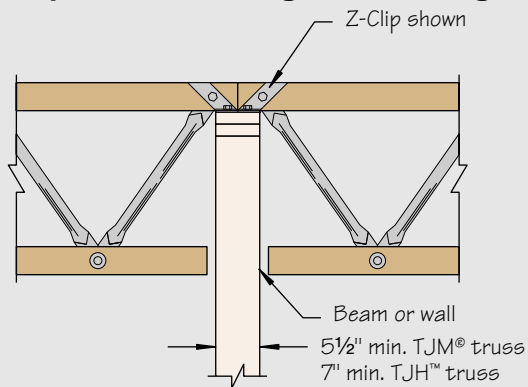
$$F_v = 75 \text{ psi}$$

$$\text{Deflection} = 2L/240 \text{ TL for roofs}$$

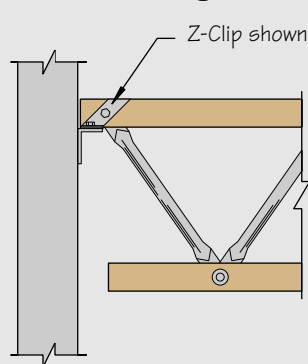
$$E = 1.8 \times 10^6 \text{ psi}$$

• Values are limited by the published backspan capacity (plf).

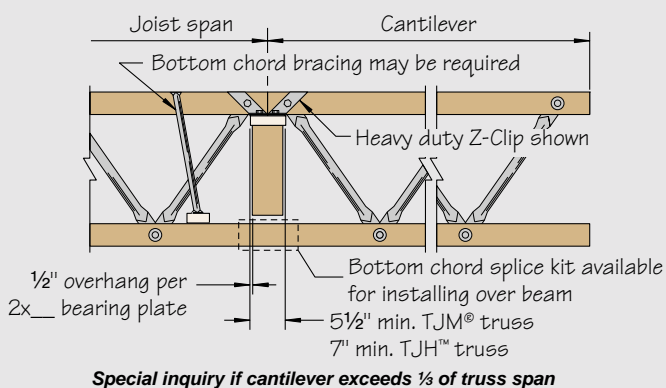
## ③ Top Chord Bearing with Butting Trusses



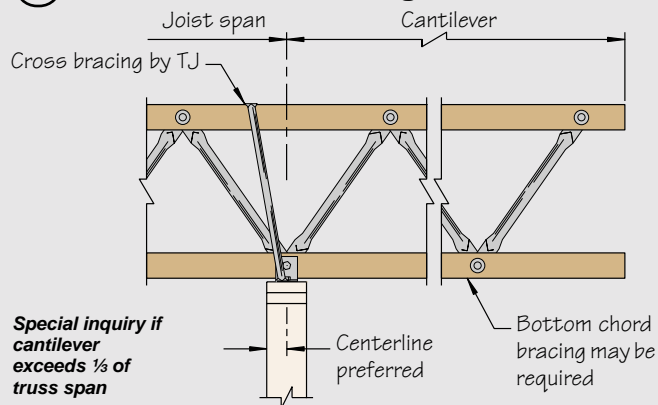
## ④ Top Chord Bearing on Ledger



## ⑤ Top Chord Bearing Cantilever

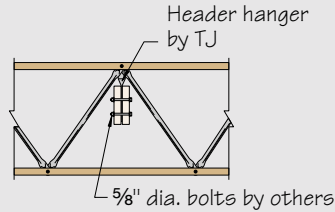
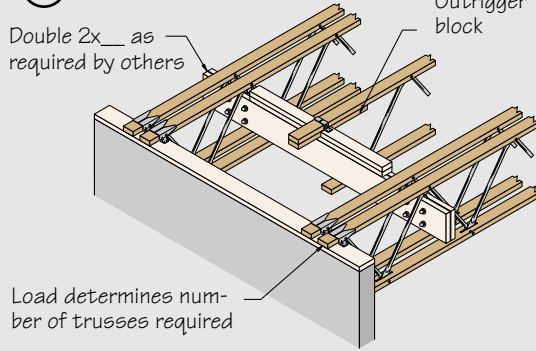


## ⑥ Bottom Chord Bearing Cantilever



# Open-Web Truss Details

## ① Header Detail



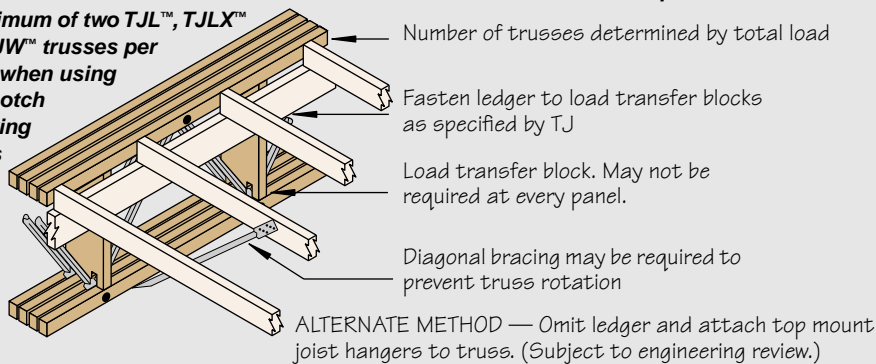
**Truss depth, design load and web angle may limit header design. Check with Trus Joist representative.**

### Header Details

Series	Maximum Load Per Hanger
TJL™, TJLX™, TJW™	2300 lbs
TJS™	2300 lbs
TJM®	5/8" Threaded pin = 2300 lbs 1" Threaded pin = 5000 lbs
TJH™	3/4" Threaded pin = 5000 lbs 3/4" Bolt through 1 1/4" pin = 5000 lbs

## ② Load Transfer Blocks

**Maximum of two TJL™, TJLX™ or TJW™ trusses per unit when using no-notch bearing clips**

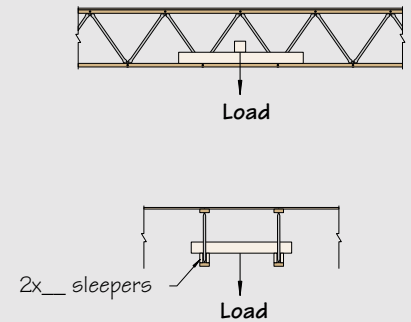
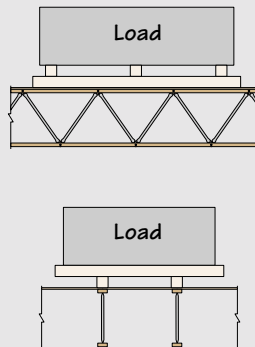
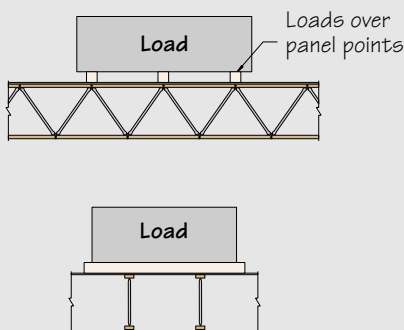


**Load transfer blocks are required only when the load is imposed from the side**

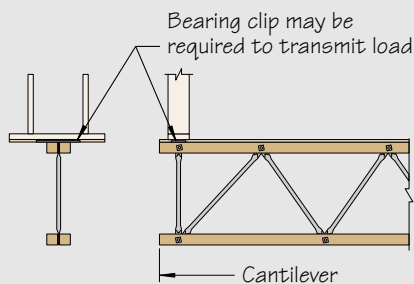
### Load Transfer Blocks

Series	Maximum Load Per Transfer Block
TJL™, TJLX™, TJW™	Double unit = 700 lbs
TJS™	Double unit = 1200 lbs
TJM®	Double unit = 1200 lbs
TJH™	Double unit = 1300 lbs

## ③ Concentrated Loads

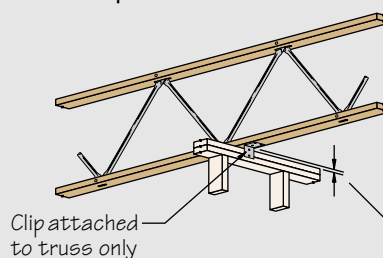


## ④ Loads on Cantilever

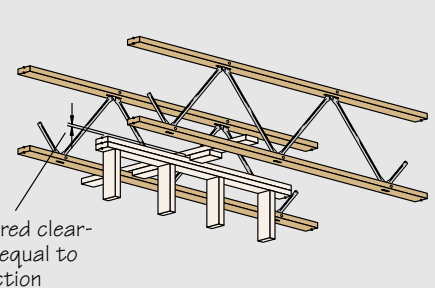


## ⑤ Non-Bearing Partitions

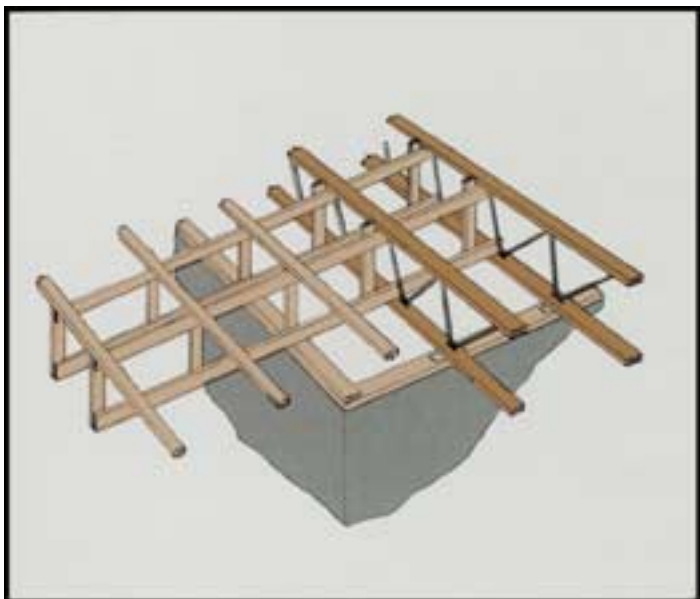
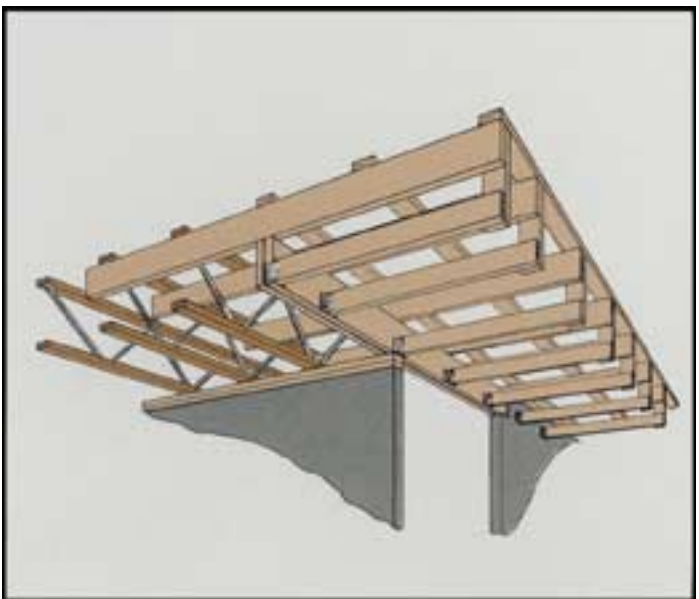
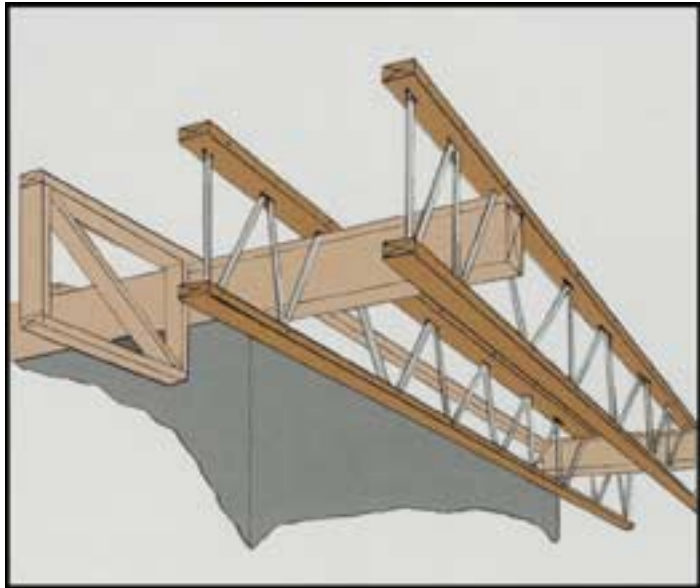
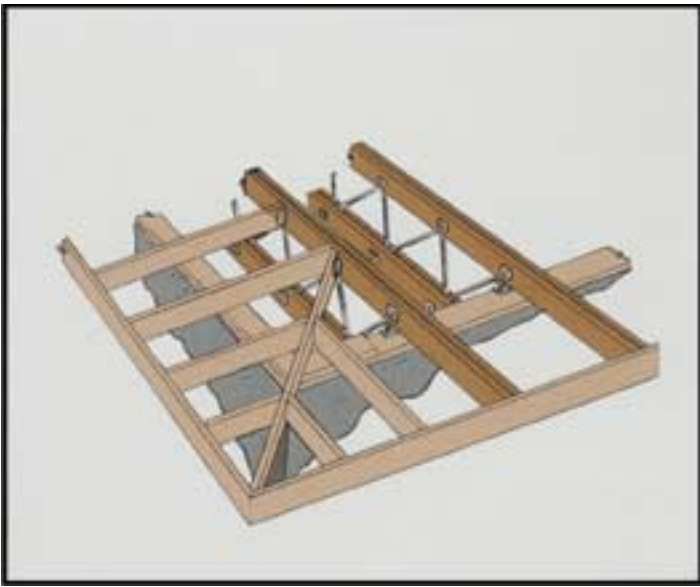
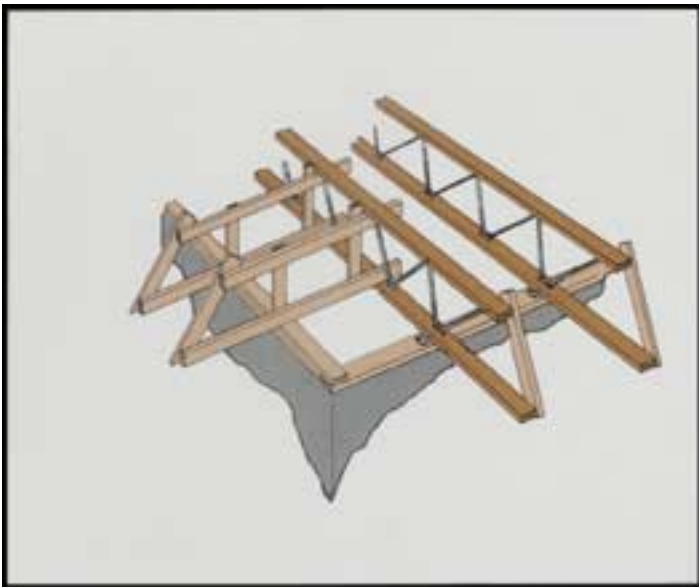
**Perpendicular To Truss**



**Parallel To Truss**



# Overhang Framing Details



# Roof Load Table Instructions (125%)

Use the following method for selection of Trus Joist products for simple span, uniform load conditions.

1. Determine appropriate stress duration (115% or 125%). See page 9.7 for explanation of stress duration.
2. Determine truss or joist span. Truss or joist span is the clear span plus the distance to the centerline of bearing at each end. See page 3.2 (TJI® joist) and 4.2 (open-web) for bearing distances.
3. Calculate loads in pounds per square foot. Live load is established by the local building code. Dead load is calculated by adding the weight of materials. See page 9.0.
4. Convert psf to plf by multiplying the total load (psf) by the desired o.c. spacing in feet.  
For example, 45 psf @ 4' o.c. = 180 plf
5. Refer to load table with appropriate stress level (determined in step 1). Find span and read across the table to a value greater than the required plf. Required depth is at the top of that column.  
**Note:** Loads and spans may be interpolated. Depths may be interpolated on open-web series only — for example, a 25½" TJI™ truss is possible.
6. If none of the depths will carry the required load, refer to another Trus Joist series or reduce the o.c. spacing and repeat steps 3-5.

## Example Problem:

- Sloped roof in non-snow (125%) area
- Span 32'-0" (out-to-out of 8" concrete block walls)
- Live Load 20 psf (local building code)
- Dead Load 14 psf (weight of materials — see page 9.0)

## Solution:

1. Determine span.  
32'-0" out-to-out of block  
 $\frac{-1'-3\frac{1}{4}"}{30'-8\frac{3}{4}"}$  less 2 walls (7½" actual)  
 $+\frac{2"}{30'-10\frac{3}{4}"}$  distance to bearing (approx.)  
span – use 31'
2. Convert psf to plf.  
34 psf @ 24" o.c. = 68 plf  
34 psf @ 32" o.c. = 91 plf  
34 psf @ 48" o.c. = 136 plf
3. Check for a truss or joist at greatest o.c. spacing (48" o.c.). According to the tables a 24" TJI™ series will work. However, by interpolating the span and load, a 22" TJI™ truss will also work.  
Assume, for purposes of this example, that the 22" depth is excessive. By changing o.c. spacing to 32" o.c., the tables show that a 16" TJI™ truss or an 18" TJI®/L65 joist will work.

## General Notes:

- Maximum on-center spacing  
TJI® joist . . . . . 8'-0" o.c.  
TJI™ truss . . . . . 4'-0" o.c.  
TJLX™ truss . . . . . 4'-0" o.c.  
TJW™ truss . . . . . 4'-0" o.c.  
TJS™ truss . . . . . 8'-0" o.c.  
TJM® truss . . . . . 8'-0" o.c.  
TJH™ truss . . . . . 10'-0" o.c.
- Any depth within the minimum and maximum shown is available in the open web series. TJI® joists are available only in the depths shown.
- For multiple span conditions on the TJI® joists, refer to Multiple Span Load Tables.

- The total load limits for roofs follow Trus Joist criteria restricting total load deflections on flat and sloped roofs. Sloped roofs are defined as follows:  
All open-web trusses ⅛" in 12" min.  
All TJI® joists ¼" in 12" min.  
However, the recommended minimum slope for all applications is ¼" in 12". Check with your local building officials for more restrictive criteria.
- **Loads shown are maximum allowable. Open-web trusses will be custom designed to specified loads.**
- See Technical Support section for deflection, camber, duration of load stress adjustments and concentrated loads.
- For slopes greater than 2" in 12", consideration must be given to the increased dead load and deflection caused by actual slope length.

Actual slope length can be approximated by multiplying the horizontal span by the factors in the following chart.

SLOPE LENGTH TABLE	
SLOPE	FACTOR
2½ in 12	1.02
3 in 12	1.03
3½ in 12	1.04
4 in 12	1.05
4½ in 12	1.07
5 in 12	1.08
6 in 12	1.12
7 in 12	1.16
8 in 12	1.20
9 in 12	1.25
10 in 12	1.30
11 in 12	1.36
12 in 12	1.41



## Simple Span

Depth	11½"	14"	16"	18"	20"	22"	24"	26"	28"	30"
Span										
12	365	376	389	426	445	462	473	459	459	459
13	337	348	359	394	410	427	437	424	424	424
14	313	323	333	365	381	396	406	393	393	393
15	278	301	311	341	356	370	379	367	367	367
16	245	282	292	320	333	347	355	344	344	344
17	217	265	274	301	314	326	334	324	324	324
18	193	236	259	284	296	308	315	306	306	306
19	173	212	245	269	281	292	299	290	290	290
20	155	191	223	246	267	277	284	275	275	275
21	135	174	203	223	250	264	270	262	262	262
22	118	158	185	203	228	252	258	250	250	250
23	104	145	169	186	209	231	245	239	239	239
24	92	133	155	171	192	213	225	229	229	229
25	82	119	143	157	177	196	208	220	220	220
26	73	107	132	145	163	181	192	209	212	212
27	66	96	123	135	151	168	178	194	204	204
28	59	86	114	125	141	156	165	180	195	197
29	53	78	106	117	131	146	154	168	182	190
30	48	71	96	109	123	136	144	157	170	183
31	44	64	87	102	115	127	135	147	159	171
32	40	58	80	96	108	120	127	138	149	161
33	37	53	73	90	101	112	119	130	141	151
34	33	49	67	85	96	106	112	122	132	142
35		45	61	80	90	100	106	115	125	134
36		41	56	74	85	94	100	109	118	127
37		38	52	68	81	89	95	103	112	120
38		35	48	63	76	85	90	98	106	114
39		33	45	59	73	81	85	93	101	108
40			42	54	69	77	81	88	96	103

## Multiple Span

Depth	11½"	14"	16"	18"	20"	22"	24"	26"	28"	30"
Span										
12	262	283	294	355	365	376	386	448	459	469
13	242	262	271	328	337	347	357	414	423	433
14	225	243	252	305	313	322	331	384	393	402
15	210	227	235	284	292	301	309	359	367	375
16	197	213	220	267	274	282	290	336	344	352
17	185	200	207	251	258	265	273	316	324	331
18	175	189	196	237	244	251	257	299	306	313
19	166	179	186	224	231	237	244	283	290	296
20	157	170	176	213	219	226	232	269	275	281
21	142	162	168	203	209	215	221	256	262	268
22	129	155	160	194	199	205	211	245	250	256
23	118	145	153	185	191	196	202	234	239	245
24	109	133	147	171	183	188	193	224	229	234
25	100	122	141	157	175	180	185	215	220	225
26	93	113	132	145	163	173	178	207	212	216
27	86	105	123	135	151	167	172	194	204	208
28	79	98	114	125	141	156	165	180	195	201
29	71	91	106	117	131	146	154	168	182	194
30	64	85	99	109	123	136	144	157	170	183
31	58	80	93	102	115	127	135	147	159	171
32	53	75	87	96	108	120	127	138	149	161
33	49	70	82	90	101	112	119	130	141	151
34	45	65	77	85	96	106	112	122	132	142
35	41	60	73	80	90	100	106	115	125	134
36	38	55	69	76	85	94	100	109	118	127
37	35	51	65	72	81	89	95	103	112	120
38		47	62	68	76	85	90	98	106	114
39		44	59	65	73	81	85	93	101	108
40		41	55	61	69	77	81	88	96	103

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative), and assume provisions for positive drainage (¼" per foot slope minimum).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.



# Load Tables/Non-Snow (125%)

# TJI®/L90 Joist

Allowable Uniform Load (plf)

Sloped Roof Only • Parallel TJI® Joist • Performance Plus® Web Material

## Simple Span

Depth	16	18	20	22	24	26	28	30
Span								
18	293	310	333	354	354	358	358	358
19	278	294	315	335	335	339	339	339
20	264	279	299	319	319	322	322	322
21	251	266	285	303	303	307	307	307
22	240	254	272	290	290	293	293	293
23	229	243	260	277	277	280	280	280
24	215	233	249	265	265	269	269	269
25	198	218	239	255	255	258	258	258
26	183	202	227	245	245	248	248	248
27	169	187	210	233	236	239	239	239
28	152	174	195	217	227	230	230	230
29	138	162	182	202	214	222	222	222
30	125	151	170	189	200	215	215	215
31	114	142	159	177	187	204	208	208
32	104	133	150	166	176	192	201	201
33	95	124	141	156	165	180	195	195
34	87	114	132	147	156	170	184	189
35	80	105	125	139	147	160	173	184
36	74	96	118	131	139	151	164	176
37	68	89	112	124	131	143	155	167
38	63	83	104	118	125	136	147	158
39	59	77	97	112	118	129	140	150
40	54	71	90	106	112	122	133	143
41	51	66	84	101	107	117	126	136
42	47	62	78	96	102	111	120	129
43	44	58	73	90	97	106	115	123
44	41	54	68	85	93	101	110	118
45	38	50	64	79	89	97	105	113
46	36	47	60	74	85	93	100	108

## Multiple Span

Depth	16	18	20	22	24	26	28	30
Span								
18	221	255	264	317	334	322	322	322
19	209	242	250	300	317	305	305	305
20	199	230	238	285	301	290	290	290
21	189	219	226	271	286	276	276	276
22	181	209	216	259	273	263	263	263
23	173	200	206	248	261	252	252	252
24	166	191	198	237	251	241	241	241
25	159	184	190	228	241	231	231	231
26	153	177	183	219	231	223	223	223
27	147	170	176	211	223	214	214	214
28	142	164	169	203	215	207	207	207
29	137	158	164	196	207	199	199	199
30	132	151	158	189	200	193	193	193
31	128	142	153	177	187	187	187	187
32	121	133	148	166	176	181	181	181
33	114	125	141	156	165	175	175	175
34	107	118	132	147	156	170	170	170
35	101	111	125	139	147	160	165	165
36	95	105	118	131	139	151	161	161
37	90	99	112	124	131	143	155	156
38	85	94	106	118	125	136	147	152
39	78	89	100	112	118	129	140	148
40	73	85	96	106	112	122	133	143
41	68	81	91	101	107	117	126	136
42	63	77	87	96	102	111	120	129
43	59	73	83	92	97	106	115	123
44	55	70	79	88	93	101	110	118
45	51	67	75	84	89	97	105	113
46	48	63	72	80	85	93	100	108

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative), and assume provisions for positive drainage (1/4" per foot slope minimum).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## Simple Span

Depth	11½"	14"	16"	18"	20"	22"	24"	26"	28"	30"
Span										
18	246	270	293	310	333	354	354	358	358	358
19	233	256	278	294	315	335	335	339	339	339
20	221	243	264	279	299	319	319	322	322	322
21	193	231	251	266	285	303	303	307	307	307
22	170	221	240	254	272	290	290	293	293	293
23	150	211	230	243	260	277	277	280	280	280
24	133	192	220	233	249	265	265	269	269	269
25	119	172	211	223	239	255	255	258	258	258
26	106	154	203	215	230	245	245	248	248	248
27	95	138	186	207	222	236	236	239	239	239
28	86	125	168	199	214	227	227	230	230	230
29	78	113	152	186	206	220	220	222	222	222
30	70	102	138	174	196	212	212	215	215	215
31	64	93	126	163	183	204	205	208	208	208
32	58	85	115	150	172	191	199	201	201	201
33	53	78	105	137	162	180	191	195	195	195
34	49	71	97	126	152	169	180	189	189	189
35	45	66	89	116	144	160	169	184	184	184
36	41	61	82	107	135	151	160	175	179	179
37	38	56	76	99	125	143	152	165	174	174
38	35	52	70	92	116	135	144	157	169	169
39	33	48	65	85	108	129	136	149	161	165
40		44	60	79	100	122	130	141	153	161
41		41	56	73	93	115	123	135	146	157
42		38	52	69	87	107	117	128	139	150
43		36	49	64	81	100	112	122	132	143
44		34	46	60	76	94	107	117	126	136
45			43	56	71	88	102	112	121	130
46			40	53	67	83	98	107	116	125

## Multiple Span

Depth	11½"	14"	16"	18"	20"	22"	24"	26"	28"	30"
Span										
18	211	220	229	263	271	324	341	322	322	322
19	200	208	217	249	257	307	323	305	305	305
20	190	198	206	236	244	292	307	290	290	290
21	181	189	196	225	232	278	293	276	276	276
22	173	180	187	215	222	265	279	263	263	263
23	165	172	179	205	212	253	267	252	252	252
24	158	165	172	197	203	243	256	241	241	241
25	152	158	165	189	195	233	246	231	231	231
26	142	152	158	182	188	224	236	223	223	223
27	127	147	152	175	181	216	227	214	214	214
28	115	141	147	169	174	208	219	207	207	207
29	104	136	142	163	168	201	212	199	199	199
30	94	132	137	157	163	194	205	193	193	193
31	85	124	133	152	157	188	198	187	187	187
32	78	114	129	147	152	182	192	181	181	181
33	71	104	125	143	148	176	186	175	175	175
34	65	95	121	135	143	169	180	170	170	170
35	60	88	115	128	139	160	169	165	165	165
36	55	81	108	121	135	151	160	161	161	161
37	51	75	101	114	129	143	152	156	156	156
38	47	69	94	108	122	135	144	152	152	152
39	44	64	87	103	116	129	136	148	148	148
40	40	59	81	98	110	122	130	141	145	145
41	38	55	75	93	105	116	123	135	141	141
42	35	51	70	88	100	111	117	128	138	138
43	33	48	65	84	95	106	112	122	132	134
44		45	61	80	91	101	107	117	126	131
45		42	57	75	87	96	102	112	121	128
46		39	54	70	83	92	98	107	116	125

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative), and assume provisions for positive drainage (¼" per foot slope minimum).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# Tapered TJI® Joist

Simple Span

## Standard Slopes:

1/4" per foot

3/8" per foot

Other slopes available. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## Standard Depths:

5 1/2" minimum at overhang

8" minimum at bearing

24" maximum for TJI®/L45T series

28" maximum for TJI®/L60T and L90T series

Depths at bearings must be in 1/4" increments.

If the sum of the end depths exceeds 37 1/2", contact your Trus Joist representative for assistance.

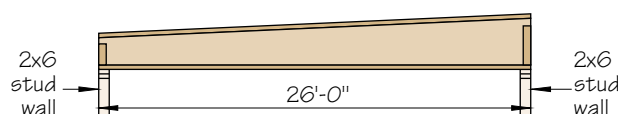
## Standard Lengths:

12' through 50'-6"

## Load Table Instructions:

1. Select span from span column. **Tapered TJI® joist tables shown are for simple span applications only.**
2. Read across to proper slope and depth column. Load shown is the maximum capacity in pounds per lineal foot.

## Example Problem:



- Desired slope is 1/4" per foot
- Out-to-out of 2x6 stud walls is 26'-0"
- Desired spacing is 32" on-center
- Live load is 20 psf
- Dead load is 15 psf
- Design load is 35 psf at 32" o.c. = 93 plf

NOTE: Maximum joist length is 50'-6".

## Solution:

1. For joist span use clear span plus 1/2 minimum bearing at each end (assume 3 1/2" for minimum bearing distance or see table on page 3.2) and round up.

$$\text{Clear span} = 26'-0" \text{ minus } 5\frac{1}{2}" \text{ minus } 5\frac{1}{2}" = 25'-1"$$

$$\text{Joist span} = \text{clear span plus minimum bearing distance} = 25'-1" \text{ plus } 1\frac{3}{4}" \text{ plus } 1\frac{3}{4}" = 25'-4\frac{1}{2}"$$

Round joist span up to 26'-0"

2. Check the 1/4" per foot column under each series table until a load in excess of 93 plf is located. In the example, a 12" shallow end depth TJI®/L60T exceeds the required 93 plf.
3. To determine the depth at the deep end, multiply the slope times the length (to calculate the amount of rise) and add to the shallow end depth. In the example:  $0.25 \times 26 + 12 = 18.5$ " depth at deep end. Always round end depth to the nearest 1/4" to accommodate blocking panels.  
NOTE: The sum of the end depths must not exceed 37 3/4" ( $12" + 18\frac{1}{2}" = 30\frac{1}{2}"$  OK).

4. Check page 3.2 for web stiffener and assumed bearing distance requirements.

## TJI®/L45T Joist

Slope	1/4"/ft slope			3/8"/ft slope		
	8"	10"	12"	8"	10"	12"
Shallow End Depth						
Span						
12	141	175	206	141	175	206
14	121	150	177	121	150	177
16	106	131	155	106	131	155
18	91	117	137	94	117	137
20	71	105	124	85	105	124
22	57	84	111	69	95	112
24	46	68	95	57	82	103
26	38	56	78	47	68	90
28	32	47	65	40	58	76
30	27	40	55	34	49	64
32	23	34	47	30	42	54
34	20	29	40	26	37	47
36		25	35	23	32	40
38		22	30	20	29	
40		20	27	18	25	

## TJI®/L60T Joist

Slope	1/4"/ft slope			3/8"/ft slope		
	8"	10"	12"	8"	10"	12"
Shallow End Depth						
Span						
12	202	253	296	202	253	296
14	173	216	254	173	216	254
16	151	189	222	151	189	222
18	120	168	197	135	168	197
20	93	141	175	114	151	177
22	75	112	147	92	134	160
24	61	91	125	75	110	137
26	50	75	104	63	91	119
28	42	63	87	53	77	104
30	36	53	73	46	66	89
32	31	45	63	40	57	77
34	27	39	54	35	50	67
36	23	34	47	31	44	59
38	20	30	41	27	38	
40	18	26	36	24	34	

## TJI®/L90T Joist

Slope	1/4"/ft slope			3/8"/ft slope		
	8"	10"	12"	8"	10"	12"
Shallow End Depth						
Span						
12	229	287	330	229	287	330
14	197	246	283	197	246	283
16	172	215	247	172	215	247
18	153	191	220	153	191	220
20	135	172	198	137	172	198
22	109	156	180	125	156	180
24	89	131	165	109	143	165
26	74	109	149	92	131	152
28	62	91	125	78	111	141
30	53	78	106	67	96	128
32	45	67	91	58	83	111
34	39	58	79	51	72	96
36	34	50	68	45	64	85
38	30	44	60	40	56	
40	27	39	53	36	50	

## Notes

This image shows a full page of graph paper. The background is a solid light blue color. Overlaid on this background is a uniform grid of thin, dark gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares across the entire page, typical of standard graph paper used for mathematics or engineering. There are no margins, text, or other markings present.

# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# TJL™ & TJLX™ Series

Parallel Chord • Open-Web Series

FL=Flat roof less than 1/8" in 12" slope. SL=Sloped roof greater than 1/8" in 12" slope.

## TJL™ Series

Depth	14		16		18		20		22		24		26		28		30		32		34		36		38		40		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	359	359	393	393	389	389	381	381	370	370	358	358	344	344	330	330	317	317	304	304	293	293	281	281	270	270	259	259	14
16	282	282	319	319	354	354	361	361	353	353	343	343	332	332	320	320	308	308	296	296	286	286	275	275	265	265	255	255	16
18	235	235	267	267	298	298	328	328	338	338	330	330	320	320	310	310	299	299	289	289	280	280	269	269	260	260	250	250	18
20	195	195	223	223	249	249	275	275	300	300	317	317	309	309	300	300	291	291	281	281	273	273	264	264	255	255	246	246	20
22	157	161	184	184	207	207	228	228	250	250	270	270	291	291	291	291	283	283	275	275	267	267	259	259	250	250	242	242	22
24	122	133	160	160	180	180	200	200	219	219	238	238	256	256	273	273	273	273	268	268	261	261	253	253	246	246	238	238	24
26	96	114	128	132	153	153	169	169	186	186	202	202	218	218	233	233	249	249	254	254	254	254	249	249	241	241	234	234	26
28	77	99	103	115	132	136	151	151	166	166	180	180	195	195	209	209	223	223	236	236	236	236	236	236	236	236	230	230	28
30	63	84	84	101	108	117	130	130	143	143	156	156	168	168	181	181	193	193	205	205	219	219	220	220	220	220	220	220	30
32	52	69	70	88	89	101	111	113	129	129	141	141	153	153	164	164	175	175	186	186	191	191	203	203	206	206	206	206	32
34	44	58	58	78	75	89	93	100	111	111	123	123	134	134	144	144	154	154	164	164	175	175	179	179	185	185	193	193	34
36	37	49	49	66	63	79	79	89	96	98	108	108	122	122	132	132	141	141	150	150	155	155	165	165	171	171	174	174	36
38		42	42	56	54	71	67	79	82	88	97	97	105	105	114	114	127	127	136	136	143	143	147	147	156	156	161	161	38
40		36	36	48	46	62	58	75	71	83	84	91	98	98	106	106	113	113	121	121	130	130	136	136	139	139	144	144	40
42				41	40	53	50	67	61	77	73	84	86	91	98	98	105	105	112	112	116	116	122	122	130	130	132	132	42
44				36	35	47	44	58	53	67	64	73	75	80	86	86	95	95	101	101	109	109	114	114	117	117	124	124	44
46						41	38	51	47	60	56	66	66	72	77	78	83	83	89	89	95	95	103	103	110	110	112	112	46
48						36		45	41	55	49	60	58	66	68	71	77	77	82	82	88	88	93	93	99	99	106	106	48
50								40	37	49	44	56	52	60	60	65	69	70	75	75	80	80	85	85	90	90	96	96	50
52								35		43	39	51	46	56	54	60	62	65	69	69	74	74	78	78	83	83	87	87	52
54									39	35	47	41	51	48	55	55	59	63	64	68	68	72	72	76	76	81	81	54	
56										35		42	37	47	43	51	50	55	57	59	62	62	67	67	71	71	75	75	56
58											38		44	39	48	45	51	51	55	58	59	62	62	66	66	70	70	58	
60												40	35	45	41	48	46	52	52	55	58	58	62	62	65	65	65	65	60
62												37		42	37	45	42	49	48	52	53	55	58	58	61	61	61	61	62
64														39		43	38	46	43	49	49	52	54	55	58	58	58	58	64
66														35		41	35	43	40	46	44	49	50	51	54	54	54	54	66
68																	37		41	36	43	41	46	45	49	50	51	51	68
70																		39	33	41	37	44	42	46	46	48	48	48	70

## TJLX™ Series

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

Depth	14		16		18		20		22		24		26		28		30		32		34		36		38		40		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	393	393	393	393	389	389	381	381	370	370	358	358	344	344	330	330	317	317	304	304	293	293	281	281	270	270	259	259	14
16	319	319	359	359	366	366	361	361	353	353	343	343	332	332	320	320	308	308	296	296	286	286	275	275	265	265	255	255	16
18	266	266	302	302	336	336	343	343	338	338	330	330	320	320	310	310	299	299	289	289	280	280	269	269	260	260	250	250	18
20	218	221	252	252	282	282	310	310	318	318	317	317	309	309	300	300	291	291	281	281	273	273	264	264	255	255	246	246	20
22	165	181	209	209	234	234	258	258	282	282	294	294	293	293	291	291	283	283	275	275	267	267	259	259	250	250	242	242	22
24	128	152	170	177	204	204	226	226	248	248	268	268	274	274	273	273	273	273	268	268	261	261	253	253	246	246	238	238	24
26	101	130	135	151	172	172	192	192	210	210	229	229	246	246	254	254	254	254	254	254	254	254	249	249	241	241	234	234	26
28	81	108	108	130	139	148	166	166	188	188	204	204	220	220	236	236	236	236	236	236	236	236	236	236	236	236	230	230	28
30	66	88	88	114	113	129	141	145	161	161	176	176	191	191	205	205	219	219	220	220	220	220	220	220	220	220	220	220	30
32	55	73	73	98	94	114	117	127	141	141	155	155	169	169	186	186	199	199	206	206	206	206	206	206	206	206	206	206	32
34	46	61	61	82	79	101	98	113	119	125	137	137	150	150	162	162	174	174	185	185	194	194	194	194	194	194	193	193	34
36	39	52	52	69	66	89	83	101	101	112	121	123	134	134	145	145	156	156	166	166	175	175	183	183	182	182	179	179	36
38		44	44	59	57	76	71	90	86	100	103	110	120	120	130	130	140	140	149	149	162	162	166	166	174	174	169	169	38
40		38	38	50	49	65	61	81	74	91	89	99	104	108	117	117	126	126	135	135	144	144	154	154	157	157	159	159	40
42				44	42	56	53	70	64	82	77	90	91	98	105	106	114	114	122	122	130	130	138	138	147	147	150	150	42
44				38	37	49	46	61	56	75	67	82	79	89	92	97	104	104	112	112	119	119	126	126	133	133	141	141	44
46						43	40	54	49	66	59	75	69	82	81	89	93	95	102	102	109	109	116	116	125	125	127	127	46
48						38	35	47	43	58	52	69	61	75	71	81	82	88	93	94	100	100	106	106	112	112	120	120	48
50								42	38	51	46	61	54	69	63	75	73	81	83	86	92	92	98	98	103	103	109	109	50
52								37	34	46	41	55	48	64	56	69	65	75	74	80	83	85	90	90	96	96	101	101	52
54									41	37	49	43	58	50	64	58	69	66	74	75	79	84	84	89	89	94	94	94	54
56										37		44	39	52	45	60	52	64	60	69	67	73	75	78	82	82	87	87	56
58												40	35	47	41	55	47	60	54	64	61	68	68	73	76	77	81	81	58
60												36		42	37	49	43	56	49	60	55	64	62	68	69	72	76	76	60
62														38		45	39	52	44	56	50	60	56	64	62	67	69	71	62
64														35		41	35	47	40	53	46	56	51	60	57	63	63	67	64
66																37		43	37	49	42	53	47	56	52	59	58	63	66
68																				45	38	50	43	53	48	56	53	59	68
70																				41	35	47	39	50	44	53	49	56	70

# TJW™ & TJS™ Series

Parallel Chord • Open-Web Series

# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

## TJW™ Series

FL=Flat roof less than 1/8" in 12" slope. SL=Sloped roof greater than 1/8" in 12" slope.

Depth	14		16		18		20		22		24		26		28		30		32		34		36		38		40		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	472	472	492	492	518	518	522	522	523	523	522	522	514	514	494	494	473	473	454	454	438	438	420	420	403	403	388	388	14
16	372	372	420	420	435	435	450	450	465	465	466	466	463	463	464	464	460	460	442	442	428	428	411	411	395	395	381	381	16
18	310	310	352	352	382	382	389	389	400	400	415	415	418	418	417	417	418	418	417	417	416	416	403	403	388	388	374	374	18
20	257	257	293	293	328	328	347	347	353	353	358	358	370	370	380	380	381	381	381	381	380	380	379	379	381	381	368	368	20
22	212	212	242	242	272	272	301	301	317	317	322	322	327	327	335	335	345	345	348	348	348	348	347	347	349	349	342	342	22
24	171	171	199	199	227	227	263	263	288	288	293	293	296	296	300	300	306	306	315	315	315	315	312	312	309	309	304	304	24
26	143	147	171	171	195	195	223	223	245	245	266	266	271	271	275	275	278	278	279	279	279	279	279	279	279	279	276	276	26
28	115	128	148	148	169	169	190	190	218	218	237	237	250	250	253	253	256	256	257	257	257	257	257	257	257	257	254	254	28
30	94	112	125	130	148	148	166	166	184	184	205	205	222	222	235	235	237	237	238	238	238	238	238	238	238	238	235	235	30
32	78	98	104	114	130	130	145	145	161	161	178	178	201	201	216	216	221	221	222	222	222	222	222	222	222	222	219	219	32
34	65	87	87	101	111	115	129	129	143	143	157	157	171	171	185	185	202	202	208	208	208	208	208	208	208	208	205	205	34
36	55	73	73	90	94	102	114	114	127	127	139	139	152	152	165	165	177	177	190	190	195	195	195	195	195	195	192	192	36
38	47	62	62	80	80	91	100	103	114	114	125	125	136	136	147	147	159	159	170	170	184	184	184	184	184	184	181	181	38
40	40	54	54	72	69	87	86	99	105	109	119	119	129	129	139	139	149	149	159	159	171	171	174	174	174	174	172	172	40
42	35	46	47	62	60	77	75	87	91	96	105	105	115	115	124	124	139	139	148	148	153	153	161	161	165	165	163	163	42
44		40	41	54	52	69	65	78	79	86	95	95	103	103	111	111	120	120	128	128	137	137	150	150	154	154	155	155	44
46		35	36	47	46	61	57	70	70	78	83	85	93	93	100	100	108	108	116	116	123	123	131	131	137	137	144	144	46
48				42	40	54	50	64	61	71	74	78	85	85	92	92	99	99	106	106	113	113	120	120	126	126	133	133	48
50				37	36	48	45	59	55	65	65	72	77	78	84	84	91	91	97	97	103	103	110	110	116	116	122	122	50
52					42	40	53	49	60	58	66	69	72	77	77	83	83	89	89	95	95	101	101	107	107	112	112	52	
54					38	36	47	43	56	52	61	61	66	71	71	77	77	82	82	88	88	93	93	99	99	104	104	54	
56								43	39	51	47	56	55	61	64	66	71	71	76	76	81	81	86	86	91	91	96	96	56
58								38	35	47	42	53	50	57	58	62	66	66	71	71	76	76	81	81	85	85	90	90	58
60									42	38	49	45	54	52	58	60	62	67	67	71	71	76	76	80	80	84	84	60	
62									39	35	46	41	50	48	55	55	59	62	63	67	67	71	71	75	75	79	79	62	
64									35			42	37	48	43	52	50	55	57	59	63	63	67	67	71	71	74	74	64
66											38	45	40	49	46	52	52	56	59	59	63	63	67	67	70	70	66		
68											35	42	36	46	42	50	48	53	54	56	60	60	63	63	66	66	68		
70												38	44	38	47	44	50	49	53	55	56	59	59	62	62	62	62	70	

## TJS™ Series

Depth	16		18		20		22		24		26		28		30		32		34		36		38		40		42		44		46		48		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	637	637	651	651	664	664	662	662	664	664	664	664	653	653	627	627	601	601	573	573	551	551	530	530	510	510	488	488	471	471	455	455	439	439	14
16	553	553	564	564	574	574	584	584	588	588	587	587	586	586	588	588	585	585	560	560	539	539	520	520	501	501	480	480	464	464	448	448	433	433	16
18	439	439	498	498	506	506	514	514	521	521	528	528	527	527	528	528	528	528	527	527	528	528	509	509	492	492	473	473	457	457	442	442	428	428	18
20	332	356	408	408	452	452	459	459	465	465	471	471	476	476	479	479	481	481	481	481	480	480	478	478	480	480	465	465	450	450	436	436	422	422	20
22	253	295	326	338	381	381	414	414	420	420	424	424	429	429	434	434	438	438	440	440	438	438	437	437	439	439	437	437	438	438	430	430	417	417	22
24	196	248	254	284	317	320	357	357	382	382	386	386	391	391	394	394	398	398	402	402	406	406	403	403	406	406	403	403	405	405	404	404	399	399	24
26	155	207	201	242	252	273	304	304	335	335	355	355	358	358	362	362	365	365	368	368	371	371	374	374	371	371	372	372	369	369	366	366	362	362	26
28	125	167	162	209	203	236	249	263	289	289	316	316	331	331	334	334	337	337	340	340	342	342	345	345	342	342	337	337	336	336	335	335	331	331	28
30	102	136	133	177	167	206	204	229	244	252	275	275	299	299	310	310	313	313	315	315	318	318	320	320	317	317	312	312	306	306	302	302	302	302	30
32	84	112	110	146	138	181	169	201	203	222	239	242	263	263	283	283	292	292	294	294	296	296	298	298	295	295	291	291	285	285	281	281	276	276	32
34	71	94	92	122	116	154	142	178	170	196	201	215	233	233	251	251	269	269	275	275	277	277	279	279	276	276	272	272	267	267	262	262	258	258	34
36	60	79	78	103	98	130	120	159	144	175	170	192	198	208	224	224	240	240	256	256	261	261	263	263	260	260	255	255	250	250	246	246	242	242	36
38	51	68	66	88	83	111	102	137	123	157	146	172	170	186	195	201	216	216	230	230	245	245	248	248	245	245	241	241	236	236	232	232	228	228	38
40	44	58	57	76	72	96	88	118	106	142	126	155	146	168	169	181	192	195	208	208	221	221	234	234	232	232	228	228	223	223	219	219	215	215	40
42	38	50	49	66	62	83	76	102	92	123	109	141	127	153	146	165	167	177	188	188	200	200	212	212	220	220	216	216	212	212	208	208	204	204	42
44		44	43	57	54	72	67	89	80	107	95	127	111	139	128	150	146	161	165	172	183	183	194	194	204	204	206	206	201	201	198	198	194	194	44
46		38	38	50	47	63	58	78	70	94	84	111	98	127	113	137	128	147	145	157	163	167	177	177	187	187	196	196	192	192	188	188	185	185	46
48			44	42	56	52	69	62	83	74	98	86	115	99	126	114	135	128	144	144	153	160	163	172	172	181	181	183	183	180	180	176	176	48	
50			39	37	49	46	61	55	74	65	87	76	102	88	116	101	125	114	133	128	141	143	150	158	158	167	167	175	175	172	172	169	169	50	
52			35		44	41	54	49	65	58	78	68	91	79	105	90	115	102	123	114	131	127	139	141	146	154	154	162	162	165	165	162	162	52	
54				39	36	49	44	59	52	70	61	81	71	94	81	107	91	114	103	121	114	129	127	136	139	143	150	150	157	157	155	155	54		
56					35			44	39	53	47	62	55	73	63	85	72	97	82	106	92	113	103	119	114	126	126	133	138	140	146	146	149	149	56
58						39	36	47	42	56	49	66	57	76	65	87	74	99	83	105	93	111	103	118	114	124	125	130	136	136	143	143	58		
60						35		43	38	51	45	60	52	69	59	79	67	90	75	98	84	104	93	110	103	116	113	122	123	128	133	133	60		
62							39		35	46	41	54	47	63	54	72	61	81	69	91	77	97	85	103	94	108	103	114	112	119	122	125	125	62	
64								35		42	37	49	43	57	49	65	56	74	63	83	70	91	77	97	85	102	94	107	102	112	111	117	64		
66									38		45	39	52	45	60	51	68	57	76	64	85	71	91	78	96	86	101	94	105	102	110	66			
68										35		41	36	48	41	55	47	62	52	70	59	78	65	86	72	90	79	95	86	99	94	104	68		
70											38	33	44	38	50	43	57	48	64	54	72	60	80	66	85	72	89	79	94	86	98	70			



# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# TJM® & TJH™ Series

Parallel Chord • Open-Web Series

## TJM® Series

FL=Flat roof less than 1/8" in 12" slope. SL=Sloped roof greater than 1/8" in 12" slope.

Depth	20	22	24	26	28	30	32	34	36	38	40	42	44	46	Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
24	397	397	411	411	417	417	423	423	428	428	434	434	443	443	24
26	339	339	377	377	383	383	388	388	393	393	397	397	402	402	26
28	279	292	328	328	354	354	359	359	363	363	367	367	371	371	28
30	229	255	283	286	317	317	333	333	337	337	341	341	344	344	30
32	190	224	235	251	279	279	306	306	315	315	318	318	321	321	32
34	159	199	197	223	239	247	271	271	295	295	298	298	301	301	34
36	135	177	167	199	203	221	241	242	264	264	281	281	283	285	36
38	115	154	143	179	173	198	206	217	237	237	256	256	267	269	38
40	99	132	123	161	150	179	178	196	209	214	231	231	249	255	40
42	86	114	107	142	130	162	155	178	181	194	210	210	226	242	42
44	75	100	93	124	113	148	135	162	159	177	184	191	206	220	44
46	66	88	82	109	100	133	119	149	140	162	162	175	185	202	46
48	58	77	72	96	88	117	105	136	123	149	143	161	164	173	48
50	51	68	64	85	78	104	93	124	110	137	127	148	146	159	50
52	46	61	57	76	69	93	83	111	98	127	113	137	130	147	52
54	41	54	51	68	62	83	74	99	87	117	102	127	117	137	54
56	37	49	46	61	56	74	67	89	79	105	91	118	105	127	56
58		44	41	55	50	67	60	80	71	95	82	110	95	119	58
60		40	37	50	46	61	55	73	64	86	75	100	86	111	60
62		36		45	41	55	50	66	58	78	68	90	78	104	62
64				41	38	50	45	60	53	71	62	82	71	95	64
66			38		46	41	55	49	65	56	75	65	87	74	66
68					42	38	50	44	59	52	69	60	79	68	68
70					38	35	46	41	54	48	63	55	73	62	70

## TJH™ Series

Depth	24	27	30	33	36	39	42	45	48	51	54	57	60	63	Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
30	447	467	478	478	487	487	495	495	505	505	510	510	512	512	30
32	372	412	447	447	455	455	463	463	469	469	479	479	484	484	32
34	313	365	410	420	427	427	434	434	440	440	446	446	453	453	34
36	265	326	349	379	402	402	409	409	414	414	419	419	424	424	36
38	227	293	299	340	378	380	386	386	391	391	396	396	400	400	38
40	195	261	258	307	327	350	366	366	371	371	375	375	379	383	40
42	170	226	224	279	285	318	348	348	352	352	356	356	360	364	42
44	148	197	196	254	249	290	308	325	336	336	339	339	343	346	44
46	130	173	172	230	219	265	271	298	320	320	324	324	327	330	46
48	115	153	152	203	194	244	240	274	290	303	310	310	313	316	48
50	102	136	135	180	172	225	214	252	258	280	297	297	300	302	50
52	91	121	120	161	154	205	191	233	231	259	274	284	288	290	52
54	81	108	108	144	138	184	171	216	207	240	246	264	276	279	54
56	73	97	97	129	124	165	154	201	187	223	222	245	260	268	56
58	66	88	87	117	112	149	139	186	169	208	201	229	235	249	58
60	59	79	79	106	101	135	126	168	153	195	182	214	214	233	60
62	54	72	72	96	92	123	115	153	139	182	166	200	195	218	62
64	49	66	65	87	84	112	105	139	127	169	152	188	178	205	64
66	45	60	60	80	77	102	96	127	116	155	139	177	163	193	66
68	41	55	55	73	70	94	88	117	107	142	127	166	149	181	68
70	38	50	50	67	65	86	80	107	98	131	117	156	137	171	70

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs for TJM® Series and 7,400 lbs for TJH™ Series.
5. Repetitive member usage increases are not allowed with values in tables above.

## 14" Left Wall Depth

Span	Right Wall Depth							
	18"	22"	26"	30"	34"	38"	42"	46"
14	385	374	350	328	306	286	268	252
16	312	343	337	316	298	278	262	247
18	256	283	308	307	289	271	256	240
20	213	236	258	278	280	264	250	235
22	180	200	219	236	253	259	244	231
24	153	171	187	203	218	232	239	227
26	132	148	162	176	189	201	213	223
28	114	129	141	153	165	176	187	197
30	100	113	124	135	145	155	165	174
32	88	99	110	120	129	138	147	155
34	58	88	97	106	115	123	131	139
36	49	78	86	94	102	110	118	124
38	42	70	77	84	91	97	104	110
40	36	62	71	77	83	89	95	101
42	31	53	65	71	77	82	88	93
44		47	58	64	70	75	80	85
46		41	51	58	63	67	72	78
48		36	45	53	57	62	66	70

## 18" Left Wall Depth

Span	Right Wall Depth							
	22"	26"	30"	34"	38"	42"	46"	50"
14	372	348	325	304	285	267	251	236
16	355	335	315	294	277	259	244	230
18	314	323	305	286	269	253	239	226
20	263	286	295	279	263	247	234	222
22	223	243	261	272	257	243	230	218
24	191	208	225	240	251	238	225	213
26	166	181	195	208	221	234	222	207
28	144	158	170	182	194	205	216	199
30	127	139	150	161	171	181	191	192
32	113	123	133	143	152	161	170	178
34	93	109	119	128	136	144	152	160
36	79	97	106	115	122	130	137	144
38	67	87	95	102	109	116	123	129
40	58	80	87	93	100	106	112	118
42	50	73	79	85	91	97	102	108
44	44	66	72	78	83	89	94	98
46	38	60	65	70	75	80	84	89
48	34	55	59	64	69	73	77	82
50		49	55	59	63	67	71	75
52		43	50	54	58	62	66	69
54		39	47	50	54	57	60	64
56		35	42	46	50	53	56	59

## 22" Left Wall Depth

Span	Right Wall Depth						
	26"	30"	34"	38"	42"	46"	50"
14	346	323	300	281	264	248	234
16	333	313	293	274	258	243	229
18	321	304	286	267	252	238	225
20	310	295	277	261	246	232	220
22	265	283	271	256	242	228	217
24	228	244	260	251	237	225	212
26	198	212	226	239	233	221	206
28	173	186	198	210	222	215	198
30	152	164	175	186	196	206	190
32	135	146	156	165	175	184	176
34	121	130	139	148	156	164	164
36	108	117	125	133	141	148	153
38	96	105	112	120	127	134	140
40	84	96	102	109	115	122	127
42	73	87	93	99	105	111	116
44	64	79	85	91	96	101	106
46	56	71	77	82	87	92	97
48	49	65	70	75	80	84	89
50	44	60	65	69	73	78	82
52	39	55	59	63	67	71	75
54	35	51	55	58	62	66	69
56	31	47	51	54	57	61	64
58	28	44	47	50	53	56	59
60	26	40	44	47	50	53	56
62		37	42	44	47	50	52
64			39	42	44	47	49
66			35	40	42	44	47
68				37	40	42	44
70					38	40	42

## 26" Left Wall Depth

Span	Right Wall Depth					
	30"	34"	38"	42"	46"	50"
18	302	283	267	249	235	223
20	294	276	260	245	232	219
22	284	270	255	241	227	215
24	263	264	249	236	223	211
26	229	243	244	232	220	205
28	200	213	225	227	215	198
30	177	188	199	209	208	188
32	157	168	177	186	193	174
34	141	150	159	167	174	162
36	126	135	143	150	157	152
38	114	122	129	136	142	143
40	104	111	117	124	129	134
42	94	101	107	113	118	123
44	86	92	98	103	108	113
46	77	83	89	94	99	104
48	68	76	81	86	91	95
50	60	70	75	79	83	88
52	54	64	68	73	77	81
54	48	59	63	67	71	74
56	43	55	58	62	65	69
58	39	51	54	57	61	64
60	35	48	51	54	57	60
62		45	48	51	54	56
64		43	45	48	51	53
66		31	43	45	48	50
68			41	43	45	47
70			38	41	43	45

## 30" Left Wall Depth

Span	Right Wall Depth				
	34"	38"	42"	46"	50"
18	281	264	248	233	221
20	275	259	242	230	218
22	268	254	238	226	213
24	263	248	235	222	210
26	254	243	231	218	203
28	227	236	227	213	196
30	201	210	217	206	186
32	179	187	194	193	172
34	160	168	175	180	161
36	144	151	158	164	150
38	130	137	143	149	141
40	118	125	130	135	134
42	108	114	119	124	126
44	99	104	109	114	118
46	89	95	100	105	109
48	82	87	92	97	101
50	75	80	84	89	93
52	69	73	78	82	86
54	63	68	72	76	79
56	57	63	66	70	74
58	51	58	62	65	68
60	46	55	58	61	64
62	42	51	54	57	60
64	38	49	51	54	57
66	35	40	48	51	53
68		36	46	48	50
70		33	43	45	48

## 34" Left Wall Depth

Span	Right Wall Depth			
	38"	42"	46"	50"
18	262	246	232	218
20	257	242	227	216
22	252	238	224	213
24	247	234	221	209
26	242	229	218	203
28	236	225	212	195
30	218	220	205	183
32	195	201	194	170
34	175	182	179	159
36	158	164	169	149
38	144	149	154	140
40	131	136	141	132
42	119	125	129	125
44	110	114	119	119
46	101	105	110	113
48	92	97	101	105
50	85	90	94	97
52	78	83	87	91
54	72	76	80	84
56	67	71	74	78
58	62	66	69	73
60	58	62	65	68
62	53	58	61	64
64	49	54	57	60
66	44	50	54	56
68	41	45	51	53
70	37	42	48	50

Other depth combinations are available (minimum wall depth = 14"; maximum wall depth = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¼" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# Tapered TJLX™ Series

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

## 14" Left Wall Depth

Span	Right Wall Depth							
	18"	22"	26"	30"	34"	38"	42"	46"
16	351	356	337	316	298	278	262	247
18	289	319	324	307	289	271	256	240
20	241	267	291	296	280	264	250	235
22	204	226	247	267	273	259	244	231
24	173	194	212	229	246	252	239	227
26	147	166	184	199	214	228	235	223
28	127	143	159	173	187	200	212	218
30	111	125	138	151	164	176	187	198
32	97	110	122	133	144	155	165	176
34	61	97	108	118	128	137	147	156
36	52	87	96	105	114	122	131	139
38	44	76	86	94	102	110	117	125
40	38	65	78	85	92	99	106	113
42	33	56	70	77	84	90	96	102
44		49	61	70	76	82	88	93
46		43	54	64	70	75	80	85
48		38	47	58	64	69	74	78
50		33	42	51	59	63	68	72
52			37	46	55	59	63	67
54			33	41	49	54	58	62
56				37	44	51	54	57
58				33	40	47	50	54
60					36	42	47	50

## 18" Left Wall Depth

Span	Right Wall Depth							
	22"	26"	30"	34"	38"	42"	46"	50"
16	355	335	315	294	277	259	244	230
18	338	323	305	286	269	253	239	226
20	297	312	295	279	263	247	234	222
22	253	274	287	272	257	243	230	218
24	217	236	254	264	251	238	225	213
26	188	205	220	236	244	234	222	207
28	163	179	193	207	220	225	216	199
30	142	156	170	182	194	205	209	192
32	125	137	149	161	172	183	193	178
34	98	122	132	143	153	163	172	166
36	83	108	118	127	136	145	154	155
38	71	97	106	114	122	130	138	145
40	61	88	96	103	111	118	125	132
42	53	80	87	94	100	107	113	119
44	46	73	79	85	91	97	103	109
46	40	66	72	78	84	89	94	100
48	35	58	66	72	77	82	87	91
50		51	61	66	71	75	80	84
52		46	55	61	65	70	74	78
54		41	49	57	61	65	68	72
56		37	44	52	56	60	64	67
58		33	40	47	53	56	59	63
60			36	42	49	52	55	58

## 22" Left Wall Depth

Span	Right Wall Depth						
	26"	30"	34"	38"	42"	46"	50"
16	333	313	293	274	258	243	229
18	321	304	286	267	252	238	225
20	310	295	277	261	246	232	220
22	293	287	271	256	242	228	217
24	257	271	265	251	237	225	212
26	224	240	248	245	233	221	206
28	196	211	224	230	229	215	198
30	173	186	198	210	215	209	190
32	152	165	176	187	198	194	176
34	134	146	157	167	177	180	164
36	120	130	140	149	159	168	153
38	103	117	126	134	142	151	144
40	89	105	113	121	129	136	136
42	77	96	103	110	117	123	129
44	67	87	94	100	106	112	118
46	59	80	86	92	97	103	108
48	52	73	79	84	89	94	99
50	46	67	73	77	82	87	92
52	41	62	67	72	76	80	85
54	37	58	62	66	71	75	79
56	33	52	58	62	66	69	73
58		47	54	58	61	65	68
60		42	49	54	57	60	64

## 26" Left Wall Depth

Span	Right Wall Depth				
	30"	34"	38"	42"	50"
16	311	291	272	255	240
18	302	283	267	249	235
20	294	276	260	245	232
22	284	270	255	241	227
24	272	264	249	236	223
26	253	253	244	232	220
28	227	236	235	227	215
30	200	213	218	218	208
32	178	190	201	204	193
34	159	170	180	187	179
36	142	152	162	170	169
38	127	136	145	154	159
40	115	123	131	139	146
42	104	112	119	126	133
44	92	102	108	115	121
46	81	93	99	105	111
48	71	85	91	96	102
50	63	79	84	89	94
52	56	73	77	82	87
54	50	67	72	76	80
56	45	63	67	71	75
58	41	58	62	66	70
60	37	55	58	62	65

## 30" Left Wall Depth

Span	Right Wall Depth				
	34"	38"	42"	46"	50"
16	288	269	253	239	226
18	281	264	248	233	221
20	275	259	242	230	218
22	268	254	238	226	213
24	263	248	235	222	210
26	254	243	231	218	203
28	236	236	227	213	196
30	220	220	220	206	186
32	203	206	206	193	172
34	182	190	187	180	161
36	163	171	176	169	150
38	146	155	162	159	141
40	132	140	148	150	134
42	120	127	135	140	126
44	109	116	123	129	120
46	100	106	112	118	114
48	92	98	103	109	109
50	83	90	95	100	104
52	74	83	88	93	97
54	66	77	82	86	90
56	60	72	76	80	84
58	54	67	71	74	78
60	49	62	66	70	73

## 34" Left Wall Depth

Span	Right Wall Depth			
	38"	42"	46"	50"
16	268	251	236	223
18	262	246	232	218
20	257	242	227	216
22	252	238	224	213
24	247	234	221	209
26	242	229	218	203
28	236	225	212	195
30	220	220	205	183
32	206	206	194	170
34	194	188	179	159
36	179	176	169	149
38	163	166	159	140
40	148	154	151	132
42	136	141	143	125
44	124	130	135	119
46	113	119	124	113
48	104	110	115	108
50	96	101	106	104
52	89	93	98	99
54	82	87	91	95
56	75	81	85	89
58	68	75	79	83
60	62	70	74	77

Other depth combinations are available (minimum wall depth = 14"; maximum wall depth = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¼" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to ⅓ of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

## 14" Left Wall Depth

Span	Right Wall Depth							
	18"	22"	26"	30"	34"	38"	42"	46"
14	492	500	511	491	457	428	401	377
16	410	432	439	446	445	416	391	368
18	337	372	385	392	397	400	382	357
20	280	311	339	346	351	356	358	341
22	237	263	288	311	316	320	322	313
24	202	225	246	267	285	289	290	282
26	170	192	212	231	248	265	267	257
28	148	166	184	202	217	232	246	236
30	129	146	162	177	191	204	217	220
32	113	128	142	155	168	181	193	203
34	87	113	125	137	149	160	171	182
36	73	101	112	122	132	142	152	162
38	62	90	99	108	117	126	134	142
40	54	82	91	99	107	115	123	130
42	47	76	85	93	101	108	115	120
44	41	68	76	83	90	97	104	111
46	36	61	68	75	81	87	93	100
48		54	63	69	74	80	85	91

## 18" Left Wall Depth

Span	Right Wall Depth							
	22"	26"	30"	34"	38"	42"	46"	50"
14	522	520	485	454	425	399	375	353
16	446	453	464	440	413	387	365	344
18	389	396	403	410	403	378	355	329
20	345	351	356	361	366	368	340	309
22	294	316	320	325	329	329	313	285
24	252	274	292	295	297	294	280	255
26	218	238	256	268	272	269	258	229
28	189	208	224	240	251	247	235	209
30	166	183	198	212	225	229	218	192
32	145	160	174	188	200	212	204	178
34	128	141	154	166	178	190	190	166
36	114	126	137	148	158	169	178	155
38	100	112	122	132	141	150	159	145
40	86	103	112	121	129	137	145	137
42	75	95	104	112	120	127	135	130
44	65	85	93	101	108	115	122	123
46	57	77	84	90	97	103	109	115
48	50	71	77	83	89	94	100	106
50	45	65	71	76	82	87	92	97
52	40	60	65	70	75	80	85	89
54	36	55	60	65	69	74	78	82
56		51	56	60	64	68	72	76

## 22" Left Wall Depth

Span	Right Wall Depth						
	26"	30"	34"	38"	42"	46"	50"
14	517	482	449	420	394	371	349
16	465	463	437	409	385	363	341
18	407	416	418	398	376	352	326
20	358	363	368	374	366	336	307
22	322	326	331	336	332	313	278
24	292	297	301	303	293	280	249
26	260	272	275	273	269	256	226
28	228	245	252	253	247	236	206
30	201	216	231	235	229	218	190
32	177	192	205	218	213	203	176
34	157	170	183	195	199	190	164
36	139	151	162	174	185	178	153
38	125	135	145	155	164	168	144
40	114	124	133	142	151	158	136
42	105	114	123	131	138	146	129
44	94	102	110	118	125	133	122
46	83	92	99	106	112	119	116
48	74	84	91	97	103	109	111
50	65	78	83	89	95	100	106
52	58	71	77	82	87	92	97
54	52	66	71	75	80	85	89
56	47	61	66	70	74	79	83
58	42	57	61	65	69	73	76
60	38	53	57	61	65	68	72
62	35	50	54	58	61	64	68
64		47	51	54	58	61	64
66		34	48	51	54	57	60
68			45	49	52	54	57

## 26" Left Wall Depth

Span	Right Wall Depth					
	30"	34"	38"	42"	46"	50"
18	417	417	398	372	350	323
20	377	380	379	364	333	303
22	331	336	342	332	312	273
24	300	305	304	293	280	245
26	275	276	276	268	255	223
28	253	255	254	247	236	204
30	233	236	235	229	218	188
32	207	221	219	213	202	174
34	185	197	205	199	189	162
36	164	176	188	187	178	152
38	147	158	168	177	168	143
40	135	144	154	163	159	135
42	124	133	141	148	150	127
44	111	119	127	136	142	121
46	100	107	114	122	128	115
48	92	98	105	111	117	110
50	84	90	96	102	108	105
52	77	83	88	94	99	100
54	71	76	81	86	91	96
56	64	71	76	80	85	89
58	58	66	70	74	78	83
60	52	62	66	70	74	77
62	48	58	62	66	69	73
64	43	55	59	62	65	69
66	40	46	55	58	62	65
68	36	42	52	55	58	61
70		38	50	52	55	58

## 30" Left Wall Depth

Span	Right Wall Depth				
	34"	38"	42"	46"	50"
18	418	394	370	346	320
20	381	379	362	331	301
22	348	346	331	310	269
24	311	306	297	280	242
26	279	276	268	254	220
28	257	254	247	234	201
30	238	235	229	218	186
32	222	219	213	202	172
34	208	205	199	189	161
36	190	192	187	177	150
38	170	180	177	167	141
40	155	164	167	158	134
42	142	150	157	150	126
44	128	137	144	143	120
46	115	123	129	136	114
48	106	112	119	125	109
50	97	103	109	115	104
52	89	95	100	106	100
54	82	87	92	98	96
56	76	81	86	91	92
58	71	75	80	84	88
60	67	71	75	79	83
62	62	66	70	74	78
64	57	63	66	70	73
66	52	59	62	66	69
68	48	54	59	62	65
70	44	49	56	59	61

## 34" Left Wall Depth

Span	Right Wall Depth			
	38"	42"	46"	50"
18	392	368	345	317
20	380	360	328	297
22	347	331	308	264
24	309	297	279	238
26	276	269	254	217
28	254	247	233	199
30	236	229	216	183
32	220	214	202	170
34	206	200	189	159
36	193	188	177	149
38	182	177	167	140
40	172	168	157	132
42	157	159	149	125
44	144	151	142	119
46	130	137	135	113
48	119	126	129	108
50	110	116	121	104
52	101	106	112	99
54	93	98	103	95
56	86	91	96	92
58	80	85	89	88
60	75	80	84	85
62	71	75	79	82
64	67	70	74	77
66	63	66	70	73
68	59	63	66	69
70	55	59	62	65

Other depth combinations are available (minimum wall depth = 14"; maximum wall depth = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 2¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to ⅓ of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.



# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# Tapered TJS™ Series

## 16" Left Wall Depth

Span	Right Wall Depth							
	24"	28"	32"	36"	40"	44"	48"	52"
20	438	438	440	443	443	447	443	418
22	369	398	397	400	399	402	405	404
24	310	341	362	364	366	365	368	369
26	264	291	317	334	336	335	337	339
28	228	251	273	295	311	312	311	313
30	199	219	238	257	276	290	289	283
32	175	192	210	226	242	258	271	262
34	154	171	186	200	215	229	243	245
36	130	152	166	179	192	204	217	229
38	111	137	149	161	172	183	194	205
40	96	118	134	145	155	166	176	185
42	83	102	122	131	141	150	159	168
44	72	89	107	120	128	137	145	153
46	63	78	94	110	118	125	133	140
48	56	69	83	98	108	115	122	129
50	49	61	74	87	99	106	112	119
52	44	54	65	78	91	98	104	110
54	39	49	59	70	81	91	96	102
56	35	44	53	62	73	85	90	95
58		39	47	56	66	76	84	88
60		35	43	51	60	69	78	82
62			39	46	54	63	72	77
64			35	42	49	57	65	72
66				38	45	52	60	68
68				35	41	48	55	62
70					38	44	50	57

## 20" Left Wall Depth

Span	Right Wall Depth							
	28"	32"	36"	40"	44"	48"	52"	56"
20	453	453	456	458	459	441	416	395
22	409	411	410	414	412	415	406	383
24	373	375	373	376	377	377	379	364
26	326	344	343	345	347	346	344	333
28	281	305	318	318	320	320	313	305
30	245	266	285	295	297	294	285	278
32	215	234	251	268	277	273	262	255
34	191	207	222	238	252	256	245	239
36	170	185	199	212	225	238	230	225
38	153	166	178	190	202	214	217	212
40	138	150	161	172	183	193	203	201
42	123	136	146	156	166	175	185	191
44	107	124	133	142	151	160	168	177
46	94	111	122	130	138	146	154	162
48	83	98	112	119	127	134	141	148
50	74	87	102	110	117	124	130	137
52	65	78	91	102	108	114	120	126
54	59	70	81	94	100	106	112	117
56	53	62	73	85	93	99	104	109
58	47	56	66	76	87	92	97	102
60	43	51	60	69	79	86	90	95
62	39	46	54	63	72	80	85	89
64	35	42	49	57	65	74	79	83
66		38	45	52	60	68	75	78
68		35	41	48	55	62	70	74
70		32	38	44	50	57	64	70

## 24" Left Wall Depth

Span	Right Wall Depth							
	32"	36"	40"	44"	48"	52"	56"	60"
20	466	466	469	465	438	414	393	371
22	420	422	421	425	424	404	381	357
24	382	385	383	386	387	380	362	339
26	351	353	351	353	354	346	332	316
28	324	326	325	325	320	315	305	292
30	291	302	303	302	294	285	278	269
32	256	274	283	282	274	263	257	249
34	227	243	259	265	256	245	241	233
36	202	217	231	245	240	230	226	218
38	182	195	207	220	226	217	213	205
40	164	176	187	198	209	205	202	194
42	149	159	170	180	190	194	191	184
44	136	145	155	164	173	182	181	174
46	124	133	142	150	158	166	173	166
48	114	122	130	138	145	153	160	158
50	102	113	120	127	134	141	148	151
52	91	104	111	117	124	130	137	143
54	81	94	103	109	115	121	127	132
56	73	85	96	101	107	112	118	123
58	66	76	87	94	100	105	110	115
60	60	69	79	88	93	98	103	107
62	54	63	72	81	87	92	96	100
64	49	57	65	74	82	86	90	94
66	34	52	60	68	76	81	85	89
68		48	55	62	70	76	80	83
70		44	50	57	64	72	75	79

## 28" Left Wall Depth

Span	Right Wall Depth						
	36"	40"	44"	48"	52"	56"	60"
20	478	478	460	436	411	389	369
22	430	432	431	428	402	378	355
24	391	393	391	394	381	361	337
26	358	360	359	355	346	334	315
28	330	332	329	323	316	304	291
30	307	308	304	294	288	281	269
32	286	287	283	274	263	259	249
34	263	269	265	256	246	242	233
36	234	249	249	240	230	227	218
38	210	224	235	227	217	213	205
40	190	202	213	214	205	201	194
42	172	183	194	203	194	191	183
44	157	167	176	186	184	181	174
46	144	153	161	170	176	173	166
48	132	140	148	156	164	165	158
50	122	129	137	144	151	158	151
52	112	119	126	133	140	146	145
54	104	111	117	123	130	136	139
56	97	103	109	115	120	126	132
58	87	96	102	107	112	117	123
60	79	90	95	100	105	110	115
62	72	81	89	94	98	103	107
64	65	74	83	88	92	96	101
66	45	68	76	83	87	91	95
68	41	62	70	78	82	85	89
70	38	57	64	72	77	81	84

## 32" Left Wall Depth

Span	Right Wall Depth					
	40"	44"	48"	52"	56"	60"
20	481	460	431	409	387	367
22	439	439	426	400	376	354
24	398	401	393	381	360	335
26	365	364	358	348	334	313
28	336	329	324	316	305	290
30	312	305	295	288	281	269
32	291	284	274	263	259	249
34	272	265	256	246	242	232
36	256	249	241	230	227	218
38	239	235	227	217	213	205
40	216	222	214	205	201	193
42	196	207	203	195	191	183
44	178	188	193	185	181	174
46	163	172	181	177	173	165
48	150	158	166	169	165	158
50	138	146	153	161	158	151
52	128	135	142	149	151	144
54	118	125	132	138	144	138
56	110	116	122	128	134	133
58	103	108	114	119	125	128
60	96	101	106	112	117	122
62	90	95	100	105	109	114
64	83	89	94	98	103	107
66	57	84	88	92	96	101
68	52	78	83	87	91	95
70	48	72	78	82	86	89

## 36" Left Wall Depth

Span	Right Wall Depth				
	44"	48"	52"	56"	60"
20	455	429	405	385	365
22	437	423	400	374	350
24	403	397	383	358	333
26	367	359	348	333	312
28	331	326	319	306	289
30	305	295	292	281	268
32	284	275	264	259	249
34	266	257	247	242	232
36	250	241	232	227	217
38	235	227	219	213	204
40	223	215	207	201	193
42	211	203	196	191	182
44	200	193	187	181	173
46	183	184	178	173	165
48	168	176	170	165	157
50	155	162	163	157	150
52	143	150	156	151	144
54	133	139	146	145	138
56	123	130	136	139	132
58	115	121	126	132	127
60	107	113	118	123	123
62	101	106	111	115	119
64	94	99	104	108	113
66	71	93	98	102	106
68	65	88	92	96	100
70	60	83	87	91	94

## 40" Left Wall Depth

Span	Right Wall Depth			
	48"	52"	56"	60"
20	427	403	381	364
22	421	398	374	349
24	396	382	356	331
26	360	349	334	310
28	327	319	306	288
30	298	291	280	267
32	275	267	259	248
34	257	249	242	231
36	241	234	226	216
38	227	220	213	204
40	215	208	201	192
42	204	197	191	182
44	194	187	181	172
46	184	178	173	164
48	176	170	165	157
50	169	163	158	150
52	158	156	151	143
54	147	150	145	137
56	137	143	140	132
58	127	133	134	127
60	119	124	130	123
62	111	116	121	118
64	105	109	114	114
66	86	103	107	111
68	79	97	101	105
70	72	91	95	99

## 20" Left Wall Depth

Span	Right Wall Depth			
	26"	32"	38"	44"
22	452	458	465	460
24	411	418	424	430
26	377	383	389	394
28	337	353	358	363
30	294	327	331	336
32	258	294	309	313
34	229	261	290	294
36	204	233	260	277
38	183	209	234	257
40	166	189	211	232
42	150	171	191	211
44	137	156	174	192
46	121	143	160	176
48	106	131	147	162
50	71	121	135	149
52	63	111	125	138
54	56	99	116	128
56	51	89	108	119
58	46	80	101	111
60	41	73	93	103
62	38	66	84	97
64	34	60	77	91
66		55	70	86
68		50	64	79
70		46	59	73

## 24" Left Wall Depth

Span	Right Wall Depth			
	30"	36"	42"	48"
22	467	474	468	439
24	425	432	438	430
26	389	396	401	407
28	359	364	369	374
30	333	337	341	346
32	311	314	319	323
34	277	295	299	302
36	247	276	281	284
38	222	248	266	267
40	200	224	246	252
42	182	203	224	240
44	166	185	204	222
46	152	169	186	203
48	139	156	171	187
50	101	143	158	172
52	90	133	146	159
54	81	123	135	147
56	73	114	126	137
58	66	107	117	128
60	59	100	110	119
62	54	90	103	112
64	49	82	96	105
66	45	75	91	99
68	41	69	85	93
70	38	63	78	88

## 28" Left Wall Depth

Span	Right Wall Depth			
	34"	40"	46"	52"
22	484	477	448	419
24	437	442	438	411
26	399	406	412	401
28	368	373	378	383
30	341	345	349	354
32	318	322	326	330
34	298	302	306	307
36	280	284	287	284
38	260	268	271	260
40	235	254	256	245
42	213	234	243	232
44	194	214	231	221
46	178	196	213	210
48	163	180	196	201
50	136	166	180	192
52	122	153	167	180
54	109	142	155	167
56	98	132	144	155
58	89	123	134	145
60	80	115	125	135
62	73	108	117	127
64	66	101	110	119
66	61	95	104	112
68	56	90	98	105
70	51	83	92	99

## 32" Left Wall Depth

Span	Right Wall Depth			
	38"	44"	50"	56"
22	484	458	428	399
24	449	445	419	392
26	408	416	410	380
28	376	381	386	364
30	348	352	357	343
32	324	328	333	318
34	304	307	311	296
36	286	289	287	277
38	270	273	267	212
40	255	258	252	201
42	242	245	239	190
44	222	234	226	181
46	204	222	215	173
48	187	204	206	165
50	172	188	197	158
52	157	174	188	152
54	141	161	174	146
56	127	150	162	140
58	115	140	151	135
60	104	131	141	131
62	94	122	132	126
64	86	115	124	122
66	79	108	116	118
68	72	102	110	115
70	66	96	104	111

## 36" Left Wall Depth

Span	Right Wall Depth			
	42"	48"	54"	60"
22	465	435	408	380
24	452	426	399	370
26	421	416	389	356
28	385	391	375	338
30	355	359	351	317
32	330	334	327	299
34	309	313	303	280
36	290	290	280	262
38	274	274	259	207
40	259	259	204	196
42	246	246	227	186
44	234	234	216	177
46	223	223	176	168
48	211	213	196	161
50	194	204	188	154
52	180	194	154	147
54	167	180	148	142
56	155	168	166	136
58	143	156	160	131
60	130	146	133	126
62	118	137	147	122
64	108	128	124	118
66	99	121	120	114
68	91	114	116	111
70	83	107	113	107

## 40" Left Wall Depth

Span	Right Wall Depth		
	46"	52"	58"
22	445	415	389
24	435	407	379
26	422	397	366
28	394	385	350
30	365	361	330
32	338	333	309
34	314	310	289
36	295	287	269
38	278	266	213
40	263	246	202
42	249	233	191
44	237	221	182
46	226	211	173
48	216	201	165
50	207	193	158
52	199	184	152
54	186	177	145
56	173	170	140
58	161	164	135
60	150	158	130
62	141	151	125
64	132	142	121
66	121	133	117
68	111	126	114
70	102	119	110

Other depth combinations are available (minimum wall depth = 20"; maximum wall depth = 60"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.



# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# Tapered TJH™ Series

## 24" Left Wall Depth

Span	Right Wall Depth			
	30"	36"	42"	48"
30	473	479	485	489
32	442	447	453	457
34	414	420	424	428
36	370	395	399	403
38	332	373	377	380
40	300	338	357	360
42	272	307	339	342
44	248	280	310	326
46	227	256	284	311
48	203	235	261	285
50	135	217	240	263
52	120	201	222	243
54	108	184	206	226
56	97	165	192	210
58	87	149	179	196
60	79	135	167	183
62	72	123	153	171
64	65	112	139	161
66	60	102	127	151
68	55	94	117	142
70	50	86	107	131

## 30" Left Wall Depth

Span	Right Wall Depth			
	36"	42"	48"	54"
30	493	500	501	482
32	461	466	471	472
34	432	437	442	446
36	407	411	415	419
38	384	388	392	395
40	364	367	371	374
42	346	349	352	355
44	318	332	335	338
46	291	317	320	322
48	267	295	306	308
50	214	272	293	295
52	191	251	273	283
54	171	233	254	272
56	154	217	236	255
58	139	202	220	237
60	126	189	206	222
62	115	177	193	208
64	105	166	181	195
66	96	155	170	183
68	88	142	160	173
70	80	131	151	163

## 36" Left Wall Depth

Span	Right Wall Depth			
	42"	48"	54"	60"
30	509	499	481	461
32	475	482	471	451
34	445	450	455	443
36	419	423	427	431
38	395	399	403	407
40	374	378	381	385
42	355	359	362	365
44	338	341	344	347
46	323	326	328	331
48	309	311	314	316
50	296	298	300	302
52	274	286	288	290
54	246	275	277	279
56	222	260	266	268
58	201	243	257	258
60	182	227	244	249
62	166	212	228	241
64	152	199	214	229
66	139	187	202	215
68	127	177	190	203
70	117	167	179	192

## 42" Left Wall Depth

Span	Right Wall Depth			
	48"	54"	60"	66"
30	498	480	460	439
32	485	470	451	430
34	458	459	443	424
36	428	432	434	417
38	404	408	412	410
40	383	386	390	391
42	363	366	370	372
44	346	349	352	352
46	330	332	335	335
48	315	318	320	318
50	302	304	306	301
52	290	292	294	289
54	278	280	282	277
56	268	270	271	267
58	258	260	262	257
60	247	251	252	248
62	225	242	244	239
64	205	233	236	231
66	188	219	228	224
68	173	206	220	217
70	159	195	207	210

## 48" Left Wall Depth

Span	Right Wall Depth			
	54"	60"	66"	72"
30	478	458	437	416
32	468	450	430	409
34	459	442	424	404
36	438	434	416	399
38	414	417	409	386
40	390	393	393	370
42	370	373	374	354
44	352	355	355	337
46	336	338	337	321
48	321	323	319	306
50	307	309	303	291
52	294	297	289	277
54	283	285	278	263
56	272	274	267	253
58	262	264	257	244
60	253	255	248	235
62	244	246	239	227
64	236	238	231	219
66	229	230	224	212
68	222	223	217	205
70	206	216	210	199

## 54" Left Wall Depth

Span	Right Wall Depth		
	60"	66"	72"
30	455	434	415
32	447	428	409
34	439	421	403
36	432	415	396
38	419	409	385
40	399	393	370
42	377	374	353
44	358	355	337
46	341	336	322
48	326	320	308
50	312	304	293
52	299	289	279
54	287	278	265
56	276	267	253
58	266	257	244
60	257	248	235
62	248	240	227
64	240	232	219
66	232	224	212
68	225	217	205
70	218	210	199

Other depth combinations are available (minimum wall depth = 24"; maximum wall depth = 72"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. **Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.**
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 7,400 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

## 14" Wall Depth

Span	Depth at Ridge								
	18"	22"	26"	30"	34"	38"	42"	46"	50"
22	200	238	264	291	299	299	299	299	262
24	173	205	237	262	271	271	274	262	262
26	149	180	202	224	244	248	244	238	221
28	130	157	178	201	220	226	234	220	212
30	116	138	161	176	202	211	205	201	197
32	102	121	140	157	173	182	192	191	175
34	86	107	125	143	159	169	173	173	175
36	73	95	111	126	140	150	155	165	153
38	62	85	99	113	124	137	145	145	145
40	53	73	90	102	113	123	130	136	137
42		63	83	96	103	112	120	126	122
44		55	72	87	97	103	111	111	121
46		48	63	80	89	95	106	107	110
48		43	56	71	79	86	93	99	99
50			49	62	72	79	86	95	97
52			44	56	68	76	79	85	88
54			39	50	61	71	74	79	85
56				45	55	66	70	74	79
58				40	49	59	67	70	74
60				36	45	54	63	66	72
62					40	49	57	62	65
64					37	44	52	58	61
66						40	48	54	57
68						37	44	51	54
70							40	47	52

## 18" Wall Depth

	Depth at Ridge							
Span	22"	26"	30"	34"	38"	42"	46"	50"
22	242	279	299	299	299	299	299	272
24	211	250	274	274	274	274	272	272
26	182	211	239	253	253	253	253	232
28	162	188	209	229	235	234	230	221
30	142	166	184	204	216	218	218	206
32	124	146	162	181	192	198	198	178
34	110	130	146	168	174	183	178	178
36	99	115	132	147	157	166	168	158
38	89	103	118	131	142	151	151	152
40	82	96	107	119	132	136	140	141
42	73	88	100	109	119	126	130	126
44	64	80	91	102	108	114	121	122
46	56	73	82	93	99	107	112	113
48	49	64	75	82	90	98	103	106
50		57	69	75	83	91	97	100
52		50	63	71	76	84	91	92
54		45	57	66	75	77	86	88
56		40	51	61	69	72	77	83
58			46	56	64	70	72	78
60			41	50	60	65	69	72
62			37	46	55	62	64	69
64				42	50	58	60	64
66				38	45	53	59	62
68					41	49	54	57
70					38	45	51	54

## 22" Wall Depth

	Depth at Ridge						
Span	26"	30"	34"	38"	42"	46"	50"
22	289	299	299	299	299	299	275
24	253	274	274	274	274	274	274
26	216	243	253	253	253	253	245
28	191	215	235	235	235	235	230
30	170	190	210	219	219	211	211
32	148	166	187	198	198	201	185
34	131	156	175	179	188	179	179
36	121	135	149	160	164	168	164
38	108	124	140	147	157	154	153
40	98	110	123	135	139	143	142
42	88	102	112	122	130	131	129
44	81	92	105	111	118	119	122
46	71	81	93	106	110	113	114
48	66	75	85	96	101	103	105
50	59	69	78	88	93	97	100
52	55	63	72	80	88	91	93
54	50	58	66	74	82	85	88
56	45	54	61	69	76	81	83
58		50	56	64	71	75	77
60		46	53	60	67	70	73
62		42	50	57	62	66	69
64		38	46	53	59	62	65
66			42	50	55	59	61
68			39	46	52	56	59
70				42	49	53	56

## 26" Wall Depth

Span	Depth at Ridge					
	30"	34"	38"	42"	46"	50"
22	299	299	299	299	299	275
24	274	274	274	274	274	274
26	248	253	253	253	253	253
28	225	234	235	235	235	215
30	193	214	219	219	213	213
32	175	201	206	202	202	191
34	150	176	187	189	183	180
36	137	154	166	169	170	165
38	122	138	152	157	154	148
40	114	126	136	142	142	142
42	104	118	126	130	131	132
44	92	104	114	118	121	122
46	82	93	104	109	113	115
48	76	86	95	101	104	106
50	69	78	87	93	97	101
52	63	71	80	87	91	93
54	58	66	74	82	86	88
56	54	61	69	76	79	82
58	51	57	64	71	75	77
60	47	53	60	67	71	73
62	44	50	57	62	67	69
64	41	48	53	59	62	65
66		45	50	56	59	61
68		42	47	52	56	59
70		39	45	49	53	55

## 30" Wall Depth

Span	Depth at Ridge				
	34"	38"	42"	46"	50"
22	299	298	298	275	275
24	274	274	274	274	274
26	253	253	253	253	253
28	235	235	235	235	214
30	217	219	219	214	214
32	195	206	206	203	196
34	174	183	190	186	179
36	160	174	173	169	166
38	137	152	158	155	153
40	126	138	144	143	143
42	116	126	129	133	133
44	103	115	118	123	121
46	93	105	111	112	115
48	86	96	102	104	106
50	78	87	94	98	100
52	72	80	87	92	94
54	66	74	81	85	88
56	61	70	77	80	82
58	57	64	72	75	78
60	54	60	66	71	73
62	50	56	63	66	69
64	49	53	59	62	65
66	37	50	55	59	62
68		47	52	55	59
70		46	50	53	55

## 34" Wall Depth

Span	Depth at Ridge			
	38"	42"	46"	50"
22	296	297	269	269
24	274	274	274	250
26	253	253	250	250
28	235	233	209	209
30	215	219	209	206
32	206	204	204	188
34	184	191	186	170
36	169	171	166	166
38	152	159	155	153
40	139	145	143	141
42	129	130	131	130
44	114	119	123	122
46	103	111	112	116
48	95	102	104	107
50	87	93	98	99
52	81	87	92	94
54	74	82	85	88
56	69	77	80	82
58	65	71	75	78
60	60	67	70	73
62	56	63	66	70
64	53	58	63	65
66	48	55	58	62
68	44	52	56	59
70	40	50	53	55

Other depth combinations are available (minimum wall depth = 14"; maximum depth at ridge = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.

# Load Tables/Non-Snow (125%)

Allowable Uniform Load (plf)

# Pitched TJLX™ Series

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

## 14" Wall Depth

Span	Depth at Ridge							
	18"	22"	26"	30"	34"	38"	42"	46"
22	213	240	244	249	253	258	258	260
24	195	218	222	225	229	233	236	242
26	165	197	203	206	209	212	212	214
28	143	173	187	190	192	195	198	201
30	124	151	172	176	178	180	180	185
32	109	132	154	164	166	167	168	168
34	93	117	137	153	155	157	157	160
36	78	104	123	138	146	146	147	147
38	66	93	109	125	137	138	138	141
40	57	79	98	112	125	128	131	131
42		68	89	101	114	124	125	125
44		59	78	93	105	113	114	118
46		52	68	85	94	104	113	108
48		46	60	76	87	95	104	109
50			53	67	80	88	96	99
52			47	60	73	81	89	96
54			42	53	66	75	82	89
56			38	48	59	70	77	83
58				43	53	64	71	77
60				39	48	57	67	72
62					43	52	62	68
64					39	47	56	63
66						43	51	59
68						39	47	54
70						36	43	50

## 18" Wall Depth

Span	Depth at Ridge							
	22"	26"	30"	34"	38"	42"	46"	50"
22	242	245	250	254	259	263	265	265
24	219	222	226	230	234	237	241	242
26	201	203	207	210	213	216	220	223
28	178	187	190	193	196	198	201	204
30	156	174	176	178	181	183	186	189
32	137	161	164	166	168	170	172	174
34	123	142	153	155	157	159	161	162
36	109	126	143	146	147	149	151	152
38	96	116	132	137	138	140	142	142
40	89	105	117	130	131	133	134	135
42	77	93	106	118	124	126	127	128
44	67	85	96	110	118	119	120	121
46	59	77	89	100	110	114	115	116
48	52	69	81	91	100	108	109	107
50		61	76	84	92	100	104	105
52		54	68	77	85	93	100	98
54		48	61	72	79	86	94	96
56		43	54	66	74	81	87	93
58			49	60	69	75	82	82
60			44	54	64	70	75	81
62			40	49	59	65	71	76
64			36	45	53	61	66	72
66				41	49	57	62	67
68				37	44	52	59	63
70					41	48	55	60

## 22" Wall Depth

	Depth at Ridge						
Span	26"	30"	34"	38"	42"	46"	50"
22	246	250	255	259	265	265	265
24	223	226	230	234	239	242	242
26	204	207	210	213	216	222	224
28	187	190	193	196	199	202	206
30	174	176	179	181	183	186	190
32	159	164	166	168	170	172	175
34	145	154	155	157	159	161	163
36	129	144	146	147	149	151	152
38	116	133	137	139	140	142	142
40	106	120	129	131	133	134	135
42	95	108	120	124	126	127	128
44	87	100	112	117	119	120	122
46	79	92	103	112	114	115	116
48	73	84	94	103	108	109	110
50	66	77	86	96	104	105	105
52	59	71	79	89	97	100	101
54	52	66	75	83	89	96	97
56	47	61	70	76	83	90	93
58		54	65	72	78	84	90
60		49	60	66	72	78	84
62		45	54	62	69	74	80
64		41	49	58	65	69	74
66		37	45	54	61	66	70
68			41	49	57	61	65
70			38	45	53	57	61

## 26" Wall Depth

Span	Depth at Ridge					
	30"	34"	38"	42"	46"	50"
22	265	265	265	265	265	265
24	242	242	242	242	242	242
26	224	224	224	224	224	224
28	208	208	208	208	208	208
30	194	194	194	194	194	194
32	182	182	182	182	182	182
34	171	171	171	171	171	171
36	154	162	162	162	162	162
38	136	153	153	153	153	153
40	122	140	146	146	146	146
42	110	125	133	139	139	139
44	101	115	128	132	132	132
46	93	104	116	127	127	127
48	84	95	106	116	119	120
50	78	88	99	107	115	116
52	72	82	90	99	105	105
54	67	76	84	92	99	104
56	62	70	78	85	92	96
58	58	65	72	79	87	91
60	52	61	68	75	81	86
62	47	57	64	70	76	82
64	43	54	60	66	71	76
66		49	56	61	66	71
68		45	53	58	62	69
70		41	49	55	60	65

## 30" Wall Depth

Span	Depth at Ridge				
	34"	38"	42"	46"	50"
22	265	265	265	265	265
24	242	242	242	242	242
26	224	224	224	224	224
28	208	208	208	208	208
30	194	194	194	194	194
32	182	182	182	182	182
34	171	171	171	171	171
36	162	162	162	162	162
38	153	153	153	153	153
40	139	146	146	146	146
42	129	133	139	139	139
44	115	127	132	132	132
46	105	117	125	127	127
48	97	109	119	121	119
50	90	99	109	113	116
52	83	91	101	108	110
54	76	85	93	100	101
56	71	79	86	93	97
58	66	73	82	89	90
60	62	69	76	82	85
62	56	64	70	77	82
64	55	60	67	72	77
66	40	57	62	68	72
68	37	54	60	64	68
70		51	56	61	65

## 34" Wall Depth

Span	Depth at Ridge			
	38"	42"	46"	50"
22	265	265	265	265
24	242	242	242	242
26	224	224	224	224
28	208	208	208	208
30	194	194	194	194
32	182	182	182	182
34	171	171	171	171
36	162	162	162	162
38	153	153	153	153
40	146	146	146	146
42	139	139	139	139
44	131	131	132	132
46	121	126	127	127
48	109	117	116	121
50	101	110	110	116
52	94	102	109	109
54	86	95	100	102
56	80	89	93	96
58	75	82	89	92
60	70	77	82	86
62	65	72	77	82
64	61	67	72	77
66	51	64	69	73
68	47	60	65	70
70	43	57	62	65

Other depth combinations are available (minimum wall depth = 14"; maximum depth at ridge = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1<sup>3</sup>/<sub>4</sub>" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.

## 14" Wall Depth

Span	Depth at Ridge								
	18"	22"	26"	30"	34"	38"	42"	46"	50"
22	263	304	319	329	329	351	351	359	327
24	227	270	293	295	303	313	317	317	327
26	196	236	264	270	279	285	285	296	282
28	170	203	235	251	255	263	266	253	239
30	148	179	206	230	239	242	247	239	239
32	132	157	181	205	216	223	230	219	216
34	117	138	161	182	197	205	215	210	210
36	98	123	143	163	180	193	193	197	194
38	84	110	128	145	162	176	182	182	194
40	72	99	116	131	146	158	167	180	167
42		86	107	121	134	145	156	159	154
44		75	98	111	124	133	142	146	150
46		66	86	101	112	123	132	139	137
48		58	76	91	101	111	120	128	127
50			67	83	92	102	110	118	126
52			60	75	86	94	102	110	117
54			53	67	79	87	95	102	109
56			48	61	74	81	88	95	102
58				55	67	76	82	89	95
60				49	61	71	77	83	89
62				45	55	66	72	78	84
64				41	50	60	68	73	78
66				37	46	55	64	69	74
68					42	50	59	65	71
70							54	63	68

## 18" Wall Depth

	Depth at Ridge								
Span	22"	26"	30"	34"	38"	42"	46"	50"	
22	309	339	346	352	359	366	353	353	
24	277	310	314	317	324	324	335	335	
26	240	275	287	290	296	300	294	294	
28	208	241	266	268	270	275	280	261	
30	184	214	242	250	251	255	253	258	
32	162	188	214	233	234	237	241	231	
34	145	167	191	213	220	222	222	227	
36	130	149	170	189	202	204	210	203	
38	116	133	152	170	185	193	189	189	
40	104	122	138	154	166	175	178	179	
42	96	112	127	141	153	163	168	164	
44	86	101	115	130	141	150	156	153	
46	76	90	104	117	128	137	144	146	
48	67	83	94	105	115	126	133	137	
50		76	87	97	106	116	125	128	
52		68	80	89	98	107	115	119	
54		61	74	83	91	99	107	113	
56		55	69	77	85	92	99	107	
58			62	72	79	86	93	99	
60			56	68	74	81	87	93	
62			51	62	69	76	82	88	
64			46	57	65	71	77	82	
66			42	51	62	70	75	79	
68			39	47	56	66	71	75	
70				43	52	61	67	71	

## 22" Wall Depth

Span	Depth at Ridge						
	26"	30"	34"	38"	42"	46"	50"
22	344	351	355	363	366	363	364
24	314	318	325	326	330	336	327
26	277	293	295	301	303	306	308
28	245	269	273	277	279	285	283
30	217	240	254	256	260	260	266
32	192	217	237	240	240	244	241
34	172	196	217	224	223	223	222
36	154	173	197	202	207	207	208
38	137	156	176	191	198	195	193
40	126	143	160	172	180	182	183
42	115	132	148	159	168	169	168
44	105	118	133	144	154	155	157
46	91	105	120	131	142	146	147
48	85	97	108	120	130	133	136
50	76	88	100	110	120	125	129
52	71	81	92	101	111	117	120
54	66	75	85	94	103	110	113
56	60	69	79	87	96	103	107
58		64	73	82	89	96	99
60		60	69	76	83	90	93
62		57	64	72	78	84	89
64		51	61	69	75	81	83
66		47	57	65	72	76	79
68		43	52	62	67	72	75
70		39	48	57	64	69	72

## 26" Wall Depth

Span	Depth at Ridge					
	30"	34"	38"	42"	46"	50"
22	356	360	368	375	357	353
24	323	327	332	335	340	327
26	296	300	303	307	307	314
28	274	277	279	281	286	280
30	249	251	260	261	262	261
32	220	240	241	242	242	246
34	198	221	225	228	228	227
36	177	198	206	211	211	212
38	159	177	195	201	199	194
40	145	162	178	182	182	183
42	133	149	162	168	170	170
44	121	134	147	152	157	157
46	106	121	134	141	145	148
48	97	111	123	130	134	137
50	89	100	113	121	126	127
52	82	92	103	112	118	120
54	74	84	95	105	111	113
56	69	79	90	98	102	106
58	64	73	83	91	97	100
60	60	69	77	85	91	94
62	60	65	73	80	85	89
64	54	62	68	76	80	83
66	39	58	64	71	76	79
68		56	63	67	72	76
70		52	59	64	68	71

## 30" Wall Depth

Span	Depth at Ridge				
	34"	38"	42"	46"	50"
22	364	369	378	382	356
24	331	334	340	346	331
26	303	306	310	313	317
28	280	282	285	289	285
30	260	262	264	267	265
32	242	244	246	246	247
34	223	225	231	231	232
36	197	214	216	213	213
38	179	195	203	200	192
40	164	178	185	182	182
42	149	162	167	169	170
44	133	148	153	155	158
46	120	136	143	144	148
48	111	123	131	134	138
50	101	112	120	126	128
52	92	104	112	118	121
54	85	96	105	109	114
56	79	90	99	103	106
58	73	83	92	97	100
60	69	78	85	91	94
62	65	72	81	85	90
64	62	68	76	80	84
66	51	65	71	76	79
68	47	61	68	71	75
70	43	59	64	68	71

## 34" Wall Depth

Span	Depth at Ridge			
	38"	42"	46"	50"
22	372	373	373	375
24	338	342	329	329
26	309	310	310	314
28	281	288	273	267
30	264	265	265	267
32	245	248	245	237
34	228	228	233	215
36	216	214	214	214
38	197	203	201	189
40	179	183	184	184
42	163	167	168	168
44	147	153	159	157
46	133	141	145	147
48	124	132	135	139
50	112	120	127	127
52	104	113	119	121
54	96	105	109	114
56	88	99	103	107
58	83	91	97	100
60	77	86	90	95
62	73	81	85	89
64	69	75	81	84
66	65	71	75	80
68	59	68	72	76
70	54	64	68	71

Other depth combinations are available (minimum wall depth = 14"; maximum depth at ridge = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 2¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.

# Load Tables/Non-Snow (I25%)

Allowable Uniform Load (plf)

# Pitched TJS™ Series

## 16" Wall Depth

Span	Depth at Ridge							
	28"	32"	36"	40"	44"	48"	52"	56"
20	455	460	466	469	477	425	435	430
22	411	415	418	422	424	425	435	430
24	374	377	379	384	385	390	394	397
26	344	345	348	351	353	355	359	363
28	314	319	322	323	326	327	329	333
30	273	296	298	300	302	304	305	308
32	243	273	277	280	281	283	284	285
34	216	240	260	260	263	265	266	267
36	190	215	239	247	248	248	251	251
38	170	192	214	232	234	235	236	237
40	154	174	193	212	217	222	223	225
42	138	157	176	192	205	211	212	213
44	121	144	159	176	191	200	202	202
46	106	132	146	161	175	189	192	193
48	93	116	134	147	160	173	183	184
50	83	103	124	136	147	159	171	177
52	74	92	112	125	136	147	158	164
54	66	82	100	116	127	136	146	157
56	59	74	90	107	118	127	136	146
58	53	67	81	97	110	118	126	135
60	48	60	73	88	103	111	118	126
62	44	55	67	80	93	103	111	120
64	40	50	61	72	85	97	104	111
66		45	55	66	78	90	98	105
68		42	51	60	71	82	92	98
70		38	47	56	65	75	86	93

## 20" Wall Depth

Span	Depth at Ridge							
	28"	32"	36"	40"	44"	48"	52"	56"
20	468	469	476	483	487	440	444	453
22	422	423	429	433	436	440	444	453
24	384	385	386	391	396	398	401	408
26	353	353	354	358	362	364	366	368
28	322	327	327	328	332	336	337	339
30	283	303	304	305	308	311	312	314
32	249	282	284	284	285	289	291	291
34	220	250	266	267	267	270	272	273
36	196	223	248	251	252	252	255	257
38	176	202	223	237	238	238	240	240
40	159	182	201	222	225	226	228	229
42	144	164	183	200	214	214	215	217
44	132	149	166	183	200	204	204	206
46	118	136	152	167	182	194	195	195
48	105	125	140	153	166	181	187	187
50	93	115	129	141	153	166	179	179
52	82	103	119	131	142	154	166	171
54	74	92	111	121	132	142	153	163
56	66	83	100	113	123	133	142	152
58	60	74	90	105	115	123	132	141
60	54	67	82	97	107	115	124	132
62	49	61	74	88	100	108	116	124
64	45	56	68	80	94	101	109	116
66		51	62	73	86	95	102	109
68		47	56	67	78	90	96	103
70		43	52	62	72	83	91	97

## 24" Wall Depth

Span	Depth at Ridge							
	28"	32"	36"	40"	44"	48"	52"	56"
20	478	480	488	493	498	450	453	452
22	431	432	433	440	447	450	453	452
24	392	393	394	399	403	407	410	413
26	359	360	361	362	367	372	374	376
28	326	332	333	334	338	342	344	346
30	290	307	309	310	314	316	318	320
32	256	279	289	289	290	293	296	298
34	225	256	271	271	272	275	277	278
36	201	230	255	255	256	256	259	261
38	180	207	231	241	241	242	244	246
40	164	187	209	228	229	229	231	232
42	149	169	189	209	217	217	218	220
44	136	153	172	189	206	207	207	209
46	124	140	158	174	189	198	198	198
48	113	130	145	160	173	187	189	190
50	102	119	133	148	159	173	181	182
52	91	110	123	135	147	159	171	174
54	81	101	114	125	136	147	158	167
56	73	91	105	118	128	137	147	157
58	66	82	99	110	120	128	137	146
60	60	74	90	101	110	119	128	137
62	54	67	81	96	103	112	120	128
64	49	61	74	88	97	105	112	120
66		56	68	80	90	100	107	113
68		51	62	73	85	94	100	106
70		47	57	67	78	88	94	100

## 28" Wall Depth

Span	Depth at Ridge							
	36"	40"	44"	48"	52"	56"	60"	64"
20	490	495	501	452	452	446	446	446
22	443	445	452	452	452	446	446	446
24	402	403	409	415	418	412	410	404
26	368	369	374	378	381	383	386	386
28	339	340	341	346	350	352	354	356
30	315	316	316	320	323	325	327	327
32	294	294	294	296	299	302	304	303
34	274	276	276	277	280	282	284	285
36	251	258	260	260	261	264	264	267
38	236	245	245	246	246	249	250	250
40	211	232	232	232	233	235	236	236
42	192	212	220	221	221	221	224	226
44	175	194	210	210	210	211	213	213
46	160	176	193	200	200	201	201	203
48	147	164	177	192	192	192	192	194
50	135	151	163	177	184	184	184	185
52	125	140	151	165	176	176	177	177
54	116	129	139	152	161	170	170	170
56	107	121	130	142	152	161	163	163
58	100	113	123	132	141	151	157	155
60	94	105	115	124	133	140	147	152
62	88	97	107	116	123	131	139	144
64	80	91	101	108	117	125	131	136
66	73	86	93	103	110	116	123	129
68	67	79	88	97	104	111	116	122
70	61	73	83	91	98	103	110	116

## 32" Wall Depth

Span	Depth at Ridge							
	40"	44"	48"	52"	56"	60"	64"	68"
20	499	498	462	449	445	445	445	415
22	452	456	462	449	445	445	445	415
24	409	413	413	414	416	412	412	412
26	374	379	383	386	388	389	389	378
28	345	345	352	355	356	357	363	357
30	320	320	323	323	323	325	332	337
32	296	298	302	305	302	302	296	294
34	279	279	280	284	286	287	283	281
36	262	263	264	264	264	269	270	270
38	244	248	248	251	250	250	250	250
40	227	234	235	237	238	240	238	238
42	215	223	223	223	223	227	228	225
44	196	209	212	212	214	215	215	217
46	181	198	202	202	204	205	204	202
48	166	180	186	194	194	196	195	193
50	151	166	180	185	186	186	188	185
52	142	155	166	178	178	179	178	178
54	130	142	156	166	167	172	169	169
56	121	132	145	154	163	165	166	162
58	112	123	135	144	153	158	155	154
60	105	115	127	135	144	151	151	147
62	98	108	117	126	136	143	144	141
64	92	101	109	120	128	134	139	134
66	87	95	103	112	119	126	132	128
68	82	90	97	105	113	119	125	120
70	77	85	92	98	105	113	119	117

## 36" Wall Depth

Span	Depth at Ridge							
	44"	48"	52"	56"	60"	64"	68"	72"
20	465	447	443	443	443	443	409	409
22	462	447	443	443	443	443	409	409
24	420	422	415	415	409	409	409	409
26	385	385	386	390	384	380	378	378
28	352	355	356	357	359	360	345	345
30	328	328	328	328	336	338	339	330
32	305	305	305	305	305	297	297	294
34	284	286	287	287	284	284	272	272
36	268	268	268	268	272	267	266	265
38	253	253	253	253	253	254	259	248
40	238	239	239	239	239	235	235	235
42	227	227	227	228	228	229	220	208
44	212	214	214	214	214	217	209	208
46	200	201	202	202	204	204	204	204
48	182	195	196	197	197	193	190	189
50	168	182	186	186	187	189	185	183
52	157	168	177	177	179	179	179	174
54	143	156	169	171	172	171	171	165
56	134	146	157	164	164	168	162	155
58	125	136	147	156	156	156	156	149
60	117	127	139	146	152	148	148	142
62	109	119	128	137	144	146	141	136
64	102	111	120	128	136	137	135	128
66	96	105	113	121	128	131	127	123
68	90	99	106	113	121	127	122	118
70	86	93	100	107	115	121	117	113



## 20" Wall Depth

Span	Depth at Ridge				
	24"	36"	48"	60"	72"
30	306	338	338	338	368
32	269	318	318	318	344
34	238	304	304	304	321
36	213	290	290	290	294
38	191	272	272	272	272
40	169	259	264	254	254
42	146	235	250	240	240
44	127	213	239	226	226
46	111	195	229	215	215
48	98	179	218	213	211
50	87	165	206	212	207
52	77	153	200	204	202
54	69	138	184	195	198
56	62	124	171	187	192
58	56	111	160	181	184
60	50	101	149	172	179
62	46	91	140	166	172
64	41	83	131	161	166
66		76	123	151	158
68		69	113	142	156
70		64	104	134	151
72		58	95	126	144
74		54	88	120	141
76		50	81	114	134
78		46	75	108	126
80		43	70	102	120

## 24" Wall Depth

Span	Depth at Ridge				
	28"	40"	52"	64"	
30	349	348	348	361	
32	324	324	339	339	
34	286	302	302	302	
36	255	294	296	296	
38	229	281	281	281	
40	206	265	265	265	
42	188	252	252	252	
44	171	238	245	245	
46	156	223	235	235	
48	143	206	224	224	
50	127	188	214	214	
52	113	174	204	211	
54	101	161	198	198	
56	90	150	191	191	
58	81	140	179	185	
60	73	131	166	180	
62	67	121	156	173	
64	61	110	146	166	
66	41	100	137	161	
68	38	92	129	156	
70		84	122	147	
72		78	115	139	
74		71	109	131	
76		66	102	125	
78		61	94	118	
80		56	88	112	

## 28" Wall Depth

Span	Depth at Ridge				
	32"	44"	56"	68"	
30	358	358	376	391	
32	332	332	349	352	
34	313	310	323	323	
36	293	291	303	303	
38	267	274	284	283	
40	243	270	268	266	
42	218	256	256	256	
44	199	244	244	244	
46	182	234	228	228	
48	167	220	228	208	
50	154	211	219	207	
52	142	197	210	202	
54	132	181	202	202	
56	123	168	194	195	
58	112	157	186	189	
60	101	147	179	183	
62	92	137	172	174	
64	83	129	161	166	
66	57	121	151	165	
68	52	114	142	160	
70	48	107	134	155	
72	44	99	127	146	
74	40	91	120	143	
76	37	84	114	136	
78		78	108	128	
80		72	103	122	

## 32" Wall Depth

Span	Depth at Ridge				
	36"	48"	60"	72"	
30	347	364	385	385	
32	325	338	354	376	
34	315	316	330	336	
36	300	300	309	309	
38	281	281	289	303	
40	265	265	272	275	
42	250	261	260	260	
44	229	248	248	253	
46	210	237	233	233	
48	193	224	224	215	
50	178	216	220	218	
52	165	207	209	203	
54	153	196	202	195	
56	141	187	196	195	
58	132	174	189	191	
60	124	162	180	186	
62	115	152	176	179	
64	108	143	165	171	
66	75	134	160	168	
68	69	126	156	158	
70	63	119	146	154	
72	58	113	138	150	
74	53	107	131	144	
76	49	101	124	141	
78	45	96	118	139	
80	42	90	112	132	

## 36" Wall Depth

Span	Depth at Ridge				
	40"	52"	64"		
30	353	371	396		
32	330	344	230		
34	310	321	221		
36	305	305	313		
38	286	286	294		
40	270	270	277		
42	259	259	262		
44	246	241	248		
46	234	239	239		
48	215	230	230		
50	200	221	221		
52	183	211	211		
54	171	202	205		
56	159	230	198		
58	149	221	192		
60	139	180	184		
62	128	168	177		
64	122	156	170		
66	96	149	164		
68	87	140	158		
70	80	132	154		
72	74	124	150		
74	68	117	142		
76	63	112	134		
78	58	107	127		
80	54	101	122		

## 40" Wall Depth

Span	Depth at Ridge				
	44"	56"	68"		
30	361	379	396		
32	335	350	360		
34	314	326	341		
36	295	306	319		
38	279	287	302		
40	277	277	293		
42	262	262	273		
44	249	249	256		
46	238	238	248		
48	225	222	236		
50	215	221	224		
52	205	213	217		
54	188	205	208		
56	175	197	200		
58	164	190	193		
60	153	180	186		
62	144	177	180		
64	135	171	174		
66	118	160	167		
68	108	152	160		
70	99	142	157		
72	91	134	151		
74	84	127	148		
76	78	120	144		
78	72	114	137		
80	67	109	130		

## 44" Wall Depth

Span	Depth at Ridge				
	48"	60"	72"		
30	366	372	372		
32	341	355	330		
34	318	331	303		
36	307	323	303		
38	289	291	291		
40	278	278	284		
42	264	271	271		
44	252	256	256		
46	241	246	250		
48	230	234	233		
50	219	225	215		
52	209	215	211		
54	203	206	209		
56	193	200	200		
58	179	191	195		
60	169	185	188		
62	157	175	179		
64	149	173	175		
66	140	168	169		
68	131	158	163		
70	120	155	157		
72	111	145	153		
74	102	139	149		
76	94	130	144		
78	87	124	142		
80	81	119	134		

Other depth combinations are available (minimum wall depth = 20"; maximum wall depth = 60"; maximum depth at ridge = 72"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. **Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.**
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 38% ratio of dead load to total load (eg.: 20 psf live/12 psf dead). **These tables may be non-conservative if the actual ratio is higher than 38%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.



# Load Tables/Non-Snow (I25%)

Allowable Uniform Load (plf)

# Pitched TJH™ Series

## 24" Wall Depth

Span	Depth at Ridge					
	30"	42"	54"	66"	78"	90"
42	308	388	392	405	416	425
44	280	383	371	382	393	408
46	249	355	355	365	373	382
48	219	328	336	347	355	367
50	192	306	326	333	342	344
52	171	279	307	318	326	331
54	153	262	299	305	308	319
56	137	245	287	292	298	305
58	123	224	276	281	286	292
60	111	203	269	270	277	280
62	101	185	251	264	267	270
64	92	168	237	251	257	260
66	83	153	222	246	248	253
68	76	139	209	235	244	246
70	70	128	198	227	233	238
72	64	117	182	223	226	230
74	59	108	168	210	222	223
76	55	100	155	201	215	216
78	51	92	143	191	206	211
80	47	86	133	182	200	205
82	43	79	124	173	195	199
84	40	74	116	163	190	193
86	38	69	107	152	182	191
88	34	64	100	142	175	183
90		60	94	133	167	179
92		56	88	124	160	175
94		53	82	117	153	173
96		49	77	109	147	166
98		46	73	103	138	160
100		44	68	97	130	154

## 30" Wall Depth

Span	Depth at Ridge					
	36"	48"	60"	72"	84"	96"
42	381	409	413	427	438	437
44	353	389	389	405	415	414
46	321	368	372	383	394	401
48	299	354	354	367	374	375
50	270	338	345	352	357	365
52	250	325	331	335	343	348
54	231	310	317	322	328	335
56	217	288	307	310	315	320
58	197	269	294	299	304	309
60	178	250	282	285	293	298
62	162	235	272	277	283	286
64	147	222	263	269	274	276
66	134	208	257	260	263	268
68	122	195	242	252	254	257
70	112	185	226	243	246	250
72	103	170	213	229	238	242
74	95	156	202	226	233	235
76	88	144	193	223	227	228
78	81	134	183	217	219	222
80	75	124	174	206	213	216
82	70	115	166	195	208	211
84	65	107	156	187	200	205
86	60	99	145	178	195	201
88	56	92	136	170	191	195
90	53	87	127	163	187	190
92	49	81	119	155	178	186
94	46	76	111	149	171	181
96	43	71	105	143	163	175
98		67	98	134	158	173
100		63	92	126	151	170

## 36" Wall Depth

Span	Depth at Ridge					
	42"	54"	66"	78"	90"	102"
42	401	410	410	427	439	439
44	381	389	389	406	411	416
46	366	372	372	389	398	398
48	348	355	362	370	378	384
50	318	339	347	355	360	369
52	299	326	329	338	345	350
54	280	313	316	322	330	337
56	259	302	307	310	318	323
58	246	291	294	299	307	311
60	226	280	286	288	293	298
62	209	267	276	278	283	288
64	198	251	267	267	274	279
66	186	239	258	258	265	268
68	175	228	250	250	257	260
70	164	214	238	239	246	251
72	151	203	234	231	242	245
74	139	192	227	230	235	235
76	128	180	218	224	228	228
78	119	172	206	211	219	222
80	110	163	196	207	214	216
82	102	155	187	207	208	211
84	95	145	180	202	203	205
86	88	135	169	188	198	200
88	83	126	161	185	193	195
90	77	118	156	180	185	190
92	72	110	150	173	182	186
94	68	103	143	167	179	182
96	64	97	136	160	171	178
98	45	91	128	153	169	174
100	42	86	121	147	167	170

## 42" Wall Depth

Span	Depth at Ridge					
	48"	60"	72"	84"	96"	108"
42	405	415	415	435	438	433
44	385	395	395	410	418	418
46	367	377	383	392	401	399
48	350	355	358	372	383	383
50	334	340	348	348	363	368
52	322	328	335	341	348	355
54	309	310	323	327	332	340
56	299	301	310	311	320	326
58	280	291	299	299	305	314
60	265	283	283	287	296	301
62	249	273	274	278	285	292
64	234	264	264	270	274	279
66	216	254	255	262	265	270
68	208	246	247	255	257	262
70	193	240	241	248	249	254
72	183	228	234	234	236	245
74	173	216	229	230	235	238
76	164	206	223	226	228	231
78	156	196	216	216	216	225
80	148	188	210	205	216	216
82	141	177	204	208	211	210
84	131	168	199	203	203	205
86	122	160	186	196	200	200
88	114	153	181	192	195	195
90	106	146	174	188	190	190
92	100	140	166	181	186	186
94	94	134	160	176	182	182
96	88	126	153	176	178	178
98	82	119	147	168	174	174
100	58	112	141	161	163	170

## 48" Wall Depth

Span	Depth at Ridge					
	54"	66"	78"	90"	102"	114"
56	297	304	310	309	323	328
58	290	294	299	299	310	316
60	280	283	288	293	298	303
62	266	274	278	278	288	293
64	259	264	269	274	277	282
66	247	256	259	265	265	269
68	230	247	251	257	257	262
70	221	242	244	248	248	254
72	207	235	237	240	242	247
74	201	225	230	233	235	240
76	188	219	223	227	228	231
78	179	212	217	220	220	225
80	168	206	213	214	214	220
82	161	196	207	210	210	214
84	153	186	202	202	204	205
86	147	180	194	197	198	203
88	140	170	189	194	195	195
90	134	166	186	189	190	190
92	128	159	173	183	183	186
94	123	152	170	179	182	182
96	116	143	167	176	177	178
98	82	138	160	170	174	174
100	77	132	156	166	170	170
102	72	127	151	165	166	166
104	68	122	143	161	163	163
106	64	117	137	156	160	159
108	61	112	133	150	156	156
110	58	106	128	145	153	153
112	54	101	123	139	151	150
114	52	95	119	136	147	145
116	49	91	115	132	145	144
118	47	86	111	127	142	141
120	44	82	107	121	137	141

## 54" Wall Depth

Span	Depth at Ridge					
	60"	72"	84"	96"	108"	
56	303	307	302	320	320	
58	291	297	302	302	302	
60	279	286	289	289	301	
62	270	276	276	277	289	
64	261	267	269	269	279	
66	253	259	260	260	264	
68	246	249	252	257	262	
70	237	242	244	244	252	
72	229	235	237	242	243	
74	222	228	230	235	239	
76	210	222	223	228	228	
78	199	215	217	222	222	
80	189	210	211	211	216	
82	184	204	206	206	210	
84	176	200	200	200	200	
86	164	192	195	195	195	
88	156	188	191	191	191	
90	149	174	187	187	190	
92	143	172	183	183	183	
94	137	166	179	179	179	
96	131	158	172	175	175	
98	104	152	171	172	174	
100	98	146	166	170	170	
102	92	140	162	166	166	
104	87	135	155	162	162	
106	82	130	150	156	159	
108	78	125	145	153	157	
110	73	121	140	153	153	
112	70	116	135	151	150	
114	66	112	131	147	148	
116	62	108	126	142	147	
118	59	105	122	137	142	
120	56	101	117	132	141	

## 60" Wall Depth

Span	Depth at Ridge				
	66"	78"	90"	102"	114"
56	305	310	316	323	318
58	294	299	304	308	309
60	283	288	293	298	298
62	273	277	277	285	290
64	264	269	271	274	282
66	255	260	262	264	264
68	247	252	253	255	263
70	239	244	247	249	255
72	233	237	241	241	245
74	227	230	230	234	240
76	218	223	223	228	228
78	212	217	217	222	226
80	206	211	211	216	219
82	200	205	205	210	214
84	191	200	200	205	208
86	182	195	195	200	200
88	176	191	193	195	197
90	166	187	187	190	193
92	159	182	183	186	187
94	152	176	180	182	183
96	146	173	175	177	178
98	129	162	171	173	173
100	121	159	168	170	171
102	114	153	162	166	166
104	108	147	155	162	162
106	102	142	154	159	157
108	96	138	153	157	157
110	91	134	151	151	153
112	86	127	140	150	150
114	82	123	140	147	147
116	78	118	135	140	142
118	74	114	131	140	142
120	70	110	127	137	134

## Notes

This image shows a full page of blank graph paper. The background is a solid light blue color. Overlaid on this background is a uniform grid of thin, light gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares across the entire surface of the page. There are no margins, text, or other markings present.

# Roof Load Table Instructions (115%)

Use the following method for selection of Trus Joist products for simple span, uniform load conditions.

1. Determine appropriate stress duration (115% or 125%). See page 9.7 for explanation of stress duration.
2. Determine truss or joist span. Truss or joist span is the clear span plus the distance to the centerline of bearing at each end. See page 3.2 (TJI® joist) and 4.2 (open-web) for bearing distances.
3. Calculate loads in pounds per square foot. Live load is established by the local building code. Dead load is calculated by adding the weight of materials. See page 9.0.
4. Convert psf to plf by multiplying the total load (psf) by the desired o.c. spacing in feet.  
For example, 45 psf @ 4' o.c. = 180 plf
5. Refer to load table with appropriate stress level (determined in step 1). Find span and read across the table to a value greater than the required plf. Required depth is at the top of that column.  
**Note:** Loads and spans may be interpolated. Depths may be interpolated on open-web series only (For example, a 25½" TJI™ truss is possible.)
6. If none of the depths will carry the required load, refer to another Trus Joist series or reduce the o.c. spacing and repeat steps 3-5.

## Example Problem:

- Sloped roof in snow (115%) area
- Span 32'-0" (out-to-out of 8" concrete block walls)
- Live Load 25 psf (local building code)
- Dead Load 14 psf (weight of materials — see page 9.0)

## Solution:

1. Determine span.  
32'-0" out-to-out of block  
$$\frac{-1'-3\frac{1}{4}"}{30'-8\frac{3}{4}"} \text{ less 2 walls (7}\frac{5}{8}\text{" actual)}$$
$$+ \frac{2"}{30'-10\frac{3}{4}"} \text{ distance to bearing (approx.)}$$
 span — use 31'
2. Convert psf to plf.  
39 psf @ 24" o.c. = 78 plf  
39 psf @ 32" o.c. = 104 plf  
39 psf @ 48" o.c. = 156 plf
3. Check for a truss or joist at greatest o.c. spacing (48" o.c.). According to the tables a 30" TJI™ series will work. However, by interpolating the span and load, a 28" TJI™ truss will also work.  
Assume, for purposes of this example, that the 28" depth is excessive. By changing o.c. spacing to 32" o.c., the tables show that a 20" TJI™ truss or a 20" TJI®/L65 joist will work.

## General Notes:

- Maximum on-center spacing  
TJI® joist. . . . . 8'-0" o.c.  
TJI™ truss . . . . . 4'-0" o.c.  
TJLX™ truss . . . . . 4'-0" o.c.  
TJW™ truss . . . . . 4'-0" o.c.  
TJS™ truss . . . . . 8'-0" o.c.  
TJM® truss . . . . . 8'-0" o.c.  
TJH™ truss . . . . . 10'-0" o.c.
- Any depth within the minimum and maximum shown is available in the open web series. TJI® joists are available only in the depths shown.
- For multiple span conditions on the TJI® joists, refer to Multiple Span Load Tables.

- The total load limits for roofs follow Trus Joist criteria restricting total load deflections on flat and sloped roofs. Sloped roofs are defined as follows:

All open-web trusses ⅛" in 12" min.  
All TJI® joists ¼" in 12" min.

However, the recommended minimum slope for all applications is ¼" in 12". Check with your local building officials for more restrictive criteria.

- **Loads shown are maximum allowable. Open-web trusses will be custom designed to specified loads.**
- See Technical Support section for deflection, camber, duration of load stress adjustments and concentrated loads.
- For slopes greater than 2" in 12", consideration must be given to the increased dead load and deflection caused by actual slope length.

Actual slope length can be approximated by multiplying the horizontal span by the factors in the following chart.

SLOPE LENGTH TABLE	
SLOPE	FACTOR
2½ in 12	1.02
3 in 12	1.03
3½ in 12	1.04
4 in 12	1.05
4½ in 12	1.07
5 in 12	1.08
6 in 12	1.12
7 in 12	1.16
8 in 12	1.20
9 in 12	1.25
10 in 12	1.30
11 in 12	1.36
12 in 12	1.41

## Simple Span

Depth	11½"	14"	16"	18"	20"	22"	24"	26"	28"	30"
Span										
12	335	346	358	392	409	425	435	422	422	422
13	310	320	330	362	378	392	402	390	390	390
14	288	297	307	336	351	364	373	362	362	362
15	256	277	286	314	327	340	348	338	338	338
16	225	260	268	294	307	319	327	317	317	317
17	199	244	252	277	289	300	307	298	298	298
18	178	217	238	261	273	283	290	281	281	281
19	160	195	226	248	258	268	275	267	267	267
20	144	176	206	226	245	255	261	253	253	253
21	131	160	186	205	230	243	249	241	241	241
22	118	146	170	187	210	232	237	230	230	230
23	104	133	155	171	192	213	226	220	220	220
24	92	122	143	157	176	196	207	211	211	211
25	82	113	132	145	163	180	191	203	203	203
26	73	104	122	134	150	167	177	192	195	195
27	66	96	113	124	139	155	164	178	188	188
28	59	86	105	115	130	144	152	166	180	181
29	53	78	98	108	121	134	142	155	167	175
30	48	71	91	101	113	125	133	145	156	168
31	44	64	86	94	106	117	124	135	147	158
32	40	58	80	88	99	110	117	127	138	148
33	37	53	73	83	93	103	110	119	129	139
34	33	49	67	78	88	97	103	113	122	131
35		45	61	74	83	92	97	106	115	124
36		41	56	70	78	87	92	100	109	117
37		38	52	66	74	82	87	95	103	111
38		35	48	63	70	78	83	90	98	105
39		33	45	59	67	74	78	86	93	100
40			42	54	63	70	75	81	88	95

## Multiple Span

Depth	11½"	14"	16"	18"	20"	22"	24"	26"	28"	30"
Span										
12	242	261	270	327	336	346	355	412	422	431
13	223	241	249	302	310	319	328	381	390	398
14	207	223	232	280	288	296	305	354	362	370
15	193	209	216	262	269	277	284	330	338	345
16	181	196	203	245	252	259	267	309	317	323
17	170	184	191	231	237	244	251	291	298	304
18	161	174	180	218	224	231	237	275	281	288
19	153	165	171	207	212	218	224	261	267	272
20	144	156	162	196	202	207	213	247	253	259
21	131	149	154	187	192	198	203	236	241	246
22	119	142	147	178	183	189	194	225	230	235
23	109	133	141	171	175	180	185	215	220	225
24	100	122	135	157	168	173	178	206	211	216
25	92	113	130	145	161	166	171	198	203	207
26	85	104	122	134	150	160	164	190	195	199
27	79	97	113	124	139	154	158	178	188	192
28	73	90	105	115	130	144	152	166	180	185
29	68	84	98	108	121	134	142	155	167	178
30	64	78	91	101	113	125	133	145	156	168
31	58	73	86	94	106	117	124	135	147	158
32	53	69	80	88	99	110	117	127	138	148
33	49	65	75	83	93	103	110	119	129	139
34	45	61	71	78	88	97	103	113	122	131
35	41	57	67	74	83	92	97	106	115	124
36	38	54	63	70	78	87	92	100	109	117
37	35	51	60	66	74	82	87	95	103	111
38		47	57	63	70	78	83	90	98	105
39		44	54	59	67	74	78	86	93	100
40		41	51	57	63	70	75	81	88	95

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative), and assume provisions for positive drainage (1/4" per foot slope minimum).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

# Load Tables/Snow (115%)

# TJI®/L90 Joist

Allowable Uniform Load (plf)

Sloped Roof Only • Parallel TJI® Joist • Performance Plus® Web Material

## Simple Span

Depth	16	18	20	22	24	26	28	30
Span								
18	270	285	306	326	326	330	330	330
19	256	270	290	309	309	312	312	312
20	243	257	275	293	293	297	297	297
21	231	245	262	279	279	282	282	282
22	221	233	250	266	266	270	270	270
23	211	223	239	255	255	258	258	258
24	198	214	229	244	244	247	247	247
25	182	201	220	234	234	237	237	237
26	169	186	209	225	225	228	228	228
27	156	172	193	215	217	220	220	220
28	145	160	180	199	209	212	212	212
29	135	149	168	186	197	204	204	204
30	125	139	157	174	184	198	198	198
31	114	130	147	163	172	188	191	191
32	104	122	138	153	162	176	185	185
33	95	115	129	143	152	166	179	180
34	87	108	122	135	143	156	169	174
35	80	102	115	127	135	147	159	169
36	74	96	109	120	128	139	151	162
37	68	89	103	114	121	132	143	154
38	63	83	97	108	115	125	135	146
39	59	77	92	103	109	119	128	138
40	54	71	88	97	103	113	122	131
41	51	66	84	93	98	107	116	125
42	47	62	78	88	94	102	111	119
43	44	58	73	84	89	97	105	114
44	41	54	68	80	85	93	101	108
45	38	50	64	77	82	89	96	104
46	36	47	60	74	78	85	92	99

## Multiple Span

Depth	16	18	20	22	24	26	28	30
Span								
18	203	235	243	291	307	296	296	296
19	192	222	230	276	291	280	280	280
20	183	211	218	262	277	266	266	266
21	174	201	208	250	263	254	254	254
22	166	192	199	238	251	242	242	242
23	159	184	190	228	240	231	231	231
24	152	176	182	218	230	222	222	222
25	146	169	175	210	221	213	213	213
26	141	162	168	202	213	205	205	205
27	135	156	162	194	205	197	197	197
28	130	151	156	187	197	190	190	190
29	126	146	151	181	191	183	183	183
30	122	139	145	174	184	177	177	177
31	118	130	141	163	172	172	172	172
32	111	122	136	153	162	166	166	166
33	104	115	129	143	152	161	161	161
34	98	108	122	135	143	156	156	156
35	93	102	115	127	135	147	152	152
36	88	97	109	120	128	139	148	148
37	83	91	103	114	121	132	143	144
38	79	87	97	108	115	125	135	140
39	75	82	92	103	109	119	128	136
40	71	78	88	97	103	113	122	131
41	68	74	84	93	98	107	116	125
42	63	71	80	88	94	102	111	119
43	59	68	76	84	89	97	105	114
44	55	65	72	80	85	93	101	108
45	51	62	69	77	82	89	96	104
46	48	59	66	74	78	85	92	99

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative), and assume provisions for positive drainage (1/4" per foot slope minimum).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## Simple Span

Depth Span	11½"	14	16	18	20	22	24	26	28	30
18	226	248	270	286	306	326	326	330	330	330
19	214	235	256	270	290	309	309	312	312	312
20	204	223	243	257	275	293	293	297	297	297
21	193	213	231	245	262	279	279	282	282	282
22	170	203	221	234	250	266	266	270	270	270
23	150	194	211	223	239	255	255	258	258	258
24	133	186	202	214	229	244	244	247	247	247
25	119	172	194	205	220	234	234	237	237	237
26	106	154	187	198	212	225	225	228	228	228
27	95	138	177	190	204	217	217	220	220	220
28	86	125	165	183	196	209	209	212	212	212
29	78	113	152	171	190	202	202	204	204	204
30	70	102	138	160	180	195	195	198	198	198
31	64	93	126	150	169	187	189	191	191	191
32	58	85	115	140	158	176	183	185	185	185
33	53	78	105	132	149	165	175	180	180	180
34	49	71	97	124	140	156	165	174	174	174
35	45	66	89	116	132	147	156	169	169	169
36	41	61	82	107	125	139	147	161	165	165
37	38	56	76	99	118	131	139	152	160	160
38		52	70	92	112	125	132	144	156	156
39		48	65	85	106	118	125	137	148	152
40		44	60	79	100	112	119	130	141	148
41		41	56	73	93	107	113	124	134	144
42		38	52	69	87	102	108	118	128	138
43			49	64	81	97	103	112	122	131
44			46	60	76	93	98	107	116	125
45			43	56	71	88	94	103	111	120
46			40	53	67	83	90	98	106	115

## Multiple Span

Depth Span	11½"	14	16	18	20	22	24	26	28	30
18	194	202	211	242	249	298	314	296	296	296
19	184	192	199	229	236	282	298	280	280	280
20	175	182	189	217	224	268	283	266	266	266
21	166	173	180	207	214	255	269	254	254	254
22	159	166	172	198	204	244	257	242	242	242
23	152	158	165	189	195	233	246	231	231	231
24	146	152	158	181	187	223	235	222	222	222
25	140	146	151	174	179	214	226	213	213	213
26	132	140	146	167	173	206	217	205	205	205
27	122	135	140	161	166	198	209	197	197	197
28	114	130	135	155	160	191	202	190	190	190
29	104	125	131	150	155	185	195	183	183	183
30	94	121	126	145	149	179	188	177	177	177
31	85	114	122	140	145	173	182	172	172	172
32	78	107	118	136	140	167	176	166	166	166
33	71	101	115	132	136	162	171	161	161	161
34	65	95	111	124	132	156	165	156	156	156
35	60	88	105	117	128	147	156	152	152	152
36	55	81	100	111	124	139	147	148	148	148
37	51	75	94	105	118	131	139	144	144	144
38	47	69	89	99	112	125	132	140	140	140
39	44	64	85	94	106	118	125	136	136	136
40	40	59	81	90	101	112	119	130	133	133
41	38	55	75	85	96	107	113	124	130	130
42		51	70	81	92	102	108	118	127	127
43		48	65	78	87	97	103	112	122	124
44		45	61	74	83	93	98	107	116	121
45		42	57	71	80	89	94	103	111	118
46		39	54	68	76	85	90	98	106	115

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative), and assume provisions for positive drainage (1/4" per foot slope minimum).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.



# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# Tapered TJI® Joist

Simple Span

## Standard Slopes:

¼" per foot  
⅜" per foot

Other slopes available. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## Standard Depths:

5½" minimum at overhang  
8" minimum at bearing  
24" maximum for TJI®/L45T series  
28" maximum for TJI®/L60T and L90T series

Depths at bearings must be in ¼" increments.

If the sum of the end depths exceeds 37½", contact your Trus Joist representative for assistance.

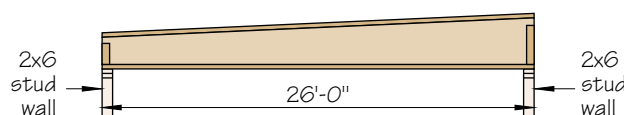
## Standard Lengths:

12' through 50'-6"

## Load Table Instructions:

- Select span from span column. **Tapered TJI® joist tables shown are for simple span applications only.**
- Read across to proper slope and depth column. Load shown is the maximum capacity in pounds per lineal foot.

## Example Problem:



- Desired slope is ¼" per foot
- Out-to-out of 2x6 stud walls is 26'-0"
- Desired spacing is 32" on-center
- Live load is 20 psf
- Dead load is 15 psf
- Design load is 35 psf at 32" o.c. = 93 plf

NOTE: Maximum joist length is 50'-6".

## Solution:

- For joist span use clear span plus ½ minimum bearing at each end (assume 3½" for minimum bearing distance or see table on page 3.2) and round up.

$$\text{Clear span} = 26'-0" \text{ minus } 5\frac{1}{2}" \text{ minus } 5\frac{1}{2}" = 25'-1"$$

$$\begin{aligned} \text{Joist span} &= \text{clear span plus} \\ &\text{minimum bearing distance} = 25'-1" \text{ plus } 1\frac{3}{4}" \text{ plus } 1\frac{3}{4}" \\ &= 25'-4\frac{1}{2}" \end{aligned}$$

Round joist span up to 26'-0"

- Check the ¼" per foot column under each series table until a load in excess of 93 plf is located. In the example, a 12" shallow end depth TJI®/L60T exceeds the required 93 plf.
- To determine the depth at the deep end, multiply the slope times the length (to calculate the amount of rise) and add to the shallow end depth. In the example:  $0.25 \times 26 + 12 = 18.5$ " depth at deep end. Always round end depth to the nearest ¼" to accommodate blocking panels.  
NOTE: The sum of the end depths must not exceed 37¾" ( $12" + 18\frac{1}{2}" = 30\frac{1}{2}"$  OK).
- Check page 3.2 for web stiffener and assumed bearing distance requirements.

## TJI®/L45T Joist

Slope	¼"/ft slope			⅜"/ft slope		
	8"	10"	12"	8"	10"	12"
Shallow End Depth						
Span						
12	130	161	190	130	161	190
14	111	138	163	111	138	163
16	97	121	142	97	121	142
18	87	107	126	87	107	126
20	71	97	114	78	97	114
22	57	84	102	69	88	103
24	46	68	87	57	80	95
26	38	56	75	47	68	82
28	32	47	65	40	58	72
30	27	40	55	34	49	63
32	23	34	47	30	42	54
34	20	29	40	26	37	47
36		25	35	23	32	40
38		22	30	20	29	
40		20	27	18	25	

## TJI®/L60T Joist

Slope	¼"/ft slope			⅜"/ft slope		
	8"	10"	12"	8"	10"	12"
Shallow End Depth						
Span						
12	186	232	272	186	232	272
14	159	199	233	159	199	233
16	139	174	204	139	174	204
18	120	155	181	124	155	181
20	93	134	161	111	139	163
22	75	112	135	92	124	147
24	61	91	115	75	107	126
26	50	75	100	63	91	109
28	42	63	87	53	77	95
30	36	53	73	46	66	84
32	31	45	63	40	57	75
34	27	39	54	35	50	67
36	23	34	47	31	44	59
38	20	30	41	27	38	
40	18	26	36	24	34	

## TJI®/L90T Joist

Slope	¼"/ft slope			⅜"/ft slope		
	8"	10"	12"	8"	10"	12"
Shallow End Depth						
Span						
12	211	264	304	211	264	304
14	181	226	260	181	226	260
16	158	198	228	158	198	228
18	141	176	202	141	176	202
20	126	158	182	126	158	182
22	109	144	165	115	144	165
24	89	131	152	105	132	152
26	74	109	140	92	122	140
28	62	91	125	78	111	130
30	53	78	106	67	96	121
32	45	67	91	58	83	111
34	39	58	79	51	72	96
36	34	50	68	45	64	85
38	30	44	60	40	56	
40	27	39	53	36	50	

## Notes

This image shows a full page of graph paper. The background is a solid light blue color. Overlaid on this background is a uniform grid of thin, dark gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares across the entire page, providing a guide for drawing or writing.

Allowable Uniform Load (plf)

Parallel Chord • Open-Web Series

**FL=Flat roof less than 1/8" in 12" slope. SL=Sloped roof greater than 1/8" in 12" slope.**

Depth	14		16		18		20		22		24		26		28		30		32		34		36		38		40		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	328	328	361	361	358	358	350	350	341	341	329	329	317	317	304	304	292	292	280	280	270	270	259	259	248	248	239	239	14
16	258	258	292	292	325	325	332	332	325	325	316	316	305	305	294	294	283	283	272	272	263	263	253	253	244	244	234	234	16
18	215	215	245	245	273	273	300	300	311	311	303	303	294	294	285	285	275	275	265	265	257	257	248	248	239	239	230	230	18
20	179	179	204	204	228	228	252	252	275	275	292	292	284	284	276	276	268	268	259	259	251	251	243	243	234	234	226	226	20
22	141	147	169	169	189	189	209	209	229	229	248	248	267	267	268	268	261	261	253	253	246	246	238	238	230	230	222	222	22
24	112	122	145	147	165	165	183	183	201	201	218	218	235	235	251	251	264	264	254	254	247	247	240	240	233	233	226	226	24
26	90	105	116	124	140	140	155	155	170	170	185	185	200	200	214	214	228	228	241	241	235	235	229	229	222	222	215	215	26
28	74	91	95	105	119	124	138	138	152	152	165	165	179	179	192	192	205	205	217	217	222	222	224	224	218	218	212	212	28
30	62	79	79	92	99	107	119	119	131	131	143	143	154	154	166	166	177	177	188	201	201	204	204	210	210	208	208	30	
32	52	69	67	81	83	92	100	103	119	119	129	129	140	140	150	150	161	161	171	171	176	176	186	186	193	193	194	194	32
34	44	58	57	71	70	81	85	91	101	101	113	113	123	123	132	132	141	141	150	150	161	161	164	164	170	170	179	179	34
36	37	49	49	64	60	72	73	81	87	90	99	99	112	112	121	121	129	129	138	138	142	142	151	151	157	157	159	159	36
38		42	42	56	52	65	63	73	75	81	88	89	97	97	105	105	117	117	125	125	131	131	135	135	143	143	148	148	38
40		36	36	48	46	62	56	69	66	76	77	83	89	90	97	97	104	104	111	111	119	119	125	125	128	128	133	133	40
42				41	40	53	49	64	59	71	68	77	79	84	89	90	97	97	103	103	107	107	112	112	119	119	122	122	42
44			36			47	43	55	51	61	59	67	68	73	78	79	85	85	93	93	100	100	105	105	107	107	114	114	44
46					41	38	49	45	55	52	60	61	66	69	71	77	77	82	82	87	87	94	94	101	101	103	103	46	
48					36	45	40	50	47	55	54	60	62	65	70	70	75	75	80	80	85	85	91	91	97	97	48		
50						40			46	42	51	48	55	55	60	62	64	69	69	73	73	78	78	82	82	88	88	50	
52									43	38	47	43	51	50	55	56	59	63	63	67	67	72	72	76	76	80	80	52	
54									39		43	39	47	45	51	50	54	57	58	62	62	66	66	70	70	74	74	54	
56										39		43	41	47	46	50	51	54	57	57	61	61	65	65	69	69	56		
58											40	37	44	42	47	47	50	52	54	57	57	61	61	64	64	64	64	58	
60													41	38	44	43	47	50	53	54	57	57	60	60	60	60	60		
62														39		42	39	44	43	47	48	50	53	53	56	56	62		
64																39		42	40	45	44	48	49	50	53	53	64		
66																		40	37	42	41	45	45	47	49	50	66		
68																				40	38	42	41	45	45	47	68		
70																				38	40	38	42	42	44	70			

**Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.**

Depth	14		16		18		20		22		24		26		28		30		32		34		36		38		40		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	361	361	361	361	358	358	350	350	341	341	329	329	317	317	304	304	292	292	280	280	270	270	259	259	248	248	239	239	14
16	291	291	329	329	337	337	332	332	325	325	316	316	305	305	294	294	283	283	272	272	263	263	253	253	244	244	234	234	16
18	244	244	276	276	308	308	316	316	311	311	303	303	294	294	285	285	275	275	265	265	257	257	248	248	239	239	230	230	18
20	196	202	231	231	258	258	284	284	297	297	292	292	284	284	276	276	268	268	259	259	251	251	243	243	234	234	226	226	20
22	152	167	191	191	214	214	237	237	258	258	280	280	275	275	268	268	261	261	253	253	246	246	238	238	230	230	222	222	22
24	120	140	154	163	187	187	207	207	227	227	246	246	265	265	260	260	254	254	247	247	240	240	233	233	226	226	219	219	24
26	97	120	124	139	154	158	176	176	193	193	210	210	226	226	242	242	247	247	241	241	235	235	229	229	222	222	215	215	26
28	80	103	102	120	127	136	153	153	172	172	187	187	202	202	217	217	231	231	233	233	230	230	224	224	218	218	212	212	28
30	66	88	85	104	105	119	127	133	148	148	162	162	175	175	188	188	201	201	213	213	218	218	220	220	214	214	208	208	30
32	55	73	72	92	89	105	107	117	127	130	143	143	155	155	171	171	182	182	194	194	198	198	206	206	206	206	205	205	32
34	46	61	61	81	76	93	91	104	108	115	126	126	138	138	149	149	160	160	170	170	182	182	186	186	192	192	194	194	34
36	39	52	52	69	65	83	79	93	93	103	109	113	123	123	133	133	143	143	153	153	161	161	171	171	178	178	180	180	36
38		44	44	59	56	74	68	83	80	92	94	101	108	110	119	119	128	128	137	137	149	149	152	152	162	162	167	167	38
40		38	38	50	49	65	59	75	70	83	82	91	95	100	108	108	116	116	124	124	132	132	142	142	145	145	150	150	40
42				44	42	56	52	68	62	75	72	83	83	90	95	98	105	105	113	113	120	120	127	127	135	135	137	137	42
44				38	37	49	46	61	55	69	64	76	73	82	84	89	94	96	103	103	109	109	116	116	122	122	129	129	44
46						43	40	54	49	63	57	69	65	75	74	81	84	88	94	94	100	100	106	106	114	114	117	117	46
48						38		47	43	58	50	63	58	69	66	75	75	81	84	86	92	92	98	98	103	103	110	110	48
50								42	38	51	45	58	52	64	59	69	67	74	75	79	84	85	90	90	95	95	100	100	50
52								37		46	41	54	47	59	54	64	61	69	68	73	75	78	83	83	88	88	93	93	52
54										41	37	49	43	55	48	59	55	64	61	68	68	73	75	77	82	82	86	86	54
56													44	39	51	44	55	50	59	55	63	62	67	68	72	75	76	80	56
58															47	40	51	45	55	51	59	56	63	62	67	68	71	75	58
60															42	37	48	41	51	46	55	51	59	57	62	62	66	68	60
62																	45	38	48	42	52	47	55	52	58	57	62	62	62
64																	41			45	39	48	43	52	48	55	52	58	64
66																	37			42	45	40	48	44	52	48	55	53	66
68																			39		43	46	41	48	45	51	49	54	68
70																				40	43	38	46	41	48	45	51	54	70

1. **Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.**
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1 3/4" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

# TJW™ & TJS™ Series

Parallel Chord • Open-Web Series

# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

## TJW™ Series

FL=Flat roof less than 1/8" in 12" slope. SL=Sloped roof greater than 1/8" in 12" slope.

Depth	14		16		18		20		22		24		26		28		30		32		34		36		38		40		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
14	432	432	472	472	472	472	472	472	472	472	472	472	472	472	454	454	436	436	418	418	403	403	387	387	371	371	356	356	14
16	340	340	385	385	413	413	413	413	413	413	413	413	413	413	413	413	413	413	407	407	393	393	378	378	364	364	350	350	16
18	284	284	322	322	360	360	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	367	357	357	344	344	18
20	235	235	268	268	300	300	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	20
22	194	194	222	222	249	249	276	276	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	22
24	158	158	183	183	209	209	241	241	264	264	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	275	24
26	129	135	157	157	179	179	204	204	224	224	244	244	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	254	26
28	106	117	136	136	155	155	174	174	200	200	218	218	235	235	236	236	236	236	236	236	236	236	236	236	236	236	236	236	28
30	88	103	113	119	136	136	152	152	169	169	188	188	203	203	218	218	220	220	220	220	220	220	220	220	220	220	220	220	30
32	74	90	95	104	118	119	133	133	148	148	163	163	184	184	198	198	206	206	206	206	206	206	206	206	206	206	206	206	32
34	63	79	81	92	100	105	118	118	131	131	144	144	157	157	170	170	186	186	194	194	194	194	194	194	194	194	194	194	34
36	54	71	69	82	86	94	104	105	116	116	128	128	139	139	151	151	162	162	174	174	183	183	183	183	183	183	183	183	36
38	47	62	60	73	74	84	90	94	104	104	114	114	125	125	135	135	145	145	156	156	173	173	173	173	173	173	173	173	38
40	40	54	53	69	66	79	80	89	95	100	109	109	119	119	128	128	137	137	146	146	157	157	165	165	165	165	165	165	40
42		46	47	62	58	71	69	79	83	88	97	97	105	105	114	114	127	127	136	136	141	141	147	147	157	157	157	157	42
44		40	41	54	51	63	61	71	73	79	85	87	94	94	102	102	110	110	118	118	125	125	138	138	141	141	150	150	44
46			36	47	45	57	54	64	64	71	75	78	85	85	92	92	99	99	106	106	113	113	120	120	126	126	133	133	46
48				42	40	52	48	59	57	65	67	71	77	78	84	84	91	91	97	97	104	104	110	110	116	116	122	122	48
50				37		48	43	54	51	60	60	66	69	71	77	77	83	83	89	89	95	95	101	101	106	106	112	112	50
52					42	39	50	46	55	54	60	62	66	71	71	76	76	82	82	87	87	93	93	98	98	103	103	52	
54					38		45	41	50	48	55	56	60	64	65	70	70	75	75	80	80	86	86	91	91	96	96	54	
56							41	38	46	44	51	51	55	58	60	65	65	69	69	74	74	79	79	84	84	89	89	56	
58							38		43	40	48	46	52	53	56	60	61	65	65	69	69	74	74	78	78	83	83	58	
60							41		45	42	49	48	53	48	53	54	57	61	61	65	65	69	69	73	73	77	77	60	
62								39		43	39	46	44	50	50	54	56	57	61	61	65	65	69	69	73	73	77	77	62
64									40		44	41	47	44	47	46	51	51	54	57	58	61	61	65	65	68	68	64	
66											42	38	45	42	48	47	51	53	54	58	58	61	61	64	64	64	64	66	
68												39		43	39	46	44	49	49	52	54	55	58	58	61	61	64	64	68
70													40		43	40	46	45	49	50	52	55	55	57	57	57	57	70	

## TJS™ Series

Depth	16		18		20		22		24		26		28		30		32		34		36		38		40		42		44		46		Depth	
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span	
14	616	616	638	638	648	648	647	647	651	651	626	626	601	601	577	577	553	553	528	528	507	507	488	488	469	469	449	449	433	433	418	418	14	
16	510	510	553	553	563	563	572	572	579	579	577	577	579	579	560	560	538	538	515	515	496	496	478	478	461	461	442	442	427	427	412	412	16	
18	401	404	463	463	496	496	504	504	511	511	518	518	520	520	520	520	520	520	503	503	485	485	469	469	453	453	435	435	420	420	406	406	18	
20	304	328	375	375	423	423	450	450	456	456	461	461	467	467	471	471	473	473	473	473	472	472	460	460	445	445	428	428	414	414	401	401	20	
22	236	271	295	311	350	350	390	390	412	412	416	416	421	421	425	425	429	429	433	433	431	431	432	432	432	432	421	421	408	408	395	395	22	
24	188	228	234	261	285	295	328	328	361	361	379	379	383	383	387	387	391	391	394	394	399	399	397	397	399	399	397	397	399	399	390	390	24	
26	152	194	190	223	231	251	275	280	308	308	337	337	352	352	355	355	358	358	361	361	364	364	367	367	369	369	370	370	371	371	369	369	26	
28	125	167	156	192	190	217	226	241	265	266	291	291	315	315	328	328	331	331	333	333	336	336	338	338	341	341	343	343	341	341	338	338	28	
30	105	136	130	168	158	189	188	210	221	232	253	253	275	275	296	296	307	307	309	309	312	312	314	314	316	316	318	318	312	312	311	311	30	
32	88	112	110	146	133	166	159	185	186	204	215	223	242	242	260	260	279	279	289	289	291	291	293	293	295	295	297	297	291	291	289	289	32	
34	76	94	94	125	114	147	136	164	159	181	183	197	209	214	231	231	248	248	264	264	273	273	274	274	276	276	278	278	272	272	270	270	34	
36	65	79	81	103	98	131	117	146	136	161	158	176	180	191	203	206	221	221	236	236	251	251	258	258	260	260	261	261	256	256	254	254	36	
38	57	74	70	88	85	111	101	131	118	145	137	158	156	172	176	185	198	198	212	212	225	225	238	238	245	245	246	246	241	241	239	239	38	
40	50	64	61	80	74	98	89	118	104	131	119	143	136	155	154	167	173	179	191	191	203	203	215	215	227	227	233	233	228	228	226	226	40	
42	44	50	54	71	66	86	78	102	91	119	105	129	120	140	135	151	152	162	169	173	184	184	195	195	206	206	217	217	217	217	215	215	42	
44	39	44	48	57	58	72	69	89	81	107	93	118	106	128	120	138	134	148	149	158	165	168	178	178	188	188	198	198	206	206	204	204	44	
46		38	43	50	52	63	61	78	72	94	83	108	94	117	107	126	119	135	133	145	147	154	161	163	172	172	181	181	190	190	195	195	46	
48			39	44	46	56	55	72	64	83	74	98	84	108	95	116	107	124	119	133	131	141	144	150	158	158	166	166	175	175	183	183	48	
50				39	42	49	49	61	58	74	66	87	76	99	86	107	96	115	107	122	118	130	130	138	142	146	153	153	161	161	169	169	50	
52					38	49	45	54	52	65	60	79	68	91	77	99	86	106	96	113	106	120	117	127	128	135	139	142	149	149	156	156	52	
54						39	41	49	47	59	54	70	62	81	70	92	78	98	87	105	96	112	106	118	116	125	126	131	136	138	145	145	54	
56									37	44	43	53	49	62	56	73	64	85	71	91	79	98	88	104	106	110	105	116	114	122	124	128	134	56
58										39	47	56	51	66	58	77	65	85	72	91	80	97	87	102	96	108	104	114	113	120	122	126	130	58
60											43	51	51	60	53	70	59	79	66	85	73	90	80	96	88	101	95	106	103	112	111	117	120	60
62										43	38	46	43	54	49	63	54	72	61	80	67	85	74	90	80	95	87	100	95	105	102	110	110	62
64											39	46	40	52	45	59	50	65	56	74	61	79	68	84	74	89	80	94	87	98	94	103	103	64
66												42		45	41	52	46	60	51	68	57	75	62	79	68	84	74	88	80	92	87	97	100	66
68												35		41	38	50	43	56	44	63	52	70	58	73	63	79	69	83	74	87	80	91	91	68
70														38	35	46	40	50	48	57	49	64	53	70	58	74	63	78	69	82	74	86	70	

# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# TJM® & TJH™ Series

Parallel Chord • Open-Web Series

## TJM® Series

FL=Flat roof less than 1/8" in 12" slope. SL=Sloped roof greater than 1/8" in 12" slope.

Depth	20		22		24		26		28		30		32		34		36		38		40		42		44		46		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
20	494	494	498	498	498	498	498	498	497	497	493	493	487	487	478	478	469	469	460	460	449	449	437	437	428	428	417	417	20
22	434	434	455	455	462	462	471	471	474	474	472	472	468	468	462	462	454	454	446	446	436	436	426	426	418	418	407	407	22
24	365	365	409	409	421	421	427	427	433	433	440	440	443	443	444	444	439	439	433	433	425	425	416	416	408	408	398	398	24
26	308	311	349	349	387	387	392	392	397	397	402	402	408	408	412	412	415	415	417	417	413	413	406	406	399	399	390	390	26
28	254	269	302	302	334	334	363	363	367	367	371	371	375	375	379	379	384	384	387	387	390	390	392	392	388	388	382	382	28
30	211	234	254	263	291	291	320	320	341	341	345	345	348	348	351	351	355	355	359	359	362	362	366	366	367	367	369	369	30
32	178	206	215	231	253	256	281	281	306	306	322	322	325	325	328	328	331	331	333	333	337	337	341	341	343	343	346	346	32
34	152	183	183	205	216	227	249	249	272	272	294	294	305	305	307	307	310	310	312	312	314	314	317	317	320	320	323	323	34
36	131	163	157	183	186	203	216	223	243	243	262	262	282	282	289	289	291	291	294	294	296	296	298	298	300	300	302	302	36
38	114	147	136	164	161	182	188	200	216	218	236	236	253	253	271	271	275	275	277	277	279	279	281	281	283	283	284	284	38
40	99	132	119	148	141	164	164	181	188	197	213	213	229	229	245	245	261	261	262	262	264	264	266	266	267	267	269	269	40
42	87	114	105	135	124	149	144	164	165	178	188	193	208	208	222	222	237	237	249	249	251	251	252	252	254	254	255	255	42
44	77	102	93	123	110	136	127	149	146	163	166	176	187	189	203	203	216	216	229	229	239	239	240	240	242	242	243	243	44
46	69	88	83	109	97	124	113	137	130	149	148	161	167	173	185	185	198	198	210	210	222	222	229	229	230	230	232	232	46
48	62	77	74	96	87	114	101	126	116	137	132	148	149	159	166	170	182	182	193	193	204	204	215	215	220	220	221	221	48
50	55	68	66	85	78	104	91	116	105	126	119	136	134	147	149	157	166	167	178	178	188	188	198	198	209	209	212	212	50
52	50	65	60	76	71	94	82	107	94	117	107	126	121	136	135	145	150	155	164	164	174	174	183	183	193	193	202	202	52
54	45	54	54	68	64	83	74	99	85	108	97	117	109	126	122	135	135	144	149	152	161	161	170	170	179	179	188	188	54
56	41	49	50	61	58	77	68	89	77	100	88	109	99	117	111	125	123	133	136	142	149	150	158	158	166	166	175	175	56
58	38	44	45	55	53	67	62	80	71	94	80	101	90	109	101	117	112	124	124	132	136	140	147	147	155	155	163	163	58
60		45	41	50	49	64	56	75	65	86	74	95	83	102	92	109	102	116	113	123	124	131	135	138	145	145	152	152	60
62		36	38	45	45	58	52	66	59	79	67	89	76	95	85	102	94	109	104	116	114	122	124	129	135	136	143	143	62
64				45	41	54	48	63	55	72	62	83	70	90	78	96	86	102	95	109	105	115	114	121	124	127	134	134	64
66				38	38	46	44	58	50	65	57	76	64	84	72	90	80	96	88	102	96	108	105	114	114	120	124	126	66
68					35	42	41	50	47	61	53	70	59	79	66	85	74	91	81	96	89	102	97	107	106	113	114	119	68
70					42	48	38	46	43	54	49	65	55	73	62	80	68	85	75	91	82	96	90	101	98	107	106	112	70

## TJH™ Series

Depth	24		27		30		33		36		39		42		45		48		51		54		57		60		63		Depth
Span	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	FL	SL	Span
26	506	506	508	508	508	508	508	508	508	508	506	506	501	501	492	492	482	482	470	470	458	458	447	447	434	434	422	422	26
28	483	483	490	490	490	490	490	490	490	490	489	489	485	485	478	478	469	469	459	459	448	448	438	438	426	426	414	414	28
30	405	430	471	471	473	473	473	473	473	473	473	473	471	471	465	465	458	458	449	449	439	439	430	430	419	419	408	408	30
32	343	379	434	440	457	457	458	458	458	458	458	458	457	457	453	453	447	447	439	439	430	430	421	421	411	411	401	401	32
34	292	336	371	390	429	429	436	436	443	443	444	444	444	444	441	441	436	436	429	429	421	421	413	413	404	404	395	395	34
36	252	300	319	348	393	397	411	411	416	416	422	422	426	426	428	428	426	426	420	420	413	413	406	406	397	397	388	388	36
38	218	269	277	313	342	357	388	388	393	393	398	398	404	404	407	407	410	410	411	411	405	405	399	399	391	391	382	382	38
40	191	243	243	283	299	322	359	362	373	373	377	377	381	381	386	386	389	389	393	393	394	394	391	391	384	384	377	377	40
42	168	221	213	256	263	292	316	328	354	354	358	358	362	362	366	366	369	369	373	373	375	375	378	378	378	378	371	371	42
44	149	197	189	234	233	267	280	299	330	332	341	341	345	345	348	348	351	351	354	354	358	358	360	360	362	362	362	362	44
46	133	176	168	214	207	244	249	274	294	304	326	326	329	329	332	332	335	335	338	338	340	340	344	344	346	346	348	348	46
48	119	157	151	197	185	224	223	252	263	279	306	307	315	315	318	318	320	320	323	323	325	325	328	328	331	331	332	332	48
50	107	136	135	180	167	207	200	232	237	257	275	283	302	302	304	304	307	307	309	309	311	311	314	314	316	316	316	316	50
52	96	121	122	161	150	191	181	215	214	238	248	261	285	285	292	292	294	294	297	297	299	299	301	301	303	303	301	301	52
54	88	108	111	144	136	177	164	199	194	221	225	243	258	264	281	281	283	283	285	285	287	287	289	289	291	291	288	288	54
56	80	97	101	129	124	165	149	185	176	205	205	226	235	246	266	266	272	272	274	274	276	276	278	278	280	280	278	278	56
58	73	88	92	121	113	149	136	173	160	191	187	210	214	229	243	248	263	263	265	265	266	266	268	268	270	270	267	267	58
60	67	79	84	106	104	137	124	161	147	179	171	197	196	214	222	232	250	250	255	255	257	257	259	259	260	260	258	258	60
62	61	79	77	96	95	123	114	151	135	168	157	184	180	201	204	217	230	234	247	247	248	248	250	250	251	251	249	249	62
64	57	66	71	87	87	112	105	140	124	157	144	173	165	188	188	204	211	219	235	235	240	240	242	242	243	243	241	241	64
66	52	67	66	86	81	106	97	129	114	148	133	163	153	177	173	192	195	206	218	221	233	233	234	234	235	235	233	233	66
68	48	55	61	73	75	94	90	119	106	139	123	153	141	167	160	181	180	194	201	208	222	222	227	227	228	228	226	226	68
70	45	50	57	67	70	86	83	107	98	131	114	145	131	158	149	170	167	183	187	196	207	209	220	220	221	221	219	219	70



## 14" Left Wall Depth

Span	Right Wall Depth							
	18"	22"	26"	30"	34"	38"	42"	46"
14	353	344	322	302	281	263	247	232
16	286	314	310	291	274	256	241	227
18	234	259	282	282	265	249	235	221
20	195	216	236	255	258	243	230	216
22	165	183	200	217	232	238	225	212
24	140	156	172	186	200	213	220	209
26	121	135	148	161	173	185	196	205
28	105	118	129	141	151	162	171	181
30	92	103	114	124	133	142	151	160
32	81	91	101	110	118	126	134	142
34	57	80	89	97	105	113	120	127
36	49	71	79	87	94	101	108	114
38	42	64	70	77	83	89	95	101
40		58	65	70	76	82	87	92
42		53	60	65	70	75	80	85
44		47	54	59	64	69	73	78
46		41	48	53	57	61	66	71
48			44	48	52	56	60	64
50			40	44	48	52	55	59
52				41	44	48	51	54

## 18" Left Wall Depth

	Right Wall Depth							
Span	22"	26"	30"	34"	38"	42"	46"	50"
14	342	320	299	280	262	246	231	217
16	326	308	289	271	255	238	224	212
18	288	297	281	263	248	233	220	208
20	241	262	271	256	242	227	215	204
22	205	223	239	250	237	224	211	200
24	175	191	206	220	231	219	207	197
26	152	166	179	191	203	215	204	194
28	132	145	156	167	178	188	198	188
30	116	127	138	148	157	166	175	182
32	103	113	122	131	140	148	156	164
34	85	100	109	117	125	132	139	147
36	73	89	97	105	112	119	125	132
38	63	80	87	93	100	106	113	119
40	55	73	79	86	92	97	103	108
42	49	67	73	78	84	89	94	99
44	43	61	66	71	76	81	86	90
46		54	59	64	68	73	77	82
48		50	54	59	63	67	71	75
50		46	50	54	58	62	65	69
52		42	46	50	53	57	60	63
54			42	45	49	52	55	58
56				42	45	48	51	54

## 22" Left Wall Depth

Span	Right Wall Depth						
	26"	30"	34"	38"	42"	46"	50"
14	318	297	276	259	243	228	215
16	307	288	269	252	237	223	211
18	296	279	263	245	231	219	207
20	285	271	255	240	226	213	202
22	243	260	249	236	222	210	200
24	209	224	238	231	218	207	195
26	181	195	208	220	214	203	193
28	159	171	182	193	203	200	187
30	140	150	161	171	180	189	181
32	124	134	143	152	160	168	174
34	111	119	128	136	143	151	157
36	99	107	115	122	129	136	142
38	87	96	103	110	117	123	128
40	77	88	94	100	106	112	117
42	67	80	86	91	96	102	106
44	59	73	78	83	88	93	98
46	52	65	70	75	80	84	89
48	47	60	64	69	73	77	82
50	42	55	59	63	67	71	75
52	38	50	54	58	62	65	69
54		46	50	53	57	60	63
56		43	46	49	53	56	59
58		40	43	46	49	51	54
60		38	40	43	46	48	51
62			38	41	43	46	48
64				38	41	43	45
66					39	41	43
68						39	40

## 26" Left Wall Depth

Span	Right Wall Depth					
	30"	34"	38"	42"	46"	50"
18	278	260	245	229	216	205
20	270	254	239	225	213	201
22	262	248	234	221	209	198
24	241	243	229	217	205	195
26	210	223	225	213	202	191
28	184	196	207	209	200	187
30	162	173	183	192	195	180
32	144	154	163	171	177	174
34	129	138	146	153	159	162
36	116	124	131	138	144	149
38	104	112	119	125	130	135
40	95	101	108	113	118	123
42	87	92	98	103	108	113
44	78	85	90	95	99	103
46	69	76	81	86	91	95
48	62	70	74	79	83	87
50	55	64	68	72	76	80
52	50	59	63	67	70	74
54	45	54	58	61	65	68
56	41	50	54	57	60	63
58		47	50	53	56	59
60		44	47	49	52	55
62		41	44	47	49	52
64			42	44	46	49
66				42	44	46
68					41	43
70						41

## 30" Left Wall Depth

Span	Right Wall Depth				
	34"	38"	42"	46"	50"
18	259	243	228	214	203
20	253	238	223	211	200
22	247	233	219	208	196
24	241	228	216	204	194
26	236	224	212	201	191
28	208	217	209	198	186
30	184	193	200	194	179
32	164	172	178	184	172
34	147	154	160	166	161
36	132	139	145	150	150
38	120	126	131	136	141
40	109	114	120	124	129
42	99	104	109	114	118
44	91	96	100	104	108
46	82	87	92	96	100
48	75	80	84	89	92
50	69	73	77	82	86
52	63	67	71	75	79
54	57	62	66	69	73
56	51	57	61	64	68
58	47	53	57	60	63
60	43	50	53	56	59
62		47	50	53	55
64		45	47	50	52
66			44	47	49
68			42	44	46
70			40	42	44

## 34" Left Wall Depth

Span	Right Wall Depth			
	38"	42"	46"	50"
18	241	227	213	201
20	237	223	209	198
22	232	219	206	196
24	227	215	203	193
26	223	211	201	190
28	219	207	198	184
30	200	204	194	178
32	179	185	188	170
34	161	167	172	159
36	145	151	156	149
38	132	137	142	140
40	120	125	130	132
42	110	114	119	123
44	101	105	109	113
46	93	97	101	104
48	85	89	93	96
50	78	82	86	90
52	72	76	80	83
54	66	70	74	77
56	61	65	68	72
58	57	60	64	67
60	53	57	60	62
62	48	53	56	59
64	44	50	53	55
66	41	45	50	52
68		41	47	49
70			44	46

Other depth combinations are available (minimum wall depth = 14"; maximum wall depth = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.

2. Straight line interpolations may be made between depths and spans.

3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:

- simple span, uniformly loaded conditions.
- an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
- top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.

4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.

5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.



# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# Tapered TJLX™ Series

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

## 14" Left Wall Depth

Span	Right Wall Depth							
	18"	22"	26"	30"	34"	38"	42"	46"
16	321	327	310	291	274	256	241	227
18	264	292	298	282	265	249	235	221
20	221	245	267	273	258	243	230	216
22	186	207	226	245	251	238	225	212
24	159	177	194	210	225	232	220	209
26	135	153	168	182	196	209	216	205
28	117	132	146	159	171	183	194	201
30	102	115	127	139	151	161	171	181
32	90	101	112	122	132	142	152	161
34	61	89	99	108	117	126	135	143
36	52	80	88	97	105	113	120	128
38	45	72	79	87	94	101	108	115
40	39	65	72	78	85	91	98	104
42		56	65	71	77	83	88	94
44		50	59	65	70	75	81	86
46		43	54	59	64	69	74	78
48		38	47	54	59	63	68	72
50			42	50	54	58	62	66
52			37	46	50	54	58	61
54				41	46	50	53	57
56				37	43	46	50	53
58					40	43	46	49
60						40	43	46

## 18" Left Wall Depth

Span	Right Wall Depth							
	22"	26"	30"	34"	38"	42"	46"	50"
16	326	308	289	271	255	238	224	212
18	311	297	281	263	248	233	220	208
20	272	287	271	256	242	227	215	204
22	231	251	264	250	237	224	211	200
24	199	216	233	245	231	219	207	197
26	172	187	202	216	227	215	204	194
28	150	164	177	189	201	211	201	188
30	130	143	156	167	178	188	197	182
32	115	126	137	148	158	168	177	175
34	91	112	122	131	141	150	158	166
36	78	100	109	117	125	134	142	149
38	67	90	97	105	113	120	127	134
40	59	81	88	95	102	108	115	121
42	52	73	80	86	92	98	104	110
44	46	67	73	78	84	89	95	100
46	41	61	66	72	77	82	87	92
48	36	56	61	66	71	75	80	84
50		51	56	61	65	69	73	78
52		46	52	56	60	64	68	72
54		42	48	52	56	59	63	66
56		37	44	48	52	55	58	62
58			40	45	48	51	55	58
60				42	45	48	51	54

## 22" Left Wall Depth

Span	Right Wall Depth						
	26"	30"	34"	38"	42"	46"	50"
16	307	288	269	252	237	223	211
18	296	279	263	245	231	219	207
20	286	271	255	240	226	213	202
22	274	264	249	236	222	210	200
24	236	253	244	231	218	207	195
26	205	220	234	226	214	203	193
28	180	193	206	218	211	200	187
30	158	171	182	193	204	196	181
32	140	151	162	172	181	190	174
34	124	134	144	154	163	171	164
36	108	120	129	137	146	154	153
38	93	107	115	123	131	138	144
40	81	97	104	111	118	125	132
42	72	88	95	101	107	113	119
44	63	80	86	92	98	103	109
46	56	73	79	84	89	95	100
48	50	67	72	77	82	87	91
50	45	62	67	71	76	80	84
52	41	57	62	66	70	74	78
54	37	53	57	61	65	69	72
56		49	53	57	60	64	67
58		46	49	53	56	59	63
60		43	46	49	52	55	58

## 26" Left Wall Depth

Span	Right Wall Depth					
	30"	34"	38"	42"	46"	50"
16	286	268	250	234	221	209
18	278	260	245	229	216	205
20	270	254	239	225	213	201
22	262	248	234	221	209	198
24	255	243	229	217	205	195
26	237	236	225	213	202	191
28	208	221	221	209	200	187
30	184	196	207	206	195	180
32	164	174	184	193	190	174
34	146	156	165	173	180	162
36	130	140	149	156	163	152
38	117	125	133	141	148	143
40	105	113	120	128	134	135
42	94	103	109	116	122	127
44	83	93	100	105	111	117
46	74	85	91	97	102	107
48	66	79	84	89	94	98
50	59	72	77	82	86	91
52	53	67	71	76	80	84
54	48	62	66	70	74	78
56	44	58	61	65	69	72
58	40	54	57	61	64	67
60		50	53	57	60	63

## 30" Left Wall Depth

Span	Right Wall Depth				
	34"	38"	42"	46"	50"
16	265	248	233	220	208
18	259	243	228	214	203
20	253	238	223	211	200
22	247	233	219	208	196
24	241	228	216	204	194
26	236	224	212	201	191
28	231	220	209	198	186
30	209	216	206	194	179
32	186	194	201	189	172
34	167	174	181	182	161
36	150	157	164	169	150
38	135	143	149	154	141
40	122	129	135	141	134
42	110	117	124	129	126
44	100	107	113	118	120
46	92	98	103	109	113
48	83	90	95	100	105
50	75	83	87	92	97
52	67	76	81	85	89
54	61	71	75	79	83
56	55	66	70	73	77
58	50	61	65	68	72
60	46	57	61	64	67

## 34" Left Wall Depth

Span	Right Wall Depth			
	38"	42"	46"	50"
16	246	231	217	206
18	241	227	213	201
20	237	223	209	198
22	232	219	206	196
24	227	215	203	193
26	223	211	201	190
28	219	207	198	184
30	215	204	194	178
32	202	201	188	170
34	182	188	181	159
36	164	170	169	149
38	149	155	159	140
40	136	141	146	132
42	124	130	134	125
44	114	119	124	119
46	104	110	114	113
48	96	101	105	108
50	88	93	98	101
52	81	86	90	94
54	75	80	84	88
56	68	74	78	82
58	62	69	73	76
60	56	64	68	71

Other depth combinations are available (minimum wall depth = 14"; maximum wall depth = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

## 14" Left Wall Depth

Span	Right Wall Depth							
	18"	22"	26"	30"	34"	38"	42"	46"
14	464	506	481	451	420	393	369	347
16	376	414	440	435	409	382	360	339
18	308	341	371	389	392	372	351	330
20	257	285	311	336	349	351	343	320
22	217	241	264	285	305	316	318	308
24	185	206	226	245	263	280	289	283
26	156	176	195	212	228	243	258	257
28	135	153	169	185	199	213	226	236
30	119	134	148	162	175	187	199	211
32	104	117	130	142	154	166	177	187
34	81	104	115	126	136	147	157	167
36	69	92	102	112	121	130	139	148
38	60	82	91	99	107	115	123	130
40	53	75	83	91	98	106	113	119
42	47	70	77	85	92	99	106	110
44	41	63	69	76	83	89	96	102
46	36	56	62	68	74	80	85	92
48		51	57	62	68	73	78	83
50		47	52	57	62	67	72	76

## 18" Left Wall Depth

Span	Right Wall Depth							
	22"	26"	30"	34"	38"	42"	46"	50"
14	508	478	446	418	391	367	345	325
16	454	454	432	405	380	356	335	317
18	379	403	405	392	370	348	328	308
20	318	345	361	362	361	340	319	294
22	269	293	315	327	328	329	305	277
24	231	252	271	289	298	299	282	255
26	200	218	235	251	267	268	258	229
28	174	190	206	220	234	247	235	209
30	152	167	181	194	207	219	218	192
32	133	147	160	172	184	195	204	178
34	118	130	141	152	163	174	184	166
36	104	115	126	135	145	155	164	155
38	90	103	112	121	129	137	145	145
40	79	94	103	111	118	126	133	137
42	69	87	95	103	110	117	124	130
44	61	78	85	92	99	106	112	119
46	54	70	77	83	89	94	100	106
48	48	64	70	76	81	86	92	97
50	43	59	64	70	75	79	84	89
52	39	55	59	64	69	73	77	82
54		50	54	59	63	67	71	75
56		46	50	54	58	62	66	70
58		43	47	50	54	57	61	65

## 22" Left Wall Depth

Span	Right Wall Depth						
	26"	30"	34"	38"	42"	46"	50"
14	476	443	413	387	363	341	321
16	453	430	402	376	354	334	315
18	410	410	392	366	346	327	305
20	367	371	373	359	338	317	292
22	320	333	336	337	330	304	275
24	275	295	305	306	299	282	249
26	239	256	273	277	268	256	226
28	209	225	240	253	247	236	206
30	184	198	212	224	229	218	190
32	162	176	188	200	211	203	176
34	143	156	167	179	189	190	164
36	128	138	149	159	169	178	153
38	114	124	133	142	151	159	144
40	105	113	122	130	138	146	136
42	96	105	113	120	127	134	129
44	85	94	101	108	115	122	122
46	75	84	91	97	103	109	115
48	67	77	83	89	94	100	105
50	60	71	76	81	87	92	97
52	54	65	70	75	80	84	89
54	48	60	64	69	73	77	82
56	44	56	60	64	68	72	76
58	40	52	55	59	63	66	70
60		49	52	56	59	63	66
62		46	49	53	56	59	62
64		44	47	50	53	56	58
66			44	47	50	53	55
68			42	45	47	50	52
70			40	42	45	47	49

## 26" Left Wall Depth

Span	Right Wall Depth					
	30"	34"	38"	42"	46"	50"
18	410	388	366	342	323	303
20	372	374	357	336	314	288
22	339	342	341	328	300	272
24	307	310	313	302	281	245
26	276	284	280	271	255	223
28	242	257	254	247	236	204
30	214	228	235	229	218	188
32	190	202	214	213	202	174
34	169	181	192	199	189	162
36	151	162	172	181	178	152
38	135	144	154	164	168	143
40	123	132	141	149	156	135
42	114	122	129	136	142	127
44	102	109	117	124	131	121
46	92	98	105	111	117	115
48	84	90	96	102	107	110
50	77	83	88	94	99	104
52	71	76	81	86	91	95
54	64	70	75	79	84	88
56	58	65	69	73	77	82
58	53	60	64	68	72	76
60	48	57	60	64	67	71
62	44	53	57	60	63	67
64	41	51	54	57	60	63
66	38	42	51	54	56	59
68		39	48	51	53	56
70			46	48	51	53

## 30" Left Wall Depth

Span	Right Wall Depth				
	34"	38"	42"	46"	50"
18	386	363	340	320	300
20	374	355	333	312	288
22	343	342	326	298	269
24	316	315	302	280	242
26	285	283	271	254	220
28	257	254	247	234	201
30	238	235	229	218	186
32	216	219	213	202	172
34	193	203	199	189	161
36	174	183	187	177	150
38	155	165	173	167	141
40	142	150	157	158	134
42	130	137	144	150	126
44	117	125	132	137	120
46	106	112	119	125	114
48	97	103	109	115	109
50	89	95	100	105	104
52	82	87	92	97	100
54	75	80	85	89	94
56	70	74	79	83	87
58	65	69	73	77	81
60	61	65	69	72	76
62	56	61	64	68	71
64	51	57	61	64	67
66	47	53	57	60	63
68	44	49	54	57	60
70	41	45	51	54	57

## 34" Left Wall Depth

Span	Right Wall Depth			
	38"	42"	46"	50"
18	361	339	319	299
20	354	333	310	284
22	342	325	296	264
24	315	300	279	238
26	283	271	254	217
28	254	247	233	199
30	236	229	216	183
32	220	214	202	170
34	206	200	189	159
36	191	188	177	149
38	174	177	167	140
40	158	165	157	132
42	144	151	149	125
44	132	138	142	119
46	119	126	132	113
48	109	115	121	108
50	101	106	112	104
52	93	98	103	99
54	85	90	95	95
56	79	84	88	92
58	74	78	82	86
60	69	73	77	81
62	65	69	72	76
64	61	65	68	71
66	58	61	64	67
68	54	58	60	63
70	50	55	57	60

Other depth combinations are available (minimum wall depth = 14"; maximum wall depth = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 2¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# Tapered TJS™ Series

## 16" Left Wall Depth

Span	Right Wall Depth							
	24"	28"	32"	36"	40"	44"	48"	52"
20	410	434	435	437	438	432	407	384
22	339	373	395	394	397	396	399	378
24	285	314	342	359	361	363	362	365
26	243	268	291	315	331	333	333	334
28	210	231	251	271	291	308	310	308
30	183	201	219	236	254	270	286	287
32	161	177	193	208	223	238	252	266
34	142	157	171	184	198	210	223	236
36	127	140	152	164	176	188	199	210
38	111	126	137	148	158	169	179	189
40	96	113	124	133	143	152	161	171
42	83	102	112	121	130	138	146	155
44	72	89	102	110	118	126	133	141
46	63	78	93	101	108	115	122	129
48	56	69	83	93	99	106	112	118
50	49	61	74	85	91	97	103	109
52	44	54	65	78	85	90	96	101
54	39	49	59	70	78	84	89	94
56		44	53	62	73	78	82	87
58		39	47	56	66	72	77	81
60			43	51	60	68	72	76
62			39	46	54	63	67	71
64				42	49	57	63	67
66				38	45	52	59	63
68					41	48	55	59
70					38	44	50	56

## 20" Left Wall Depth

Span	Right Wall Depth							
	28"	32"	36"	40"	44"	48"	52"	56"
20	446	449	450	452	430	405	382	363
22	404	405	408	407	410	398	378	358
24	351	369	372	370	373	374	368	346
26	300	325	341	341	341	344	343	331
28	258	280	301	317	315	317	319	306
30	225	244	262	280	294	294	292	281
32	198	215	231	247	262	274	270	261
34	176	190	205	219	232	245	252	242
36	157	170	183	195	207	219	231	227
38	141	152	164	175	186	197	207	213
40	127	138	148	158	168	178	187	196
42	115	125	134	143	152	161	170	178
44	105	114	122	131	139	147	155	162
46	94	104	112	120	127	134	142	149
48	83	96	103	110	117	123	130	136
50	74	87	95	101	107	114	120	126
52	65	78	88	94	99	105	111	116
54	59	70	81	87	92	97	103	108
56	53	62	73	81	86	91	95	100
58	47	56	66	75	80	84	89	93
60	43	51	60	69	75	79	83	87
62	39	46	54	63	70	74	78	82
64		42	49	57	65	69	73	77
66		38	45	52	60	65	69	72
68			41	48	55	61	65	68
70			38	44	50	57	61	64

## 24" Left Wall Depth

Span	Right Wall Depth							
	32"	36"	40"	44"	48"	52"	56"	60"
20	459	462	452	428	403	380	362	342
22	415	416	419	418	395	374	356	336
24	379	378	381	380	382	367	344	324
26	349	347	349	350	350	347	330	308
28	307	320	322	324	322	318	307	290
30	268	287	299	301	300	292	282	269
32	235	252	269	281	280	270	261	250
34	209	224	238	252	262	253	242	233
36	186	199	212	225	238	237	227	218
38	167	179	191	202	213	223	213	205
40	151	162	172	182	193	202	202	194
42	137	147	156	166	175	184	191	184
44	125	134	142	151	159	167	175	174
46	114	122	130	138	146	153	161	166
48	105	112	120	127	134	141	147	154
50	97	103	110	117	123	130	136	142
52	89	96	102	108	114	120	126	131
54	81	89	94	100	106	111	116	122
56	73	82	88	93	98	103	108	113
58	66	76	82	87	92	96	101	106
60	60	69	77	81	86	90	94	99
62	54	63	72	76	80	84	88	92
64	49	57	65	71	75	79	83	87
66	34	52	60	67	71	74	78	81
68		48	55	62	67	70	73	77
70		44	50	57	63	66	69	72

## 28" Left Wall Depth

Span	Right Wall Depth						
	36"	40"	44"	48"	52"	56"	60"
20	470	452	423	401	378	358	341
22	424	425	417	393	372	352	334
24	387	386	389	388	366	344	321
26	356	354	356	357	349	329	306
28	329	327	329	328	321	307	288
30	305	304	305	301	294	283	269
32	273	284	284	281	270	260	250
34	242	257	266	262	253	242	233
36	216	229	242	247	237	227	218
38	194	206	217	229	224	213	205
40	175	186	196	207	211	201	194
42	158	168	178	188	197	191	183
44	144	153	162	171	179	181	174
46	132	140	148	156	164	172	166
48	121	129	136	144	151	158	158
50	112	119	126	132	139	145	151
52	103	110	116	122	128	134	140
54	96	102	108	114	119	125	130
56	89	95	100	106	111	116	121
58	83	88	93	98	103	108	113
60	78	82	87	92	96	101	105
62	72	77	82	86	90	95	99
64	65	72	77	81	85	89	93
66	45	68	72	76	80	83	87
68	41	62	68	72	75	79	82
70	38	57	64	67	71	74	77

## 32" Left Wall Depth

Span	Right Wall Depth					
	40"	44"	48"	52"	56"	60"
20	450	423	397	377	356	339
22	433	414	391	370	351	332
24	395	394	386	364	342	320
26	362	361	361	349	328	304
28	334	332	331	320	307	287
30	310	309	301	295	284	268
32	289	289	281	270	260	249
34	271	271	263	253	242	232
36	245	255	247	238	227	218
38	220	232	233	224	213	205
40	198	210	220	212	201	193
42	180	190	200	201	191	183
44	164	173	182	191	181	174
46	150	158	167	175	173	165
48	138	146	153	160	165	158
50	127	134	141	148	155	151
52	117	124	130	137	143	144
54	109	115	121	127	133	138
56	101	107	112	118	123	128
58	94	100	105	110	115	120
60	88	93	98	103	107	112
62	83	87	92	96	100	105
64	78	82	86	90	94	98
66	56	77	81	85	89	92
68	52	72	76	80	83	87
70	48	68	72	75	79	82

## 36" Left Wall Depth

Span	Right Wall Depth				
	44"	48"	52"	56"	60"
20	419	395	373	354	336
22	412	389	368	349	330
24	398	383	362	341	319
26	368	363	350	327	304
28	339	331	322	307	286
30	313	304	296	283	267
32	292	281	270	262	249
34	273	263	253	242	232
36	257	247	238	227	217
38	242	233	224	213	204
40	222	220	212	201	193
42	202	209	201	191	182
44	184	193	190	181	173
46	168	177	181	173	165
48	154	162	170	165	157
50	142	149	156	157	150
52	132	138	145	151	144
54	122	128	134	140	138
56	113	119	125	130	132
58	106	111	116	121	126
60	99	104	109	113	118
62	93	97	102	106	111
64	87	91	95	100	104
66	68	86	90	94	98
68	63	81	85	88	92
70	58	76	80	83	87

## 40" Left Wall Depth

Span	Right Wall Depth			
	48"	52	56	60"
20	393	371	351	334
22	387	367	347	328
24	383	361	339	316
26	363	349	325	302
28	333	321	306	284
30	305	295	284	266
32	281	273	263	248
34	263	253	242	231
36	247	237	226	216
38	233	224	213	204
40	220	211	201	192
42	209	200	191	182
44	199	190	181	172
46	186	181	173	164
48	171	173	165	157
50	158	165	158	150
52	146	152	151	143
54	135	141	145	137
56	126	131	137	132
58	117	122	128	127
60	109	114	119	123
62	102	107	112	116
64	96	100	105	109
66	80	95	99	103
68	74	89	93	97
70	68	84	88	91

## 20" Left Wall Depth

Span	Right Wall Depth			
	26"	32"	38"	44"
22	454	461	449	423
24	414	420	427	412
26	359	385	391	396
28	310	353	361	365
30	270	308	335	339
32	238	271	302	316
34	211	240	268	295
36	188	214	239	263
38	169	192	215	237
40	152	174	194	214
42	138	158	176	194
44	126	144	161	177
46	115	131	147	162
48	106	121	135	149
50	72	111	124	137
52	65	103	115	127
54	59	95	107	117
56	53	89	99	109
58	49	81	92	102
60	45	74	86	95
62	41	66	81	89
64	38	62	76	84
66		57	70	79
68		50	64	74
70		46	59	70

## 24" Left Wall Depth

Span	Right Wall Depth			
	30"	36"	42"	48"
22	471	457	431	404
24	428	434	420	395
26	393	397	404	387
28	363	367	372	377
30	326	340	345	349
32	287	317	322	326
34	254	284	301	305
36	227	254	279	286
38	204	228	251	270
40	184	206	227	247
42	167	187	206	224
44	152	170	187	204
46	139	156	172	187
48	128	143	158	172
50	97	132	145	158
52	87	122	134	146
54	79	113	125	136
56	72	105	116	126
58	66	98	108	118
60	60	92	101	110
62	55	86	94	103
64	51	81	89	97
66	47	75	83	91
68	43	69	79	86
70	40	63	74	81

## 28" Left Wall Depth

Span	Right Wall Depth			
	34"	40"	46"	52"
22	462	439	412	385
24	441	427	403	378
26	403	408	394	371
28	372	376	381	363
30	345	349	353	353
32	322	325	329	333
34	298	304	308	312
36	266	287	290	290
38	239	263	273	269
40	216	238	259	252
42	196	216	235	239
44	178	197	214	228
46	163	180	196	211
48	150	165	180	194
50	125	152	166	179
52	113	141	153	166
54	102	131	142	154
56	93	121	132	143
58	85	113	123	133
60	77	106	115	124
62	71	99	108	117
64	65	93	101	109
66	60	87	95	103
68	56	82	90	97
70	52	78	85	91

## 32" Left Wall Depth

Span	Right Wall Depth			
	38"	44"	50"	56"
22	446	421	394	367
24	434	409	386	361
26	413	400	377	354
28	380	384	370	345
30	352	356	360	334
32	328	331	336	319
34	307	310	314	298
36	289	292	295	280
38	273	276	275	262
40	247	261	259	244
42	225	245	246	229
44	205	223	234	217
46	187	204	220	207
48	172	187	202	198
50	157	173	187	189
52	141	160	173	181
54	128	148	160	171
56	116	138	149	159
58	106	128	139	149
60	97	120	130	139
62	89	112	121	130
64	82	106	114	122
66	75	99	107	115
68	70	93	101	108
70	64	88	95	102

## 36" Left Wall Depth

Span	Right Wall Depth			
	42"	48"	54"	60"
22	428	400	375	350
24	417	392	369	345
26	407	384	361	336
28	388	377	352	324
30	360	364	341	311
32	334	337	327	293
34	312	315	307	277
36	294	297	287	262
38	277	280	267	248
40	262	265	250	229
42	249	252	235	186
44	231	239	223	177
46	211	228	212	168
48	194	210	203	161
50	179	193	194	154
52	165	179	186	147
54	153	166	178	142
56	141	154	165	136
58	129	144	154	131
60	118	134	144	126
62	108	126	135	122
64	99	118	126	118
66	92	111	119	114
68	85	105	112	111
70	78	99	106	107

## 40" Left Wall Depth

Span	Right Wall Depth			
	46"	52"	58"	64"
22	409	382	357	334
24	400	375	350	326
26	391	368	344	314
28	382	360	334	300
30	366	351	320	282
32	340	336	305	266
34	317	313	288	251
36	298	292	272	234
38	281	272	256	198
40	266	253	240	187
42	252	240	223	177
44	240	228	182	168
46	229	217	173	160
48	216	208	165	153
50	199	199	158	146
52	184	190	152	140
54	171	183	145	134
56	159	170	140	129
58	148	159	135	124
60	138	148	130	120
62	129	139	125	116
64	118	130	121	112
66	109	123	117	108
68	101	116	114	105
70	93	109	110	102

Other depth combinations are available (minimum wall depth = 20"; maximum wall depth = 60"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.

## 24" Left Wall Depth

Span	Right Wall Depth			
	26"	32"	38"	44"
30	438	462	464	465
32	370	441	443	444
34	316	397	420	424
36	272	355	396	399
38	236	319	357	377
40	206	288	322	356
42	182	261	292	323
44	161	238	267	294
46	143	218	244	269
48	128	200	224	247
50	115	184	207	228
52	104	171	191	211
54	94	157	177	196
56	86	141	165	182
58	78	127	154	170
60	72	115	144	159
62	66	104	133	149
64	61	100	121	139
66	56	70	113	131
68	52	65	101	124
70	48	60	96	115

## 30" Left Wall Depth

Span	Right Wall Depth		
	36"	42"	48"
30	473	471	461
32	458	457	448
34	432	437	437
36	407	411	415
38	385	388	392
40	353	368	371
42	321	349	352
44	292	322	335
46	268	295	320
48	246	271	295
50	199	250	272
52	180	231	252
54	163	214	233
56	148	199	217
58	135	186	202
60	124	174	189
62	113	163	177
64	104	153	166
66	96	144	156
68	89	135	147
70	83	128	139

## 36" Left Wall Depth

Span	Right Wall Depth			
	42"	48"	54"	60"
30	470	459	443	424
32	457	447	433	415
34	444	437	424	408
36	419	423	415	401
38	396	399	403	394
40	375	378	381	385
42	357	359	362	365
44	340	342	345	347
46	324	326	329	331
48	300	312	314	316
50	273	299	301	303
52	247	277	289	290
54	224	257	277	279
56	203	239	257	269
58	186	223	240	256
60	170	209	224	240
62	156	195	210	224
64	143	183	197	211
66	132	172	185	198
68	122	162	175	187
70	113	153	165	176

## 42" Left Wall Depth

Span	Right Wall Depth			
	48"	54"	60"	66"
30	458	441	423	404
32	447	432	415	396
34	436	423	408	390
36	426	415	400	384
38	406	407	393	378
40	384	387	386	373
42	364	367	370	367
44	347	349	352	355
46	331	333	336	338
48	317	318	321	323
50	303	305	307	308
52	291	293	295	292
54	280	281	283	281
56	260	271	272	270
58	242	260	262	260
60	221	243	253	251
62	203	228	243	242
64	187	214	228	234
66	172	201	214	227
68	159	190	202	214
70	148	179	191	202

## 48" Left Wall Depth

Span	Right Wall Depth			
	54"	60"	66"	72"
30	440	421	402	383
32	431	414	396	377
34	422	407	390	372
36	414	400	383	367
38	406	392	376	362
40	392	385	371	356
42	373	375	365	346
44	353	356	355	334
46	337	339	339	320
48	322	324	323	307
50	308	310	307	294
52	296	298	294	282
54	284	286	281	270
56	274	275	271	257
58	264	265	261	248
60	255	256	252	239
62	245	247	243	231
64	230	239	235	223
66	216	230	228	216
68	200	217	221	209
70	186	205	214	203

## 54" Left Wall Depth

Span	Right Wall Depth		
	60"	66"	72"
30	419	399	382
32	411	393	377
34	404	387	370
36	397	382	364
38	391	376	360
40	384	371	355
42	377	365	346
44	360	356	334
46	344	340	320
48	327	325	307
50	313	310	294
52	300	295	281
54	288	283	269
56	278	272	258
58	267	262	248
60	258	253	239
62	249	244	231
64	241	236	223
66	233	229	216
68	226	222	209
70	218	215	203

Other depth combinations are available (minimum wall depth = 24"; maximum wall depth = 72"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. **Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.**
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 7,400 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.



## 14" Wall Depth

Span	Depth at Ridge								
	18"	22"	26"	30"	34"	38"	42"	46"	50"
22	183	216	246	273	287	291	280	280	245
24	157	188	217	240	266	266	270	245	245
26	137	165	187	205	230	243	233	233	211
28	118	146	163	184	202	211	225	211	211
30	104	126	144	162	183	190	195	200	183
32	94	111	130	144	159	167	176	177	162
34	83	98	114	131	146	154	159	159	162
36	73	89	103	116	129	136	143	152	143
38	62	78	92	103	115	127	134	135	141
40	53	71	82	94	104	114	120	129	127
42		63	77	87	95	103	110	118	114
44		55	71	80	90	95	102	106	112
46		48	63	73	82	87	95	99	102
48		43	56	67	75	79	86	93	93
50			49	62	69	73	79	87	89
52			44	56	64	71	73	79	82
54			39	50	60	65	69	73	78
56				45	55	61	66	69	72
58				40	49	57	60	67	68
60				36	45	53	58	63	64
62					40	49	54	56	60
64					37	44	51	53	56
66						40	48	49	53
68						37	44	49	51
70							40	45	48

## 18" Wall Depth

Span	Depth at Ridge							
	22"	26"	30"	34"	38"	42"	46"	50"
22	222	256	287	295	293	281	281	254
24	193	234	254	274	274	271	254	254
26	168	199	220	239	252	244	244	216
28	150	175	191	210	219	227	214	213
30	130	151	169	187	200	202	203	192
32	114	133	149	166	176	182	184	166
34	101	119	134	153	160	168	166	166
36	90	106	121	140	143	154	156	148
38	82	94	108	125	130	139	139	142
40	74	87	98	109	121	126	130	131
42	68	80	92	100	109	115	121	117
44	62	73	83	91	99	108	112	114
46	55	65	74	83	91	98	104	105
48	49	59	68	79	83	92	95	99
50		54	62	71	77	84	90	93
52		49	57	66	73	78	82	86
54		45	50	60	69	72	77	82
56		40	49	56	63	66	71	76
58			45	52	59	61	67	72
60			41	49	55	60	63	68
62			37	46	52	57	59	64
64				42	48	53	56	61
66				38	45	50	52	56
68					41	46	50	53
70					38	44	47	50

## 22" Wall Depth

Span	Depth at Ridge						
	26"	30"	34"	38"	42"	46"	50"
22	261	294	295	292	279	279	256
24	234	260	274	274	273	260	256
26	208	231	244	253	253	248	227
28	180	196	219	229	234	222	215
30	156	173	193	205	209	197	197
32	136	152	170	183	183	187	171
34	120	143	154	164	174	167	167
36	109	124	137	147	152	157	152
38	97	115	129	138	144	142	142
40	90	104	113	122	129	131	132
42	82	94	103	112	120	122	120
44	75	84	95	102	109	111	113
46	65	75	85	98	101	105	106
48	58	68	78	87	93	96	98
50	54	63	71	80	86	89	93
52	49	57	65	73	80	84	87
54	45	53	60	68	75	79	82
56	43	49	56	64	70	74	76
58		45	52	59	65	69	72
60		43	49	55	61	65	67
62		41	44	52	57	61	64
64		38	43	49	54	57	60
66			41	46	50	54	57
68			39	44	48	51	54
70				41	45	48	51

## 26" Wall Depth

Span	Depth at Ridge					
	30"	34"	38"	42"	46"	50"
22	293	294	290	277	277	258
24	274	274	274	271	259	258
26	228	253	253	236	236	236
28	202	235	235	226	226	200
30	185	196	212	212	199	199
32	164	176	189	187	187	178
34	138	156	174	175	170	168
36	126	147	152	156	158	154
38	112	126	138	145	143	138
40	103	115	124	131	131	133
42	96	106	116	121	123	123
44	84	94	105	109	112	114
46	75	85	95	101	105	107
48	68	78	88	93	96	99
50	62	72	80	86	89	94
52	57	66	74	80	85	87
54	53	61	68	75	78	82
56	49	56	63	70	74	76
58	46	52	59	65	69	72
60	43	49	55	61	64	68
62	41	46	52	58	61	64
64	39	44	49	54	58	60
66		41	46	51	54	57
68		39	44	48	51	54
70		38	42	45	49	51

## 30" Wall Depth

Span	Depth at Ridge				
	34"	38"	42"	46"	50"
22	293	274	274	259	259
24	273	274	259	259	259
26	253	253	253	238	238
28	235	235	227	227	200
30	195	219	213	203	200
32	175	190	190	189	183
34	160	170	175	172	167
36	145	155	160	158	154
38	127	140	145	144	142
40	115	127	133	133	133
42	106	115	119	121	124
44	95	105	109	114	113
46	85	95	102	104	107
48	79	88	93	97	100
50	72	80	85	91	92
52	66	73	80	83	87
54	61	68	75	78	82
56	56	63	71	74	77
58	52	58	65	70	72
60	49	55	61	65	68
62	46	52	58	61	64
64	45	49	54	58	60
66	37	46	51	54	57
68		43	48	51	55
70		42	45	49	51

## 34" Wall Depth

Span	Depth at Ridge			
	38"	42"	46"	50"
22	274	273	257	247
24	274	257	257	234
26	245	253	234	234
28	235	229	229	196
30	212	215	195	193
32	199	188	188	176
34	166	174	171	156
36	156	161	155	155
38	139	145	145	143
40	128	134	132	132
42	118	121	121	122
44	105	110	111	114
46	95	102	104	107
48	89	93	96	98
50	80	86	91	92
52	74	81	84	88
54	68	75	79	82
56	63	70	74	77
58	59	65	69	72
60	55	61	65	68
62	52	57	61	65
64	49	54	58	60
66	46	51	54	57
68	44	48	51	55
70	40	46	49	51

Other depth combinations are available (minimum wall depth = 14"; maximum depth at ridge = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.



# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# Pitched TJLX™ Series

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

## 14" Wall Depth

Span	Depth at Ridge							
	18"	22"	26"	30"	34"	38"	42"	46"
22	196	224	242	246	251	257	257	260
24	179	203	220	223	227	232	236	240
26	153	185	199	204	207	211	211	214
28	131	160	177	188	191	194	196	200
30	114	139	164	175	177	179	179	180
32	100	122	142	156	165	167	168	168
34	91	108	126	143	154	156	156	159
36	79	96	113	127	143	141	147	142
38	67	86	100	115	129	136	138	141
40	57	78	91	103	115	122	123	126
42		68	82	93	105	114	120	120
44		59	75	85	97	104	109	113
46		52	68	78	87	95	104	103
48		46	60	71	80	88	96	99
50			53	66	74	81	89	92
52			47	60	68	75	82	85
54			42	53	63	69	76	82
56			38	48	59	65	70	77
58				43	53	60	66	71
60				39	48	56	61	66
62					43	52	57	62
64					39	47	54	59
66						43	51	55
68						39	47	52
70						36	43	49

## 18" Wall Depth

Span	Depth at Ridge							
	22"	26"	30"	34"	38"	42"	46"	50"
22	239	242	247	251	257	263	265	265
24	217	220	224	227	231	236	241	242
26	194	201	204	208	211	215	219	223
28	164	186	188	191	194	197	200	199
30	143	168	175	177	179	182	184	188
32	125	150	163	165	167	169	171	170
34	113	131	149	154	156	158	160	161
36	101	117	135	145	146	148	150	151
38	90	105	120	134	138	139	141	142
40	80	96	108	121	130	132	133	134
42	74	87	98	109	122	125	126	127
44	67	79	89	99	110	119	119	121
46	60	72	81	92	101	109	114	115
48	53	66	74	84	92	100	105	105
50		61	70	78	85	92	101	102
52		54	65	71	79	85	93	94
54		48	59	66	73	79	87	92
56		43	54	61	68	73	80	85
58			49	57	62	69	75	79
60			44	53	60	64	69	74
62			40	49	55	60	65	70
64			36	45	52	57	61	65
66				41	49	53	57	62
68				37	44	50	54	58
70					41	48	51	55

## 22" Wall Depth

Span	Depth at Ridge						
	26"	30"	34"	38"	42"	46"	50"
22	243	246	253	258	264	265	265
24	220	223	227	232	238	242	231
26	202	204	207	212	216	220	223
28	186	188	191	194	198	201	204
30	172	174	177	179	182	185	183
32	151	163	165	167	169	172	174
34	133	152	154	156	158	160	162
36	119	137	145	146	148	150	152
38	106	123	136	138	139	141	143
40	98	110	124	130	132	133	134
42	88	100	113	124	125	126	127
44	80	91	102	114	118	120	121
46	73	84	94	104	113	114	115
48	67	78	87	95	104	109	110
50	61	71	80	88	95	102	105
52	57	66	73	81	88	96	100
54	53	61	68	75	84	89	92
56	48	58	63	71	78	83	89
58		54	59	67	72	77	83
60		49	56	62	67	73	77
62		45	52	57	62	67	72
64		41	49	53	58	63	69
66		37	45	50	54	61	65
68			41	48	52	57	60
70			38	45	50	54	57

## 26" Wall Depth

Span	Depth at Ridge					
	30"	34"	38"	42"	46"	50"
22	265	265	265	265	265	265
24	242	242	242	242	242	242
26	224	224	224	224	224	224
28	208	208	208	208	208	208
30	194	194	194	194	194	194
32	177	182	182	182	182	182
34	155	171	171	171	171	171
36	138	156	162	162	162	162
38	125	140	153	153	153	153
40	113	126	143	146	146	146
42	102	117	127	137	139	134
44	92	106	116	126	129	132
46	86	96	106	115	122	123
48	78	87	97	107	113	114
50	72	81	91	100	104	108
52	66	75	84	92	100	101
54	62	69	78	85	92	96
56	58	65	72	79	85	89
58	54	61	67	73	79	85
60	50	56	62	68	74	78
62	47	53	58	65	70	76
64	44	50	56	60	65	71
66		47	52	57	62	66
68		44	49	53	58	62
70		41	46	50	54	58

## 30" Wall Depth

Span	Depth at Ridge				
	34"	38"	42"	46"	50"
22	265	265	265	265	265
24	242	242	242	242	242
26	224	224	224	224	224
28	208	208	208	208	208
30	194	194	194	194	194
32	181	182	182	182	182
34	171	171	171	171	171
36	158	161	161	162	162
38	144	153	153	153	153
40	128	143	146	146	146
42	119	129	139	139	139
44	107	118	128	130	132
46	96	108	121	122	125
48	89	101	110	114	115
50	82	91	100	104	109
52	75	85	92	100	103
54	70	78	85	92	94
56	66	72	80	85	89
58	61	67	74	80	85
60	57	63	69	76	79
62	52	60	65	71	76
64	51	56	61	66	71
66	40	52	57	63	67
68	37	50	54	59	63
70		47	52	56	61

## 34" Wall Depth

Span	Depth at Ridge			
	38"	42"	46"	50"
22	265	265	265	265
24	242	242	242	239
26	224	224	224	224
28	208	208	208	208
30	194	194	194	194
32	182	182	182	182
34	171	171	171	171
36	162	162	162	162
38	150	153	153	153
40	144	146	146	146
42	131	133	134	139
44	119	128	128	127
46	109	118	125	123
48	99	108	113	115
50	92	101	104	110
52	85	94	98	103
54	79	87	93	95
56	74	81	86	89
58	68	76	81	84
60	64	70	76	79
62	60	66	71	74
64	56	62	67	71
66	51	58	63	67
68	47	55	60	63
70	43	52	56	61

Other depth combinations are available (minimum wall depth = 14"; maximum depth at ridge = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. **Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.**
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.

## 14" Wall Depth

Span	Depth at Ridge								
	18"	22"	26"	30"	34"	38"	42"	46"	50"
22	241	280	319	329	329	344	347	354	315
24	208	248	281	295	303	306	317	315	315
26	179	216	244	270	275	282	282	293	268
28	156	186	215	242	254	259	266	253	234
30	136	164	190	213	232	240	235	230	230
32	121	143	166	189	208	220	218	216	206
34	108	127	147	168	187	201	203	195	192
36	97	112	130	148	166	178	186	190	184
38	84	100	116	132	149	162	173	175	180
40	72	91	106	120	134	145	154	166	165
42		85	97	111	123	133	144	152	148
44		75	89	101	114	123	131	140	140
46		66	81	92	102	112	121	129	133
48		58	73	83	93	102	110	118	125
50			67	77	85	94	102	109	117
52			60	74	79	87	95	102	109
54			53	67	73	80	87	94	101
56			48	61	68	74	81	88	94
58				55	63	70	76	82	88
60				49	59	65	71	76	82
62				45	55	61	66	72	77
64				41	50	59	63	68	73
66				37	46	55	59	64	69
68					42	50	58	60	66
70							54	59	63

## 18" Wall Depth

	Depth at Ridge							
Span	22"	26"	30"	34"	38"	42"	46"	50"
22	292	328	346	352	353	365	353	328
24	254	286	314	317	324	324	325	309
26	217	253	281	290	296	300	294	284
28	191	221	249	268	270	270	274	261
30	169	196	222	246	251	255	249	249
32	149	174	196	214	223	224	232	215
34	133	153	175	196	209	214	214	214
36	119	136	155	174	188	198	193	192
38	107	122	138	156	170	181	181	181
40	95	112	127	141	152	164	167	169
42	88	102	116	130	141	151	156	152
44	80	92	106	119	129	138	145	146
46	71	83	95	106	117	127	134	136
48	65	76	87	97	106	116	123	127
50		69	80	89	98	107	115	120
52		64	74	82	91	99	106	111
54		59	68	77	84	92	99	106
56		55	63	71	78	85	92	99
58			58	67	72	80	86	92
60			56	63	68	75	80	86
62			51	59	64	70	76	81
64			46	56	60	66	71	76
66			42	51	59	64	69	73
68			39	47	56	61	65	69
70				43	52	57	62	66

## 22" Wall Depth

Span	Depth at Ridge						
	26"	30"	34"	38"	42"	46"	50"
22	340	350	351	363	366	351	327
24	298	318	323	326	326	334	321
26	257	282	296	298	301	297	297
28	225	254	272	277	277	279	267
30	199	225	251	251	260	254	254
32	177	200	224	236	236	236	223
34	158	179	201	216	223	215	212
36	140	160	179	194	197	199	199
38	125	143	160	175	187	185	184
40	115	131	147	159	167	169	170
42	105	120	135	147	155	157	156
44	96	108	122	133	141	144	147
46	83	96	109	120	131	135	137
48	75	88	100	110	120	124	126
50	70	81	92	101	111	115	120
52	66	74	84	94	102	109	112
54	62	68	78	86	94	101	104
56	58	63	72	81	88	94	98
58		59	67	75	82	89	92
60		56	63	70	77	83	87
62		54	59	66	72	78	83
64		50	57	63	70	75	77
66		47	53	59	66	70	73
68		43	51	57	62	67	70
70		39	48	53	58	63	66

## 26" Wall Depth

Span	Depth at Ridge					
	30"	34"	38"	42"	46"	50"
22	356	360	366	366	357	330
24	323	327	332	335	335	327
26	290	300	303	307	305	305
28	259	277	279	279	286	261
30	228	251	256	261	257	256
32	203	222	239	239	241	233
34	182	203	218	226	221	217
36	162	181	200	203	203	198
38	146	162	179	188	185	180
40	133	149	164	167	169	171
42	122	137	149	153	157	159
44	108	122	135	140	146	146
46	96	109	124	130	136	138
48	88	101	112	120	124	129
50	80	92	103	113	116	119
52	74	85	95	103	109	112
54	69	78	88	96	101	105
56	63	72	81	90	95	98
58	59	67	76	84	89	93
60	56	63	71	79	83	87
62	54	59	67	74	78	83
64	51	56	63	70	74	78
66	39	53	59	65	69	74
68		51	57	62	66	70
70		47	54	59	63	66

## 30" Wall Depth

Span	Depth at Ridge				
	34"	38"	42"	46"	50"
22	364	366	366	360	332
24	331	334	334	335	331
26	303	306	310	307	307
28	279	282	284	287	257
30	252	260	264	261	257
32	228	241	243	243	225
34	205	219	220	217	216
36	181	198	202	203	199
38	163	180	189	186	185
40	148	164	171	171	172
42	137	150	153	159	159
44	122	136	141	145	146
46	110	122	132	134	137
48	101	114	121	125	129
50	92	103	110	117	118
52	85	94	104	110	112
54	78	88	97	101	106
56	72	81	91	95	99
58	67	75	84	89	93
60	63	71	79	83	88
62	59	67	74	79	83
64	56	63	69	74	78
66	51	59	66	70	74
68	47	58	62	66	70
70	43	54	59	63	66

## 34" Wall Depth

Span	Depth at Ridge			
	38"	42"	46"	50"
22	366	366	358	353
24	326	335	323	307
26	309	308	307	307
28	275	280	273	259
30	263	265	259	259
32	238	240	245	235
34	221	223	223	208
36	201	200	200	200
38	180	185	187	184
40	165	172	173	170
42	151	155	156	157
44	135	142	143	146
46	123	131	134	139
48	114	119	125	127
50	103	110	117	119
52	95	104	108	112
54	87	97	102	106
56	82	91	96	99
58	76	84	88	93
60	71	79	83	88
62	67	74	79	82
64	63	70	75	78
66	59	66	70	74
68	58	62	66	71
70	53	60	63	66

Other depth combinations are available (minimum wall depth = 14"; maximum depth at ridge = 50"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - no-notch bearing clips with 2<sup>3</sup>/<sub>4</sub>" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.

# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# Pitched TJS™ Series

## 16" Wall Depth

Span	Depth at Ridge							
	28"	32"	36"	40"	44"	48"	52"	56"
20	451	455	459	463	468	425	408	377
22	406	409	409	416	421	425	408	377
24	368	372	375	378	381	385	389	377
26	335	342	344	344	348	348	354	359
28	292	316	317	319	322	323	327	328
30	251	285	295	297	299	300	302	304
32	221	251	276	277	278	280	281	284
34	196	221	247	259	261	262	263	265
36	175	198	220	242	246	246	248	248
38	157	177	197	217	231	233	234	234
40	142	160	180	196	213	220	221	222
42	128	145	162	177	192	209	210	211
44	117	132	147	162	177	190	195	196
46	106	121	135	148	161	174	182	188
48	93	111	123	135	148	160	168	177
50	83	102	114	125	136	147	157	163
52	74	92	105	115	125	135	146	154
54	66	82	98	107	117	125	135	142
56	59	74	90	100	108	117	125	135
58	53	67	81	93	101	109	116	126
60	48	60	73	87	94	102	109	116
62	44	55	67	79	88	96	102	110
64	40	50	61	72	83	89	96	102
66		45	55	66	77	84	90	96
68		42	51	60	71	79	85	90
70		38	46	56	65	75	80	86

## 20" Wall Depth

Span	Depth at Ridge							
	28"	32"	36"	40"	44"	48"	52"	56"
20	463	464	471	473	477	432	437	441
22	418	419	423	426	428	432	437	441
24	381	381	384	387	389	391	391	399
26	348	350	351	355	356	358	361	364
28	300	324	324	327	329	330	332	334
30	261	296	301	303	305	306	307	309
32	229	259	281	282	285	286	287	288
34	203	230	256	265	267	268	269	269
36	181	205	228	249	251	252	253	253
38	162	184	205	226	236	236	239	239
40	146	166	185	203	222	225	226	226
42	133	151	168	186	201	213	215	215
44	121	137	153	170	184	198	204	205
46	111	125	140	154	167	181	188	195
48	103	115	128	141	154	167	179	182
50	93	106	118	130	142	153	164	170
52	82	98	109	120	131	141	152	158
54	74	91	102	112	121	131	141	151
56	66	83	94	104	113	122	131	140
58	60	74	88	97	105	114	122	131
60	54	67	82	90	98	106	114	121
62	49	61	74	85	92	99	107	114
64	45	56	67	79	86	93	100	107
66		51	62	73	81	88	94	100
68		47	56	67	77	83	89	95
70		43	52	62	72	78	84	89

## 24" Wall Depth

Span	Depth at Ridge							
	28"	32"	36"	40"	44"	48"	52"	56"
20	472	477	482	484	487	440	445	450
22	426	429	429	435	437	440	445	450
24	387	388	393	395	397	399	400	406
26	353	356	359	362	363	365	365	365
28	299	329	331	334	335	336	338	338
30	267	303	308	309	311	312	313	314
32	233	258	286	289	290	291	292	292
34	206	236	264	270	272	272	273	274
36	186	210	236	254	255	256	257	258
38	167	190	212	235	241	242	242	243
40	151	172	193	212	226	229	229	230
42	137	156	175	192	207	217	218	218
44	125	142	159	174	190	200	207	208
46	113	129	146	159	175	187	194	198
48	105	119	133	147	160	174	181	188
50	95	110	123	136	148	158	171	176
52	88	101	114	125	137	146	159	164
54	81	94	105	115	126	136	147	155
56	73	88	98	107	117	126	137	146
58	66	81	90	101	110	117	128	136
60	60	74	86	94	102	110	119	126
62	54	67	80	88	95	103	111	118
64	49	61	74	82	89	96	104	110
66		56	67	77	84	91	96	104
68		51	62	72	80	87	92	98
70		47	57	67	75	81	86	92

## 28" Wall Depth

Span	Depth at Ridge							
	36"	40"	44"	48"	52"	56"	60"	64"
20	490	490	493	449	452	412	410	410
22	440	444	447	449	452	412	410	410
24	397	402	405	407	409	412	410	378
26	364	367	370	372	373	373	376	378
28	336	338	341	342	344	344	338	338
30	312	314	316	317	318	320	318	318
32	287	291	294	296	297	298	299	298
34	269	273	275	277	278	277	277	280
36	230	256	259	260	261	262	259	259
38	217	236	243	245	246	247	247	242
40	194	217	230	232	233	234	234	234
42	176	195	212	220	221	221	221	221
44	161	177	193	205	207	211	210	210
46	147	164	177	194	200	200	201	200
48	135	149	162	178	186	192	191	191
50	124	139	150	163	176	178	180	180
52	115	127	139	151	163	169	174	175
54	107	119	128	140	151	158	163	164
56	99	109	121	131	140	150	154	157
58	92	104	112	121	130	138	144	147
60	86	97	105	113	122	131	135	140
62	81	91	98	107	114	123	128	132
64	76	84	93	100	106	115	120	125
66	71	79	86	92	100	108	113	118
68	67	74	81	89	95	101	107	112
70	61	70	76	84	89	95	101	106

## 32" Wall Depth

Span	Depth at Ridge							
	40"	44"	48"	52"	56"	60"	64"	68"
20	492	498	451	449	412	405	405	382
22	447	447	451	449	412	405	405	382
24	409	410	412	414	412	389	389	379
26	372	375	376	378	380	386	389	357
28	344	344	344	347	349	351	354	357
30	319	320	321	322	323	322	322	321
32	296	298	298	300	301	302	296	274
34	278	279	280	280	280	282	283	274
36	256	263	263	264	260	260	260	262
38	242	243	245	249	249	249	239	239
40	212	232	235	235	235	236	234	234
42	199	214	218	223	223	223	223	221
44	180	198	205	210	213	212	212	207
46	166	181	197	202	200	203	199	199
48	152	167	182	187	192	193	193	188
50	141	152	166	176	182	185	184	179
52	130	143	154	164	171	176	169	168
54	121	131	142	154	160	166	166	161
56	110	121	133	142	150	156	156	153
58	103	113	123	132	141	147	150	145
60	97	105	116	124	133	139	143	138
62	91	99	109	116	125	131	136	132
64	85	93	102	109	116	124	126	125
66	80	87	95	103	111	116	121	120
68	75	82	89	97	104	109	115	113
70	71	78	84	91	98	104	109	108

## 36" Wall Depth

Span	Depth at Ridge							
	44"	48"	52"	56"	60"	64"	68"	72"
20	448	447	415	415	407	407	376	376
22	448	447	415	415	407	407	376	376
24	414	414	414	415	384	376	376	376
26	378	379	384	384	384	360	343	343
28	346	349	353	356	359	360	327	318
30	322	323	324	324	331	333	327	316
32	299	301	302	305	305	283	281	281
34	279	279	281	285	287	283	266	255
36	264	265	265	266	266	267	266	255
38	248	250	250	250	246	241	241	239
40	233	233	234	237	239	233	220	220
42	219	221	221	221	223	227	220	200
44	199	212	211	214	208	206	206	202
46	183	199	202	202	204	199	190	191
48	170	183	191	193	192	190	189	176
50	156	168	182	186	182	180	179	171
52	145	155	167	173	179	174	169	163
54	133	144	155	163	167	166	161	155
56	123	134	145	152	159	157	153	145
58	115	125	136	144	149	144	146	140
60	107	116	127	135	139	143	138	134
62	100	109	118	126	132	136	132	128
64	94	102	109	118	125	128	125	120
66	89	96	104	111	118	122	120	116
68	83	91	98	104	112	117	114	110
70	79	85	92	98	105	111	108	106

## 20" Wall Depth

Span	Depth at Ridge				
	24"	36"	48"	60"	72"
30	282	338	338	338	368
32	248	318	318	318	338
34	219	304	304	304	321
36	196	283	283	283	294
38	176	264	272	272	272
40	160	238	264	253	253
42	145	215	250	240	240
44	127	196	236	226	226
46	111	179	225	215	215
48	98	165	215	222	211
50	87	152	198	212	207
52	77	140	183	204	202
54	69	130	169	193	198
56	62	121	157	187	192
58	56	111	147	180	181
60	50	101	137	167	177
62	46	91	129	157	172
64	41	83	121	147	166
66		76	114	138	158
68		69	107	130	154
70		64	101	123	144
72		58	95	116	136
74		54	88	110	129
76		50	81	104	122
78		46	75	99	116
80		43	70	94	110

## 24" Wall Depth

Span	Depth at Ridge				
	28"	40"	52"	64"	
30	338	348	348	361	
32	297	324	327	327	
34	263	302	302	302	
36	235	294	294	294	
38	210	281	281	281	
40	190	261	261	261	
42	173	246	246	246	
44	157	224	245	245	
46	144	205	235	235	
48	132	188	224	224	
50	123	173	211	211	
52	113	160	204	211	
54	101	148	189	198	
56	90	138	175	191	
58	81	129	164	182	
60	73	120	153	180	
62	67	113	143	173	
64	61	106	135	161	
66	41	99	126	152	
68	38	92	119	143	
70		84	112	135	
72		78	106	128	
74		71	101	121	
76		66	95	115	
78		61	90	109	
80		56	86	103	

## 28" Wall Depth

Span	Depth at Ridge				
	32"	44"	56"	68"	
30	358	358	368	390	
32	331	331	331	352	
34	308	310	322	322	
36	275	290	290	293	
38	245	274	284	283	
40	221	270	260	258	
42	201	256	256	256	
44	183	241	241	241	
46	167	230	228	228	
48	154	213	228	207	
50	142	194	218	207	
52	131	179	210	202	
54	121	166	198	202	
56	113	155	194	195	
58	107	144	181	189	
60	100	135	168	180	
62	92	126	157	173	
64	83	118	148	166	
66	57	111	139	161	
68	52	105	131	156	
70	48	99	123	147	
72	44	94	117	139	
74	40	89	111	131	
76	37	84	105	125	
78		78	99	118	
80		72	95	112	

## 32" Wall Depth

Span	Depth at Ridge				
	36"	48"	60"	72"	
30	347	364	369	414	
32	325	338	354	374	
34	315	316	328	328	
36	297	297	308	308	
38	281	281	289	289	
40	255	263	268	268	
42	231	261	258	254	
44	211	248	248	248	
46	192	234	232	215	
48	177	224	221	201	
50	164	216	220	201	
52	150	200	209	195	
54	140	184	202	195	
56	131	171	196	195	
58	122	160	187	191	
60	114	149	178	186	
62	106	140	172	177	
64	99	131	162	169	
66	75	123	151	168	
68	69	116	143	158	
70	63	110	135	154	
72	58	104	127	150	
74	53	98	120	142	
76	49	93	114	136	
78	45	88	108	127	
80	42	85	103	121	

## 36" Wall Depth

Span	Depth at Ridge			
	40"	52"	64"	
30	353	371	396	
32	330	344	362	
34	310	321	322	
36	305	305	313	
38	286	286	294	
40	269	269	277	
42	259	259	262	
44	235	241	248	
46	214	239	239	
48	199	230	225	
50	184	221	214	
52	170	208	208	
54	158	202	205	
56	147	190	198	
58	137	177	192	
60	128	163	184	
62	119	154	176	
64	112	145	169	
66	96	137	164	
68	87	129	154	
70	80	121	145	
72	74	115	137	
74	68	109	130	
76	63	103	123	
78	58	98	117	
80	54	93	112	

## 40" Wall Depth

Span	Depth at Ridge			
	44"	56"	68"	
30	361	377	390	
32	335	350	350	
34	314	326	341	
36	295	306	319	
38	279	287	298	
40	277	277	281	
42	262	262	265	
44	248	248	251	
46	238	238	239	
48	219	222	227	
50	202	221	221	
52	187	213	208	
54	174	205	205	
56	162	195	200	
58	151	190	193	
60	141	180	183	
62	132	167	180	
64	124	157	173	
66	116	147	166	
68	108	138	160	
70	99	131	157	
72	91	123	148	
74	84	117	140	
76	78	111	133	
78	72	105	126	
80	67	100	120	

## 44" Wall Depth

Span	Depth at Ridge			
	48"	60"	72"	
30	366	372	363	
32	341	355	330	
34	318	331	303	
36	307	323	303	
38	282	291	291	
40	266	286	286	
42	263	271	271	
44	252	256	256	
46	241	242	250	
48	230	233	233	
50	219	225	215	
52	207	215	210	
54	192	203	209	
56	177	196	200	
58	167	190	195	
60	156	184	188	
62	145	175	179	
64	137	171	175	
66	128	159	168	
68	122	149	162	
70	113	142	157	
72	108	135	153	
74	102	128	149	
76	94	121	142	
78	87	114	135	
80	81	108	129	

Other depth combinations are available (minimum wall depth = 20"; maximum wall depth = 60"; maximum depth at ridge = 72"). Use the TJ-Beam® software program or contact your Trus Joist representative for assistance in sizing other depths.

1. **Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.**
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 25% ratio of dead load to total load (eg.: 30 psf live/10 psf dead). **These tables may be non-conservative if the actual ratio is higher than 25%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses (maximum bottom chord slope of 1"/12") with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs.
5. Contact your Trus Joist representative for possible repetitive member usage increase where the criteria on page 9.7 are met.

# Load Tables/Snow (115%)

Allowable Uniform Load (plf)

# Pitched TJH™ Series

## 24" Wall Depth

Span	Depth at Ridge					
	30"	42"	54"	66"	78"	90"
42	281	382	391	400	415	424
44	256	360	371	379	391	408
46	236	321	352	365	373	381
48	216	304	336	347	354	366
50	192	281	326	331	342	344
52	171	261	306	317	322	331
54	153	242	299	304	308	318
56	137	225	268	291	296	300
58	123	210	259	280	284	292
60	111	195	247	270	277	280
62	101	184	231	264	267	270
64	92	168	219	240	257	260
66	83	153	205	246	248	251
68	76	139	194	220	244	246
70	70	128	182	212	232	238
72	64	117	172	205	222	230
74	59	108	162	194	222	223
76	55	100	153	186	215	216
78	51	92	143	177	193	210
80	47	86	133	168	188	204
82	43	79	124	159	184	199
84	40	74	116	151	175	193
86	38	69	107	145	167	191
88		64	100	138	161	176
90		60	94	132	154	168
92		56	88	124	147	166
94		53	82	117	141	159
96		49	77	109	135	152
98		46	73	103	129	146
100		44	68	97	124	141

## 30" Wall Depth

Span	Depth at Ridge					
	36"	48"	60"	72"	84"	96"
42	349	409	413	427	438	437
44	328	389	389	405	409	411
46	292	368	371	383	394	401
48	275	354	354	367	374	383
50	249	333	345	352	357	365
52	229	307	314	335	343	346
54	213	285	310	322	328	335
56	199	271	307	310	315	320
58	186	253	286	299	304	309
60	173	230	281	285	293	298
62	162	216	247	277	283	286
64	147	204	239	269	274	276
66	134	192	227	252	263	268
68	122	180	217	250	254	255
70	112	170	208	243	246	250
72	103	160	198	227	238	242
74	95	153	188	222	233	235
76	88	144	178	207	227	228
78	81	134	168	194	219	222
80	75	124	160	184	213	216
82	70	115	152	180	207	211
84	65	107	145	172	197	205
86	60	99	139	164	186	201
88	56	92	132	156	170	190
90	53	87	127	150	166	188
92	49	81	119	143	164	185
94	46	76	111	137	157	176
96	43	71	105	131	151	170
98		67	98	126	144	153
100		63	92	121	139	151

## 36" Wall Depth

Span	Depth at Ridge					
	42"	54"	66"	78"	90"	102"
42	401	410	410	426	436	435
44	381	389	389	406	411	399
46	347	372	372	389	397	398
48	324	355	362	369	378	380
50	297	339	347	355	358	361
52	282	325	329	338	345	347
54	255	307	316	319	330	337
56	238	302	307	309	318	323
58	226	286	294	299	307	311
60	206	258	285	288	293	296
62	192	253	273	278	283	288
64	181	237	267	267	273	279
66	171	223	257	257	265	268
68	161	208	250	250	257	260
70	152	196	237	239	246	251
72	144	187	223	225	242	245
74	137	176	203	225	235	233
76	128	166	197	224	228	226
78	119	158	189	206	219	222
80	110	150	180	206	214	216
82	102	143	171	201	208	211
84	95	136	163	182	203	205
86	88	130	157	173	198	200
88	83	124	150	170	193	195
90	77	118	143	168	183	190
92	72	110	138	159	181	186
94	68	103	132	153	173	178
96	64	97	126	146	167	175
98	45	91	121	141	155	174
100	42	86	116	135	149	170

## 42" Wall Depth

Span	Depth at Ridge					
	48"	60"	72"	84"	96"	108"
42	405	415	415	435	417	407
44	385	395	395	410	417	407
46	367	377	383	392	401	397
48	345	353	358	367	383	372
50	332	340	348	348	363	366
52	321	321	335	341	348	355
54	291	310	323	327	330	340
56	263	301	310	310	320	323
58	257	286	299	299	304	314
60	241	282	282	287	296	301
62	231	273	271	277	285	285
64	213	261	262	270	272	277
66	204	250	254	262	265	270
68	192	221	245	255	257	262
70	178	223	238	238	249	254
72	168	213	234	234	235	245
74	158	198	226	229	235	238
76	151	191	218	223	228	231
78	143	179	212	212	216	221
80	136	170	195	205	216	215
82	129	163	181	206	206	209
84	123	155	185	200	200	203
86	117	148	176	196	196	200
88	112	141	168	192	192	195
90	106	135	159	183	184	190
92	100	129	153	166	182	185
94	94	123	146	158	180	181
96	88	118	141	156	174	178
98	82	113	135	149	169	174
100	58	109	130	149	167	170

## 48" Wall Depth

Span	Depth at Ridge					
	54"	66"	78"	90"	102"	114"
56	297	304	310	309	323	324
58	290	294	299	299	307	316
60	268	283	288	293	298	301
62	255	273	278	278	288	293
64	246	264	269	274	277	282
66	233	256	259	265	265	268
68	214	247	251	257	257	261
70	203	242	244	248	248	254
72	191	235	237	240	240	247
74	183	222	230	233	233	240
76	176	205	223	227	228	226
78	167	200	216	220	220	225
80	155	190	213	214	214	220
82	149	184	207	210	210	214
84	141	176	202	202	204	204
86	135	164	193	197	198	198
88	129	157	180	194	195	195
90	123	151	176	189	190	190
92	118	146	168	180	180	185
94	113	140	161	179	179	181
96	108	132	157	175	177	176
98	82	127	151	168	173	172
100	77	121	145	161	170	168
102	72	117	136	155	165	165
104	68	112	132	149	163	163
106	64	108	129	143	160	159
108	61	104	122	138	156	156
110	58	100	118	133	150	150
112	54	97	113	128	142	148
114	52	94	109	125	137	143
116	49	90	106	121	132	143
118	47	86	102	115	127	140
120	44	82	99	111	126	139

## 54" Wall Depth

Span	Depth at Ridge				
	60"	72"	84"	96"	108"
56	303	307	307	320	320
58	289	297	302	302	302
60	279	281	289	289	301
62	270	276	276	277	289
64	256	267	268	268	279
66	251	259	260	260	264
68	235	249	252	257	262
70	228	242	244	244	252
72	215	235	237	242	243
74	203	228	230	235	239
76	197	212	223	228	228
78	187	215	217	222	222
80	178	210	211	211	215
82	166	199	206	206	210
84	158	184	200	200	200
86	151	182	195	195	195
88	144	173	191	191	191
90	137	165	187	187	190
92	131	159	183	183	183
94	126	152	175	176	176
96	121	146	162	175	174
98	104	140	156	172	172
100	98	134	155	170	170
102	92	129	150	163	163
104	87	124	145	162	162
106	82	119	139	156	157
108	78	115	133	144	157
110	73	111	129	144	150
112	70	107	124	140	148
114	66	103	120	135	146
116	62	100	116	130	145
118	59	96	112	126	140
120	56	93	107	122	130

## 60" Wall Depth

Span	Depth at Ridge				
	66"	78"	90"	102"	114"
56	304	310	310	310	318
58	294	299	304	305	309
60	283	288	293	298	298
62	273	277	277	280	281
64	264	268	271	274	281
66	255	260	262	262	263
68	240	252	253	253	263
70	238	244	247	247	252
72	233	237	241	241	245
74	227	230	230	230	240
76	211	223	223	223	223
78	204	217	217	222	226
80	194	209	210	216	218
82	184	203	205	210	214
84	176	198	200	205	208
86	171	193	193	200	200
88	163	189	193	195	197
90	156	179	185	190	193
92	146	171	183	186	186
94	140	167	180	182	183
96	134	161	175	177	175
98	129	156	170	173	171
100	121	146	168	170	171
102	114	142	157	166	164
104	108	138	153	162	162
106	102	130	147	157	157
108	96	126	142	157	157
110	91	123	139	150	150
112	86	117	134	150	149
114	82	113	130	144	144
116	78	109	126	140	142
118	74	105	122	132	142
120	70	102	117	129	134



## Notes

This image shows a full page of blank graph paper. The background is a very light gray, and it is covered by a precise grid of thin, medium-gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares across the entire surface of the page. There are no margins, text, or other markings present.



Use the following method for selection of Trus Joist products for simple span, uniform load conditions.

1. Determine truss or joist span. Truss or joist span is the clear span plus the distance to the centerline of bearing at each end. See page 3.2 (TJI® joist) and 4.2 (open-web) for bearing distances.
2. Calculate loads in pounds per square foot. Live load is established by the local building code. Dead load is calculated by adding the weight of materials. See page 9.0
3. Convert psf to plf by multiplying the total load (psf) by the desired o.c. spacing in feet.  
For example, 70 psf @ 24" o.c. = 140 plf
4. In a floor application, it is necessary to check deflection as well as total load capacity. Convert live load psf to live load plf by multiplying live load times o.c. spacing.
5. Refer to load tables. Find correct span and read across to a depth where **both** the live load and total load requirements have been met.

**Note:** Loads and spans may be interpolated. Depths may be interpolated on open-web series only (For example, a 25½" TJI™ truss is possible.)

6. If none of the depths will carry the required load, refer to another Trus Joist series or reduce the o.c. spacing and repeat steps 3-5.

## Example:

- Floor in store building
- Span 25'-0" (out-to-out of 8" block walls)
- Live Load 75 psf (local building code)
- Dead Load 15 psf (weight of materials — see page 9.0)
- 24" o.c. spacing required

## Solution:

1. Determine span.  

$$25'-0'' \quad \text{out-to-out of block}$$

$$\frac{-1'-3\frac{1}{4}''}{23'-8\frac{3}{4}''} \quad \text{less 2 walls (7\frac{5}{8}'' \text{ actual})}$$

$$+ \frac{2''}{23'-10\frac{3}{4}''} \quad \text{distance to bearing (approx.)}$$

$$\text{span} - \text{use } 24'$$
2. Convert psf to plf for both live load and total load.  
 Live Load: 75 psf @ 2' o.c. = 150 plf  
 Total Load: 90 psf @ 2' o.c. = 180 plf
3. According to the load tables a 24" TJI™ truss will meet or exceed both live load and total load requirements.

## General Notes:

- For multiple span conditions on the TJI® joists, refer to Multiple Span Load Tables.
- Live load limits on floor tables are in accordance with the deflection criteria as defined on page 9.4. Total load limit on floor tables is L/240.
- **Loads shown are maximum allowable. Open-web trusses will be custom designed to specified loads.**
- See Technical Support section for deflection, camber, duration of load stress adjustments and concentrated loads.
- Any depth within the minimum and maximum shown is available in the open web series. TJI® joists are available only in the depths shown.

## A WORD ABOUT FLOOR PERFORMANCE

Floor performance is a subjective issue that is influenced by many factors. Listed below are several suggestions that may help in the design of a floor system.

- Deeper trusses or joists will reduce deflection.
- Thicker floor sheathing and/or reducing the on-center spacing of the trusses or joists will improve load sharing.
- Adhesives that permanently bond the sheathing to the trusses or joists will improve the stiffness of the floor system and will also help reduce squeaks.
- Directly applied ceilings, bridging, bottom chord strapping or full-depth blocking will improve floor performance.
- Framed partition walls, ceilings and other inherent random dead loads will dampen vibrations.
- Workmanship in the field is critical. Protection of construction materials from exposure to moisture, full truss or joist bearing, adequate and level supports, proper installation of the floor sheathing and care in the fastening (nailing, adhesives, etc.) are important details of construction.
- Poured toppings, depending on the type of topping and how it is connected to the deck surface, can have either a positive or negative effect. The perception and expectation of an end user is typically the most important variable to consider when selecting the components in a floor system.

## Nailed Floor

Depth	11 1/2		14		16		18		20		22		24		26		28		30		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
12	252	292		301		311		341		356		370		379		367		367		367	12
13	205	269		278		287		315		328		341		349		339		339		339	13
14	169	250		237		258		267		292		305		317		324		315		315	14
15	141	223	198	241		249		273		285		296		303		294		294		294	15
16	118	196	167	226	220	233		256		267		277		284		275		275		275	16
17	95	173	134	212	176	219	224	241		251		261		267		259		259		259	17
18	76	155	108	189	143	207	182	227	226	237		246		252		245		245		245	18
19	62	134	89	170	117	196	150	215	186	225	225	233		239		232		232		232	19
20	51	116	73	153	97	179	124	197	154	213	187	222	223	227		220		220		220	20
21	45	101	64	139	85	162	109	178	135	200	165	211	197	216		210		210		210	21
22	39	89	56	127	75	148	96	163	120	182	146	202	174	206		200		200		200	22
23	35	78	49	113	66	135	85	149	106	167	129	185	155	196	182	192		192		192	23
24			44	100	59	124	75	137	94	153	115	170	138	180	163	184		184		184	24
25			39	89	52	114	67	126	84	141	103	157	124	166	146	176	170	176		176	25
26			35	80	47	106	60	116	76	131	93	145	111	154	132	167	153	169		169	26
27			31	72	42	97	54	108	68	121	83	134	100	142	119	155	139	163	160	163	27
28					38	88	49	100	62	113	75	125	91	132	108	144	126	156	145	157	28
29					34	79	44	94	56	105	68	116	82	123	98	135	114	146	132	152	29
30					31	72	40	87	51	98	62	109	75	115	89	126	104	136	120	146	30
31							37	82	46	92	57	102	68	108	81	118	95	127	110	137	31
32							34	77	42	86	52	96	63	101	74	110	87	120	101	129	32
33							31	71	39	81	48	90	57	95	68	104	80	112	93	121	33
34									35	76	44	85	53	90	63	98	74	106	85	114	34
35									33	72	40	80	49	85	58	92	68	100	79	108	35
36											37	76	45	80	53	87	63	94	73	102	36
37											34	72	41	76	49	83	58	89	67	96	37
38													38	72	46	78	54	85	63	91	38
39															43	74	50	80	58	87	39
40															40	71	47	77	54	82	40

## Glue-Nailed Floor

Depth	11 1/2		14		16		18		20		22		24		26		28		30		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
12	268	292		301		311		341		356		370		379		367		367		367	12
13	219	269		278		287		315		328		341		349		339		339		339	13
14	180	250	250	258		267		292		305		317		324		315		315		315	14
15	151	223	210	241		249		273		285		296		303		294		294		294	15
16	127	196	177	226	231	233		256		267		277		284		275		275		275	16
17	101	173	142	212	186	219	235	241		251		261		267		259		259		259	17
18	82	155	115	189	151	207	191	227	235	237		246		252		245		245		245	18
19	67	134	94	170	124	196	157	215	194	225	234	233		239		232		232		232	19
20	55	116	78	153	102	179	130	197	161	213	194	222		227		220		220		220	20
21	48	101	68	139	90	162	114	178	141	200	171	211	203	216		210		210		210	21
22	42	89	60	127	79	148	101	163	125	182	151	202	180	206		200		200		200	22
23	37	78	53	113	70	135	89	149	111	167	134	185	160	196	188	192		192		192	23
24			47	100	62	124	79	137	99	153	120	170	143	180	168	184		184		184	24
25			42	89	55	114	71	126	88	141	107	157	128	166	151	176	175	176		176	25
26			37	80	50	106	64	116	79	131	96	145	115	154	136	167	158	169		169	26
27			34	72	45	97	57	108	71	121	87	134	104	142	123	155	143	163	164	163	27
28					40	88	52	100	64	113	79	125	94	132	111	144	129	156	149	157	28
29					36	79	47	94	58	105	71	116	86	123	101	135	118	146	135	152	29
30					33	72	42	87	53	98	65	109	78	115	92	126	107	136	123	146	30
31							39	82	48	92	59	102	71	108	84	118	98	127	113	137	31
32							35	77	44	86	54	96	65	101	77	110	90	120	103	129	32
33							32	71	41	81	50	90	60	95	71	104	82	112	95	121	33
34									37	76	46	85	55	90	65	98	76	106	88	114	34
35									34	72	42	80	51	85	60	92	70	100	81	108	35
36											39	76	47	80	55	87	65	94	75	102	36
37											36	72	43	76	51	83	60	89	69	96	37
38													40	72	47	78	55	85	64	91	38
39															44	74	52	80	60	87	39
40															41	71	48	77	55	82	40

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on simple span, uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative for assistance).
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

# TJI®/L65 Joist

Parallel TJI® Joist • Multiple Span • Performance Plus® Web Material

## Nailed or Glue-Nailed Floor

Depth	11½"		14"		16"		18"		20"		22"		24"		26"		28"		30"		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
12		210		227		235		284		292		301		309		359		367		375	12
13		194		209		217		262		270		278		285		331		339		346	13
14		180		194		201		244		251		258		265		307		315		321	14
15		168		181		188		227		234		241		247		287		294		300	15
16	158	158		170		176		213		219		226		232		269		275		281	16
17	126	148		160		166		201		206		212		218		253		259		265	17
18	102	140	144	151		157		190		195		200		206		239		245		250	18
19	83	133	118	143		148		180		185		190		195		227		232		237	19
20	68	125	97	136	129	141	165	171		175		180		185		215		220		225	20
21	60	114	85	130	113	134	145	162		167		172		177		205		210		214	21
22	52	103	75	124	100	128	128	155	159	159		164		169		196		200		205	22
23	46	95	66	116	88	123	113	148	141	153		157		161		187		191		196	23
24	41	87	58	106	78	118	101	137	126	146		150		154		179		184		188	24
25	36	80	52	98	70	113	90	126	112	140	137	144		148		172		176		180	25
26	32	73	47	91	62	106	80	116	101	131	123	139		143		166		169		173	26
27			42	84	56	98	72	108	91	121	111	134	134	137		155		163		167	27
28			38	78	51	91	65	100	82	113	101	125	121	132	143	144		156		161	28
29			34	73	46	85	59	94	74	105	91	116	110	123	130	135		146		155	29
30					42	79	54	87	68	98	83	109	100	115	119	126		136		146	30
31					38	74	49	82	62	92	76	102	91	108	108	118	127	127		137	31
32					34	70	45	77	56	86	69	96	83	101	99	110	116	120		129	32
33							41	72	52	81	63	90	77	95	91	104	107	112		121	33
34									47	76	58	85	70	90	84	98	98	106	114	114	34
35									44	72	54	80	65	85	77	92	90	100	105	108	35
36											49	76	60	80	71	87	84	94	97	102	36
37											46	72	55	76	66	83	77	89	90	96	37
38													51	72	61	78	72	85	83	91	38
39															57	74	67	80	77	87	39
40															53	71	62	77	72	82	40

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on simple span, uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative for assistance).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## Nailed Floor

Depth	16		18		20		22		24		26		28		30		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
14		302		319		342		364		364		368		368		368	14
15		282		298		319		340		340		344		344		344	15
16		264		279		299		319		319		322		322		322	16
17	220	248		263		282		300		300		303		303		303	17
18	180	235	227	248		266		283		283		286		286		286	18
19	148	222	187	235	230	252		268		268		271		271		271	19
20	123	211	156	223	192	239	231	255		255		258		258		258	20
21	108	201	137	213	169	228	204	243	242	243		245		245		245	21
22	95	192	121	203	150	217	181	232	215	232		234		234		234	22
23	84	183	107	194	133	208	161	221	192	221		224		224		224	23
24	75	172	96	186	119	199	144	212	172	212	202	215		215		215	24
25	67	157	86	175	106	191	129	204	154	204	181	206		206		206	25
26	60	141	77	161	96	181	117	196	139	196	164	198	190	198		198	26
27	54	126	69	150	86	168	105	186	126	189	148	191	172	191		191	27
28	49	114	62	139	78	156	95	173	114	182	134	184	156	184	180	184	28
29	44	103	57	130	71	146	87	162	104	171	122	178	142	178	164	178	29
30	40	94	51	121	64	136	79	151	95	160	112	172	130	172	150	172	30
31	36	85	47	111	59	127	72	141	86	150	102	163	119	166	137	166	31
32	33	78	43	101	54	120	66	133	79	141	94	153	109	161	126	161	32
33	30	71	39	93	49	112	60	125	73	132	86	144	100	156	116	156	33
34			36	85	45	106	56	117	67	124	79	136	92	147	107	151	34
35			33	78	42	99	51	111	62	117	73	128	85	139	99	147	35
36			30	72	38	91	47	105	57	111	67	121	79	131	91	141	36
37					35	84	44	99	53	105	62	115	73	124	85	133	37
38					33	78	40	94	49	100	58	109	68	118	79	127	38
39					30	73	38	89	45	94	54	103	63	112	73	120	39
40							35	83	42	90	50	98	59	106	68	114	40

## Glue-Nailed Floor

Depth	16		18		20		22		24		26		28		30		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
14		302		319		342		364		364		368		368		368	14
15		282		298		319		340		340		344		344		344	15
16		264		279		299		319		319		322		322		322	16
17	230	248		263		282		300		300		303		303		303	17
18	188	235	236	248		266		283		283		286		286		286	18
19	155	222	195	235	239	252		268		268		271		271		271	19
20	128	211	162	223	199	239	239	255		255		258		258		258	20
21	113	201	143	213	176	228	211	243		243		245		245		245	21
22	99	192	126	203	156	217	188	232	222	232		234		234		234	22
23	88	183	112	194	138	208	167	221	198	221		224		224		224	23
24	78	172	100	186	124	199	149	212	177	212	207	215		215		215	24
25	70	157	89	175	111	191	134	204	159	204	187	206		206		206	25
26	63	141	80	161	100	181	121	196	144	196	168	198	195	198		198	26
27	57	126	72	150	90	168	109	186	130	189	153	191	177	191		191	27
28	51	114	65	139	81	156	99	173	118	182	138	184	160	184	184	184	28
29	46	103	59	130	74	146	90	162	107	171	126	178	146	178	168	178	29
30	42	94	54	121	67	136	82	151	98	160	115	172	134	172	153	172	30
31	38	85	49	111	61	127	75	141	89	150	105	163	122	166	140	166	31
32	35	78	45	101	56	120	68	133	82	141	96	153	112	161	129	161	32
33	32	71	41	93	51	112	63	125	75	132	89	144	103	156	119	156	33
34			38	85	47	106	58	117	69	124	82	136	95	147	109	151	34
35			35	78	43	99	53	111	64	117	75	128	88	139	101	147	35
36			32	72	40	91	49	105	59	111	70	121	81	131	94	141	36
37					37	84	45	99	55	105	64	115	75	124	87	133	37
38					34	78	42	94	51	100	60	109	70	118	81	127	38
39					32	73	39	89	47	94	56	103	65	112	75	120	39
40							36	83	44	90	52	98	60	106	70	114	40

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on simple span, uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative for assistance).
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

# Load Tables/Floor (100%)

# TJI®/L90 Joist

Allowable Uniform Load (plf)

Parallel TJI® Joist • Multiple Span • Performance Plus® Web Material

## Nailed or Glue-Nailed Floor

Depth	16		18		20		22		24		26		28		30		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
14		227		263		272		326		344		331		331		331	14
15		212		245		253		304		321		309		309		309	15
16		199		230		238		285		301		290		290		290	16
17		187		216		224		268		283		272		272		272	17
18		177		204		211		253		267		257		257		257	18
19		167		193		200		240		253		244		244		244	19
20		159		184		190		228		241		232		232		232	20
21	144	151		175		181		217		229		220		220		220	21
22	127	144	161	167		173		207		219		210		210		210	22
23	112	138	143	160		165		198		209		201		201		201	23
24	100	132	128	153		158		190		200		193		193		193	24
25	89	127	114	147	142	152	173	182		192		185		185		185	25
26	80	122	103	141	128	146	156	175		185		178		178		178	26
27	72	118	92	136	115	141	140	169	168	178		171		171		171	27
28	65	113	83	131	104	136	127	163	152	172		165		165		165	28
29	59	109	76	127	95	131	116	157	138	166		160		160		160	29
30	53	106	69	121	86	126	105	151	126	160	149	154		154		154	30
31	49	102	63	113	79	122	96	141	115	150	136	149		149		149	31
32	44	97	57	106	72	119	88	133	106	141	125	145		145		145	32
33	41	91	52	100	66	112	81	125	97	132	115	140	134	140		140	33
34	37	85	48	94	60	106	74	117	89	124	106	136	123	136		136	34
35	34	80	44	89	56	100	68	111	82	117	97	128	114	132	132	132	35
36	32	74	41	84	51	94	63	105	76	111	90	121	105	128	122	128	36
37			38	79	47	89	58	99	70	105	83	115	98	124	113	125	37
38			35	75	44	85	54	94	65	100	77	109	91	118	105	122	38
39			32	71	41	80	50	89	61	94	72	103	84	112	98	118	39
40					38	76	47	85	56	90	67	98	78	106	91	114	40

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on simple span, uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative for assistance).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## Nailed Floor

Depth	11½		14		16		18		20		22		24		26		28		30		Depth
Span	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	Span
14	228	253		278		302		319		342		364		364		368		368		368	14
15	192	236		259		282		298		319		340		340		344		344		344	15
16	162	221		243		264		279		299		319		319		322		322		322	16
17	130	208	183	228	239	248		263		282		300		300		303		303		303	17
18	106	197	149	216	195	235	246	248		266		283		283		286		286		286	18
19	86	186	122	204	161	222	204	235	250	252		268		268		271		271		271	19
20	71	166	101	194	134	211	170	223	209	239	251	255		255		258		258		258	20
21	62	145	89	185	117	201	149	213	185	228	223	243		243		245		245		245	21
22	55	127	78	176	104	192	132	203	164	217	198	232		232		234		234		234	22
23	48	112	69	162	92	184	118	194	146	208	176	221	210	221		224		224		224	23
24	43	100	62	144	82	176	105	186	130	199	158	212	188	212		215		215		215	24
25	38	89	55	129	73	169	94	179	117	191	142	204	169	204	198	206		206		206	25
26	34	79	49	115	66	155	84	172	105	184	128	196	153	196	179	198		198		198	26
27	31	71	44	104	59	139	76	165	95	177	116	189	138	189	162	191	188	191		191	27
28			40	93	53	126	69	159	86	171	105	182	125	182	148	184	171	184		184	28
29			36	85	48	114	62	148	78	165	95	176	114	176	134	178	156	178		178	29
30			33	77	44	104	57	134	71	157	87	170	104	170	123	172	143	172	164	172	30
31			30	70	40	94	52	123	65	147	79	163	95	164	112	166	131	166	151	166	31
32					37	86	47	112	59	138	73	153	87	159	103	161	120	161	138	161	32
33					33	79	43	103	54	129	67	144	80	152	95	156	111	156	127	156	33
34					31	72	40	94	50	119	61	135	74	144	87	151	102	151	118	151	34
35							37	87	46	110	57	128	68	135	81	147	94	147	109	147	35
36							34	80	43	101	52	121	63	128	75	140	87	143	101	143	36
37							31	74	39	94	48	114	58	121	69	132	81	139	93	139	37
38									36	87	45	107	54	115	64	125	75	135	87	135	38
39									34	81	42	99	50	109	60	119	70	129	81	132	39
40									31	75	39	93	47	104	55	113	65	122	75	129	40
41									29	70	36	86	44	99	52	108	61	116	70	125	41
42											34	80	41	94	48	102	57	111	66	120	42
43											31	75	38	90	45	98	53	106	61	114	43
44											29	70	36	85	42	93	50	101	58	109	44
45													33	80	40	89	47	97	54	104	45
46													31	75	37	85	44	92	51	100	46

## Glue-Nailed Floor

Depth	11½		14		16		18		20		22		24		26		28		30		Depth
Span	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	LL	TL	Span
14	240	253		278		302		319		342		364		364		368		368		368	14
15	202	236		259		282		298		319		340		340		344		344		344	15
16	171	221		243		264		279		299		319		319		322		322		322	16
17	137	208	192	228		248		263		282		300		300		303		303		303	17
18	112	197	156	216	204	235		248		266		283		283		286		286		286	18
19	91	186	128	204	168	222	212	235		252		268		268		271		271		271	19
20	76	166	107	194	140	211	176	223	216	239		255		255		258		258		258	20
21	66	145	93	185	123	201	156	213	191	228	230	243		243		245		245		245	21
22	58	127	82	176	109	192	138	203	170	217	204	232		232		234		234		234	22
23	51	112	73	162	96	184	123	194	151	208	182	221	216	221		224		224		224	23
24	46	100	65	144	86	176	109	186	135	199	163	212	194	212		215		215		215	24
25	41	89	58	129	77	169	98	179	121	191	147	204	174	204	204	206		206		206	25
26	36	79	52	115	69	155	88	172	109	184	132	196	158	196	184	198		198		198	26
27	33	71	47	104	62	139	79	165	99	177	120	189	143	189	167	191		191		191	27
28			42	93	56	126	72	159	89	171	109	182	130	182	152	184	176	184		184	28
29			38	85	51	114	65	148	81	165	99	176	118	176	138	178	160	178		178	29
30			35	77	46	104	59	134	74	157	90	170	108	170	127	172	147	172	168	172	30
31			31	70	42	94	54	123	68	147	82	163	98	164	116	166	134	166	154	166	31
32					38	86	50	112	62	138	75	153	90	159	106	161	124	161	142	161	32
33					35	79	45	103	57	129	69	144	83	152	98	156	114	156	131	156	33
34					32	72	42	94	52	119	64	135	76	144	90	151	105	151	121	151	34
35							38	87	48	110	59	128	71	135	83	147	97	147	111	147	35
36							35	80	44	101	54	121	65	128	77	140	90	143	103	143	36
37							33	74	41	94	50	114	60	121	71	132	83	139	96	139	37
38									38	87	47	107	56	115	66	125	77	135	89	135	38
39									35	81	43	99	52	109	62	119	72	129	83	132	39
40									33	75	40	93	48	104	57	113	67	122	77	129	40
41									31	70	37	86	45	99	53	108	62	116	72	125	41
42											35	80	42	94	50	102	58	111	67	120	42
43											33	75	39	90	47	98	55	106	63	114	43
44											31	70	37	85	44	93	51	101	59	109	44
45													35	80	41	89	48	97	55	104	45
46													32	75	38	85	45	92	52	100	46

See notes on page 7.7.



# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

**TJI®/H90 Joist**

Parallel TJI® Joist • Multiple Span • Performance Plus® Web Material

## Nailed or Glue-Nailed Floor

Depth	11 1/2		14		16		18		20		22		24		26		28		30		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
14		217		226		236		270		279		333		351		331		331		331	14
15		203		211		220		252		260		311		328		309		309		309	15
16		190		198		206		236		244		292		307		290		290		290	16
17	174	179		186		194		222		230		274		289		272		272		272	17
18	141	169		176		183		210		217		259		273		257		257		257	18
19	115	160	163	167		173		199		205		245		259		244		244		244	19
20	95	152	135	158		165		189		195		233		246		232		232		232	20
21	83	145	119	151	157	157		180		186		222		234		220		220		220	21
22	73	138	105	144	138	150		172		177		212		223		210		210		210	22
23	65	132	93	138	123	143	157	164		170		203		214		201		201		201	23
24	57	127	82	132	109	137	140	157		163		194		205		193		193		193	24
25	51	119	73	127	98	132	125	151	156	156		186		196		185		185		185	25
26	46	106	66	122	88	127	113	145	140	150	171	179		189		178		178		178	26
27	41	95	59	117	79	122	102	140	127	144	154	173		182		171		171		171	27
28	37	86	53	113	71	118	92	135	115	139	140	166	167	175		165		165		165	28
29	33	78	48	109	65	113	83	130	104	134	127	161	152	169		160		160		160	29
30	30	70	44	102	59	110	76	126	95	130	116	155	139	164		154		154		154	30
31			40	93	54	106	69	122	87	126	106	150	127	158		149		149		149	31
32			36	85	49	103	63	118	79	122	97	146	117	153	138	145		145		145	32
33			33	78	45	100	58	114	73	118	89	141	107	149	127	140		140		140	33
34			31	71	41	97	53	108	67	115	82	135	99	144	117	136	136	136		136	34
35					38	89	49	102	62	111	76	128	91	135	108	132	126	132		132	35
36					35	82	45	96	57	108	70	121	84	128	100	128	116	128		128	36
37					32	76	42	91	53	103	65	114	78	121	92	125	108	125	125	125	37
38					30	70	39	86	49	97	60	108	72	115	86	122	100	122	116	122	38
39							36	82	45	92	56	103	67	109	80	118	93	118	108	118	39
40							33	78	42	88	52	98	62	104	74	113	87	116	100	116	40
41							31	73	39	84	48	93	58	99	69	108	81	113	94	113	41
42									36	80	45	89	54	94	65	102	76	110	88	110	42
43									34	76	42	84	51	90	60	98	71	106	82	107	43
44									32	73	39	81	48	85	57	93	66	101	77	105	44
45											37	77	45	82	53	89	62	97	72	103	45
46											35	74	42	78	50	85	58	92	68	100	46

- Values shown are maximum allowable load capacities of the joists in pounds per lineal foot (plf) based on simple span, uniformly loaded conditions with web stiffener and bearing length criteria shown on page 3.2 (lower or higher load capacities may be possible with different criteria, use the TJ-Beam® software program or contact your Trus Joist representative for assistance).
- Multiple span table can be used for two or more span conditions. Use the longest span for sizing. Where ratio of short span to long span is less than 0.4, use the TJ-Beam® software program or contact your Trus Joist representative.
- Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
- Camber (2250' radius) is available for simple span applications only. **Contact your Trus Joist representative for availability.**
- For loading conditions not covered by these tables (eg.: concentrated loads), use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## TJL™ Series with Nailed Floor

Depth	14		16		18		20		22		24		26		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		366		367		356		342		328		313		298	10
12		338		338		332		322		311		299		286	12
14		287		314		311		305		296		286		275	14
16		190		255		283		289		283		274		265	16
18		117	176	190	222	238		262		270		264		256	18
20		64	117	127	149	187	183	220	219	240		254		247	20
22			79	79	113	132	140	183	168	200	198	216	230	232	22
24					88	90	109	135	132	175	156	190	181	204	24
26					56	56	87	97	105	135	125	161	145	174	26
28							66	66	85	101	101	134	118	156	28
30									70	73	83	103	97	133	30
32											69	78	81	104	32
34											56	56	68	81	34
36													58	61	36

Depth	28		30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		283		269		257		246		235		225		215		206	10
12		273		261		250		240		230		220		211		203	12
14		264		253		243		234		225		216		207		199	14
16		256		246		237		229		220		212		204		196	16
18		248		239		231		224		215		208		200		193	18
20		240		233		225		218		211		204		197		190	20
22		233		226		220		214		207		200		193		187	22
24	208	219		221		214		209		203		196		190		184	24
26	167	187	189	199		210		205		199		193		187		181	26
28	136	167	154	178	174	189		193		195		189		184		179	28
30	112	145	128	154	144	164	161	175		178		183		181		176	30
32	93	131	106	140	120	149	135	153	149	162	164	168		169		174	32
34	79	105	90	123	102	131	114	140	126	143	139	148	153	156		157	34
36	67	83	76	105	86	120	97	124	108	132	119	137	131	139	143	146	36
38	57	65	65	84	74	104	83	114	93	117	103	124	113	129	123	130	38
40			56	67	64	85	72	103	80	109	89	111	98	115	107	122	40
42					56	69	63	86	70	97	78	104	85	106	93	109	42
44							55	71	61	86	68	93	75	99	82	101	44
46									54	72	60	85	66	90	72	95	46
48											53	72	59	85	64	86	48
50													52	72	57	82	50

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to ⅓ of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Values in *italics* are controlled by minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes. Higher loads are possible where minimum concentrated load analysis is not required by code. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

**TJL™ Series**

Simple Span

## TJL™ Series with Glue-Nailed Floor

Depth	14		16		18		20		22		24		26		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		366		367		356		342		328		313		298	10
12		338		338		332		322		311		299		286	12
14		287		314		311		305		296		286		275	14
16		190		255		283		289		283		274		265	16
18		117	185	190		238		262		270		264		256	18
20		64	123	127	156	187	192	220	230	240		254		247	20
22			79	79	119	132	147	183	176	200	208	216		232	22
24			43	43	90	90	115	135	138	175	163	190	190	204	24
26					56	56	91	97	110	135	131	161	152	174	26
28							66	66	89	101	106	134	124	156	28
30									73	73	87	103	102	133	30
32											72	78	85	104	32
34											56	56	71	81	34
36													60	61	36

Depth	28		30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		283		269		257		246		235		225		215		206	10
12		273		261		250		240		230		220		211		203	12
14		264		253		243		234		225		216		207		199	14
16		256		246		237		229		220		212		204		196	16
18		248		239		231		224		215		208		200		193	18
20		240		233		225		218		211		204		197		190	20
22		233		226		220		214		207		200		193		187	22
24	217	219		221		214		209		203		196		190		184	24
26	174	187	198	199		210		205		199		193		187		181	26
28	142	167	162	178	182	189		193		195		189		184		179	28
30	117	145	134	154	150	164	168	175		178		183		181		176	30
32	98	131	112	140	126	149	141	153	156	162		168		169		174	32
34	82	105	94	123	106	131	119	140	132	143	146	148		156		157	34
36	70	83	80	105	91	120	101	124	113	132	125	137	137	139		146	36
38	60	65	69	84	78	104	87	114	97	117	107	124	118	129	129	130	38
40			59	67	67	85	75	103	84	109	93	111	102	115	112	122	40
42					58	69	66	86	73	97	81	104	89	106	98	109	42
44							58	71	64	86	71	93	78	99	86	101	44
46									57	72	63	85	69	90	76	95	46
48									50	59	56	72	61	85	67	86	48
50													55	72	60	82	50

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to ⅓ of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Values in *italics* are controlled by minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes. Higher loads are possible where minimum concentrated load analysis is not required by code. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

## TJLX™ Series with Nailed Floor

Depth	14		16		18		20		22		24		26		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		366		367		356		342		328		313		298	10
12		338		338		332		322		311		299		286	12
14		314		314		311		305		296		286		275	14
16	221	255		287		293		289		283		274		265	16
18	140	213	184	241	232	269		274		270		264		256	18
20	93	177	123	201	156	225	191	248	229	259		254		247	20
22	71	145	93	167	119	187	146	206	176	225	207	244		239	22
24	55	116	73	141	92	163	114	181	138	198	163	215	189	231	24
26	43	79	57	121	73	137	91	154	110	168	130	183	152	197	26
28	35	50	46	100	59	119	73	133	89	150	106	163	123	176	28
30			38	72	48	103	60	116	73	128	87	141	101	153	30
32					40	88	50	102	61	113	72	124	85	135	32
34					34	66	42	90	51	100	61	110	71	120	34
36							35	79	43	89	51	98	60	107	36
38							30	61	37	80	44	88	52	96	38
40									32	71	38	79	44	87	40
42											33	72	39	78	42
44													34	71	44

Depth	28		30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		283		269		257		246		235		225		215		206	10
12		273		261		250		240		230		220		211		203	12
14		264		253		243		234		225		216		207		199	14
16		256		246		237		229		220		212		204		196	16
18		248		239		231		224		215		208		200		193	18
20		240		233		225		218		211		204		197		190	20
22		233		226		220		214		207		200		193		187	22
24	217	226		221		214		209		203		196		190		184	24
26	174	211	197	215		210		205		199		193		187		181	26
28	142	189	161	201	181	205		200		195		189		184		179	28
30	117	164	133	175	150	186	168	191	185	191		186		181		176	30
32	98	149	111	159	126	169	140	173	156	179	171	179		178		174	32
34	82	130	94	139	106	148	119	158	132	162	145	167	159	169		169	34
36	70	116	80	124	90	133	101	140	113	149	124	155	136	156	149	159	36
38	60	104	68	112	78	119	87	130	97	133	107	141	118	146	129	147	38
40	52	94	59	101	67	108	75	115	84	123	93	126	102	130	112	137	40
42	45	85	51	91	58	98	66	104	73	111	81	118	89	120	98	124	42
44	39	77	45	83	51	89	57	95	64	101	71	106	78	112	86	114	44
46	34	71	39	76	45	82	51	87	56	92	63	100	69	102	76	108	46
48			35	70	40	75	45	80	50	85	56	90	61	96	67	98	48
50							40	74	44	78	49	83	55	87	60	93	50
52									40	72	44	76	49	81	54	84	52
54											40	71	44	75	48	79	54
56															43	73	56

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to ⅓ of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Values in *italics* are controlled by minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes. Higher loads are possible where minimum concentrated load analysis is not required by code. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

# TJLX™ Series

Simple Span

Check with your local Trus Joist representative on availability of the TJLX™ Series in your area.

## TJLX™ Series with Glue-Nailed Floor

Depth	14		16		18		20		22		24		26		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		366		367		356		342		328		313		298	10
12		338		338		332		322		311		299		286	12
14		314		314		311		305		296		286		275	14
16	232	255		287		293		289		283		274		265	16
18	147	213	193	241	243	269		274		270		264		256	18
20	98	177	129	201	163	225	200	248	239	259		254		247	20
22	74	145	98	167	124	187	153	206	184	225	216	244		239	22
24	58	116	76	141	97	163	120	181	144	198	170	215	198	231	24
26	46	79	60	121	77	137	95	154	115	168	136	183	158	197	26
28	37	50	49	100	62	119	77	133	93	150	111	163	129	176	28
30			40	72	51	103	63	116	77	128	91	141	106	153	30
32					42	88	52	102	64	113	76	124	88	135	32
34					35	66	44	90	53	100	64	110	74	120	34
36							37	79	45	89	54	98	63	107	36
38							32	61	39	80	46	88	54	96	38
40									33	71	40	79	47	87	40
42											34	72	40	78	42
44													35	71	44

Depth	28		30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		283		269		257		246		235		225		215		206	10
12		273		261		250		240		230		220		211		203	12
14		264		253		243		234		225		216		207		199	14
16		256		246		237		229		220		212		204		196	16
18		248		239		231		224		215		208		200		193	18
20		240		233		225		218		211		204		197		190	20
22		233		226		220		214		207		200		193		187	22
24		226		221		214		209		203		196		190		184	24
26	182	211	206	215		210		205		199		193		187		181	26
28	148	189	168	201	189	205		200		195		189		184		179	28
30	122	164	139	175	157	186	175	191		191		186		181		176	30
32	102	149	116	159	131	169	147	173	162	179		179		178		174	32
34	86	130	98	139	111	148	124	158	138	162	152	167	166	169		169	34
36	73	116	84	124	94	133	106	140	118	149	130	155	142	156	155	159	36
38	63	104	72	112	81	119	91	130	101	133	112	141	123	146	134	147	38
40	54	94	62	101	70	108	79	115	88	123	97	126	107	130	117	137	40
42	47	85	54	91	61	98	69	104	77	111	85	118	93	120	102	124	42
44	41	77	47	83	53	89	60	95	67	101	74	106	82	112	90	114	44
46	36	71	41	76	47	82	53	87	59	92	66	100	72	102	79	108	46
48			37	70	42	75	47	80	52	85	58	90	64	96	70	98	48
50							42	74	47	78	52	83	57	87	63	93	50
52									42	72	46	76	51	81	56	84	52
54											41	71	46	75	50	79	54
56															45	73	56

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 1¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Values in *italics* are controlled by minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes. Higher loads are possible where minimum concentrated load analysis is not required by code. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## TJW™ Series with Nailed Floor

Depth	14		16		18		20		22		24		26		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		502		502		502		502		490		467		445	10
12		468		502		496		482		465		446		427	12
14		377		424		465		455		443		427		411	14
16		297		336		373		408		422		410		396	16
18	192	248	251	281		314		345		375		390		382	18
20	128	206	168	234	212	262	258	289	306	315		341		351	20
22	98	169	128	194	162	217	199	240	237	263	277	285		306	22
24	76	136	100	158	127	180	156	210	187	230	220	250	253	269	24
26	60	116	80	135	101	154	125	173	150	196	177	213	204	229	26
28	48	89	64	117	82	134	101	150	122	166	144	190	167	205	28
30	40	61	53	102	67	117	83	131	100	146	119	160	138	177	30
32			44	84	56	103	69	115	84	128	99	140	115	153	32
34			36	62	47	91	58	102	70	113	83	124	97	135	34
36					40	79	49	90	60	100	71	110	83	120	36
38					34	61	42	81	51	90	61	99	71	108	38
40							36	74	44	85	52	95	61	103	40
42									38	76	46	83	53	91	42
44									33	68	40	75	47	81	44
46													41	73	46

Depth	28		30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		423		403		384		368		351		336		322		308	10
12		408		390		373		359		344		329		316		303	12
14		395		379		363		350		336		323		310		298	14
16		382		368		354		342		329		316		304		293	16
18		370		357		345		334		322		310		299		288	18
20		351		348		336		326		315		304		294		284	20
22		319		319		319		319		309		299		289		279	22
24		288		293		293		293		293		293		284		275	24
26	233	246		262		270		270		270		270		270		270	26
28	191	220	216	235	241	249		251		251		251		251		251	28
30	158	190	180	203	201	216	223	230		234		234		234		232	30
32	133	166	151	184	169	196	188	201	208	214		219		219		215	32
34	112	146	128	158	144	172	160	184	177	188	194	195		205		201	34
36	96	130	109	140	123	150	137	163	152	174	167	180	182	183		189	36
38	82	116	94	125	106	134	118	143	131	154	144	164	158	170		171	38
40	71	111	81	119	92	127	103	137	114	143	126	146	138	152	150	160	40
42	62	98	71	106	80	113	90	122	100	128	110	137	121	139	131	144	42
44	54	88	62	95	70	101	79	108	88	115	97	121	106	131	116	133	44
46	48	79	55	85	62	91	69	98	77	104	86	109	94	115	103	125	46
48	42	73	48	78	55	84	62	90	69	95	76	100	84	106	91	111	48
50			43	72	49	77	55	82	61	87	68	92	75	97	82	102	50
52					44	71		75	55	80	61	85	67	90	73	94	52
54							49		49	74	55	78	60	83	66	87	54
56											49	72	54	77	59	81	56
58													49	72	54	76	58
60															49	71	60

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 2¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Values in *italics* are controlled by minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes. Higher loads are possible where minimum concentrated load analysis is not required by code. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.



# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

# TJW™ Series

Simple Span

## TJW™ Series with Glue-Nailed Floor

Depth	14		16		18		20		22		24		26		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		502		502		502		502		490		467		445	10
12		468		502		496		482		465		446		427	12
14		377		424		465		455		443		427		411	14
16		297		336		373		408		422		410		396	16
18	199	248	260	281		314		345		375		390		382	18
20	133	206	174	234	219	262	267	289		315		341		351	20
22	101	169	133	194	168	217	206	240	245	263		285		306	22
24	79	136	104	158	132	180	162	210	194	230	227	250	262	269	24
26	63	116	83	135	105	154	129	173	155	196	183	213	211	229	26
28	50	89	67	117	85	134	105	150	126	166	149	190	173	205	28
30	41	61	55	102	70	117	86	131	104	146	123	160	143	177	30
32			45	84	58	103	72	115	87	128	103	140	120	153	32
34			38	62	48	91	60	102	73	113	86	124	101	135	34
36					41	79	51	90	62	100	73	110	86	120	36
38					35	61	44	81	53	90	63	99	74	108	38
40							38	74	46	85	54	95	64	103	40
42									40	76	47	83	55	91	42
44									35	68	41	75	48	81	44
46													43	73	46

Depth	28		30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		423		403		384		368		351		336		322		308	10
12		408		390		373		359		344		329		316		303	12
14		395		379		363		350		336		323		310		298	14
16		382		368		354		342		329		316		304		293	16
18		370		357		345		334		322		310		299		288	18
20		351		348		336		326		315		304		294		284	20
22		319		319		319		319		309		299		289		279	22
24		288		293		293		293		293		293		284		275	24
26	241	246		262		270		270		270		270		270		270	26
28	197	220	223	235		249		251		251		251		251		251	28
30	164	190	185	203	208	216		230		234		234		234		232	30
32	137	166	156	184	175	196	194	201		214		219		219		215	32
34	116	146	132	158	148	172	165	184	183	188		195		205		201	34
36	99	130	113	140	127	150	142	163	157	174	172	180		183		189	36
38	85	116	97	125	109	134	122	143	135	154	149	164	163	170		171	38
40	74	111	84	119	95	127	106	137	118	143	130	146	142	152	154	160	40
42	64	98	73	106	83	113	93	122	103	128	114	137	124	139	136	144	42
44	56	88	64	95	73	101	81	108	91	115	100	121	110	131	120	133	44
46	49	79	56	85	64	91	72	98	80	104	88	109	97	115	106	125	46
48	44	73	50	78	57	84	64	90	71	95	79	100	86	106	94	111	48
50			44	72	50	77	57	82	63	87	70	92	77	97	84	102	50
52					45	71	51	75	57	80	63	85	69	90	76	94	52
54									51	74	56	78	62	83	68	87	54
56											51	72	56	77	62	81	56
58													51	72	56	76	58
60															51	71	60

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord no-notch bearing clips with 2¾" bearing. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 2,500 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Values in *italics* are controlled by minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes. Higher loads are possible where minimum concentrated load analysis is not required by code. Use the TJ-Beam® software program or contact your Trus Joist representative for assistance.

## TJS™ Series with Nailed Floor

Depth	16		18		20		22		24		26		28		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		678		677		677		650		619		590		561	10
12		632		638		638		617		591		566		541	12
14	478	536		603		603		587		566		544		523	14
16	330	443	419	508	515	551		555		542		524		505	16
18	210	351	269	402	332	454	399	494	468	501		504		489	18
20	140	285	180	326	223	368	269	410	318	447	368	453	420	460	20
22	107	236	137	270	171	305	207	339	245	374	285	408	327	413	22
24	83	198	107	227	133	256	162	285	193	314	225	343	259	372	24
26	66	164	85	194	106	219	129	243	154	268	180	293	208	318	26
28	53	132	68	167	86	189	105	210	125	231	147	253	170	274	28
30	43	108	56	140	70	164	86	183	103	202	121	220	140	239	30
32	36	89	46	116	58	145	71	161	85	177	101	194	117	210	32
34	30	75	39	97	49	122	60	143	72	157	85	172	98	186	34
36			33	82	41	103	51	127	61	140	72	153	83	166	36
38			28	70	35	88	43	108	52	126	61	137	71	149	38
40					30	76	37	93	45	112	53	124	62	135	40
42					26	66	32	81	39	97	46	113	54	122	42
44							28	70	34	85	40	100	47	111	44
46									30	74	35	88	41	102	46
48											31	78	36	91	48
50											28	69	32	81	50
52													29	72	52

Depth	30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		534		509		482		461		442		424		404	10
12		518		494		470		451		433		416		397	12
14		502		481		459		441		424		408		391	14
16		487		468		448		431		416		401		384	16
18		473		456		437		422		407		393		378	18
20		459		444		427		413		400		387		372	20
22	370	417	413	420		418		405		392		380		366	22
24	294	380	329	384	365	387		389		385		373		360	24
26	237	342	266	352	296	355	327	358	358	361		359		355	26
28	193	295	218	317	243	328	269	330	296	333	323	335		335	28
30	160	257	181	276	202	295	224	307	247	309	270	311	293	313	30
32	134	226	151	243	169	259	188	276	208	288	228	290	248	292	32
34	113	201	128	215	143	230	160	244	176	259	193	272	211	273	34
36	96	179	109	192	122	205	136	218	151	231	166	244	181	257	36
38	82	161	93	172	105	184	117	196	130	207	143	219	156	231	38
40	71	145	81	156	91	166	102	177	113	187	124	198	136	208	40
42	62	132	70	141	79	151	89	160	98	170	108	179	119	189	42
44	54	120	61	129	69	137	78	146	86	155	95	163	104	172	44
46	47	110	54	118	61	126	68	134	76	142	84	150	92	157	46
48	42	101	48	108	54	115	61	123	67	130	74	137	82	145	48
50	37	93	42	100	48	106	54	113	60	120	66	127	73	133	50
52	33	83	38	92	43	98	48	105	54	111	59	117	65	123	52
54	30	74	34	85	38	91	43	97	48	103	53	108	59	114	54
56			31	76	35	85	39	90	43	95	48	101	53	106	56
58			28	69	31	78	35	84	39	89	43	94	48	99	58
60					28	71	32	78	35	83	39	88	43	93	60
62							29	72	32	78	36	82	39	87	62
64									29	73	33	77	36	81	64
66											30	73	33	76	66
68													30	72	68

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord standard bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,070 lbs.
5. Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
6. Minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes has been considered but does not affect the values in this table.

# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

# TJS™ Series

Simple Span

## TJS™ Series with Glue-Nailed Floor

Depth	16		18		20		22		24		26		28		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		678		677		677		650		619		590		561	10
12		632		638		638		617		591		566		541	12
14	497	536		603		603		587		566		544		523	14
16	343	443	435	508	533	551		555		542		524		505	16
18	219	351	279	402	345	454	413	494	485	501		504		489	18
20	146	285	187	326	232	368	279	410	330	447	381	453	434	460	20
22	111	236	143	270	178	305	215	339	254	374	296	408	338	413	22
24	86	198	111	227	139	256	169	285	200	314	233	343	268	372	24
26	68	169	88	194	110	219	134	243	160	268	187	293	216	318	26
28	55	138	71	167	89	189	109	210	130	231	152	253	176	274	28
30	45	112	58	146	73	164	89	183	107	202	125	220	145	239	30
32	37	93	48	121	61	145	74	161	89	177	105	194	121	210	32
34	31	78	40	101	51	127	62	143	75	157	88	172	102	186	34
36	26	66	34	85	43	107	53	127	63	140	75	153	87	166	36
38			29	73	37	92	45	113	54	126	64	137	74	149	38
40					32	79	39	97	47	114	55	124	64	135	40
42					27	68	34	84	40	101	48	113	56	122	42
44							29	73	35	88	42	103	49	111	44
46									31	77	37	92	43	102	46
48									27	68	32	81	38	93	48
50											29	72	34	84	50
52													30	75	52

Depth	30		32		34		36		38		40		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
10		534		509		482		461		442		424		404	10
12		518		494		470		451		433		416		397	12
14		502		481		459		441		424		408		391	14
16		487		468		448		431		416		401		384	16
18		473		456		437		422		407		393		378	18
20		459		444		427		413		400		387		372	20
22	382	417		420		418		405		392		380		366	22
24	304	380	340	384	378	387		389		385		373		360	24
26	245	342	276	352	307	355	338	358		361		359		355	26
28	200	295	226	317	252	328	279	330	306	333	333	335		335	28
30	166	257	187	276	209	295	232	307	255	309	279	311	303	313	30
32	139	226	157	243	176	259	195	276	215	288	235	290	256	292	32
34	117	201	132	215	149	230	165	244	183	259	200	272	218	273	34
36	99	179	113	192	127	205	141	218	156	231	172	244	187	257	36
38	85	161	97	172	109	184	122	196	135	207	148	219	162	231	38
40	74	145	84	156	94	166	105	177	117	187	129	198	141	208	40
42	64	132	73	141	82	151	92	160	102	170	112	179	123	189	42
44	56	120	64	129	72	137	81	146	90	155	99	163	108	172	44
46	49	110	56	118	63	126	71	134	79	142	87	150	96	157	46
48	44	101	50	108	56	115	63	123	70	130	77	137	85	145	48
50	39	93	44	100	50	106	56	113	62	120	69	127	76	133	50
52	35	86	39	92	45	98	50	105	56	111	62	117	68	123	52
54	31	77	35	85	40	91	45	97	50	103	55	108	61	114	54
56	28	70	32	79	36	85	40	90	45	95	50	101	55	106	56
58			29	72	32	79	36	84	41	89	45	94	50	99	58
60					29	74	33	78	37	83	41	88	45	93	60
62							30	73	34	78	37	82	41	87	62
64									31	73	34	77	37	81	64
66											31	73	34	76	66
68													31	72	68

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord standard bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,070 lbs.
5. Values in gray shaded areas may be increased 4% for repetitive member usage if the criteria on page 9.7 are met.
6. Minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes has been considered but does not affect the values in this table.

## TJM® Series with Nailed Floor

Depth	20		22		24		26		28		30		32		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
18	443	457		457		457		457		453		447		441	18
20	299	433	363	433	430	433		433		432		428		423	20
22	229	377	280	413	334	413	389	413		413		411		407	22
24	180	317	220	356	263	394	308	395	355	395		395		392	24
26	143	271	176	304	211	337	248	369	287	380	327	380	368	378	26
28	116	234	143	262	172	291	202	319	235	347	268	366	303	366	28
30	95	204	117	229	141	253	167	278	194	303	222	328	252	351	30
32	79	179	97	201	118	223	139	245	162	266	186	288	211	310	32
34	66	159	82	178	99	198	117	217	137	236	158	256	179	275	34
36	56	140	69	159	84	176	100	194	117	211	134	228	153	245	36
38	48	119	59	143	72	158	86	174	100	189	115	205	131	220	38
40	41	103	51	128	62	143	74	157	86	171	100	185	114	199	40
42	36	89	44	111	54	130	64	142	75	155	87	168	99	180	42
44	31	78	39	97	47	118	56	130	66	141	76	153	87	165	44
46	27	68	34	85	41	103	49	119	58	129	67	140	77	151	46
48			30	75	36	91	44	109	51	119	59	129	68	138	48
50					32	81	39	97	45	110	53	118	60	127	50
52					29	72	34	86	41	101	47	110	54	118	52
54							31	77	36	91	42	102	48	109	54
56							28	69	33	82	38	94	43	102	56
58									29	74	34	86	39	95	58
60											31	77	36	89	60
62											28	70	32	81	62
64													29	74	64

Depth	34		36		38		40		42		44		46		48		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
18		432		421		413		402		391		381		371		360	18
20		416		407		400		390		380		372		362		352	20
22		401		394		388		379		371		363		354		345	22
24		388		382		377		369		361		355		346		338	24
26		375		371		366		360		353		347		339		331	26
28	338	363		360		356		350		344		339		332		325	28
30	282	351	312	349	343	346		342		336		331		325		319	30
32	237	331	263	333	290	335	318	333		329		324		319		313	32
34	201	294	224	312	247	315	271	317	295	319		317		312		307	34
36	172	263	192	280	212	296	233	298	255	301	276	303	298	304		301	36
38	148	236	166	251	184	267	202	282	221	284	240	286	259	288	279	289	38
40	129	213	144	227	160	241	176	255	192	268	209	270	227	272	244	273	40
42	112	193	126	206	140	219	154	231	169	244	184	256	199	258	215	259	42
44	98	176	110	188	123	199	136	211	149	222	162	234	176	245	190	247	44
46	87	161	97	172	108	182	120	193	132	204	144	214	156	225	169	235	46
48	77	148	86	158	96	168	106	177	117	187	128	197	139	206	150	216	48
50	68	136	77	145	86	154	95	163	104	172	114	181	124	190	135	199	50
52	61	126	69	134	77	143	85	151	94	159	103	168	112	176	121	184	52
54	55	117	62	125	69	132	76	140	84	148	92	156	101	163	109	171	54
56	49	109	56	116	62	123	69	130	76	137	83	145	91	152	99	159	56
58	45	101	50	108	56	115	62	121	69	128	76	135	82	142	89	148	58
60	40	95	46	101	51	107	57	114	63	120	69	126	75	132	81	139	60
62	37	89	41	95	46	100	52	106	57	112	63	118	68	124	74	130	62
64	34	83	38	89	42	94	47	100	52	105	57	111	62	116	68	122	64
66	31	77	35	83	39	89	43	94	48	99	52	104	57	109	62	114	66
68			32	79	36	84	40	88	44	93	48	98	53	103	57	108	68
70			29	73	33	79	36	83	40	88	44	93	48	97	53	102	70

- Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
- Straight line interpolations may be made between depths and spans.
- Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
- These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs.
- Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
- Minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes has been considered but does not affect the values in this table.

# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

**TJM® Series**

Simple Span

## TJM® Series with Glue-Nailed Floor

Depth	20		22		24		26		28		30		32		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
18	454	457		457		457		457		453		447		441	18
20	307	433	372	433		433		433		432		428		423	20
22	236	377	287	413	342	413	399	413		413		411		407	22
24	185	317	226	356	270	394	316	395	364	395		395		392	24
26	147	271	181	304	217	337	255	369	294	380	335	380	376	378	26
28	119	234	147	262	176	291	208	319	241	347	275	366	310	366	28
30	98	204	121	229	145	253	171	278	199	303	228	328	258	351	30
32	81	179	100	201	121	223	143	245	167	266	191	288	217	310	32
34	68	159	84	178	102	198	121	217	141	236	162	256	184	275	34
36	58	142	71	159	86	176	103	194	120	211	138	228	157	245	36
38	49	123	61	143	74	158	88	174	103	189	118	205	135	220	38
40	42	106	53	129	64	143	76	157	89	171	102	185	117	199	40
42	37	92	46	114	55	130	66	142	77	155	89	168	102	180	42
44	32	80	40	99	48	118	58	130	68	141	78	153	89	165	44
46	28	70	35	87	42	106	51	119	59	129	69	140	79	151	46
48			31	77	37	94	45	109	53	119	61	129	70	138	48
50			27	68	33	83	40	99	47	110	54	118	62	127	50
52					30	74	35	89	42	101	48	110	55	118	52
54							32	79	37	93	43	102	50	109	54
56							29	71	34	84	39	94	45	102	56
58									30	76	35	88	40	95	58
60									27	69	32	80	37	89	60
62											29	72	33	83	62
64													30	76	64

Depth	34		36		38		40		42		44		46		48		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
18		432		421		413		402		391		381		371		360	18
20		416		407		400		390		380		372		362		352	20
22		401		394		388		379		371		363		354		345	22
24		388		382		377		369		361		355		346		338	24
26		375		371		366		360		353		347		339		331	26
28	346	363		360		356		350		344		339		332		325	28
30	288	351	320	349		346		342		336		331		325		319	30
32	243	331	270	333	297	335	325	333		329		324		319		313	32
34	206	294	230	312	253	315	278	317	302	319		317		312		307	34
36	176	263	197	280	218	296	239	298	261	301	282	303		304		301	36
38	152	236	170	251	188	267	207	282	226	284	245	286	265	288	285	289	38
40	132	213	148	227	164	241	180	255	197	268	214	270	232	272	250	273	40
42	115	193	129	206	143	219	158	231	173	244	188	256	204	258	220	259	42
44	101	176	113	188	126	199	139	211	152	222	166	234	180	245	194	247	44
46	89	161	100	172	111	182	123	193	135	204	147	214	160	225	173	235	46
48	79	148	89	158	99	168	109	177	120	187	131	197	143	206	154	216	48
50	70	136	79	145	88	154	97	163	107	172	117	181	127	190	138	199	50
52	63	126	71	134	79	143	87	151	96	159	105	168	114	176	124	184	52
54	56	117	63	125	71	132	78	140	86	148	95	156	103	163	112	171	54
56	51	109	57	116	64	123	71	130	78	137	86	145	93	152	101	159	56
58	46	101	52	108	58	115	64	121	71	128	77	135	85	142	92	148	58
60	42	95	47	101	52	107	58	114	64	120	70	126	77	132	83	139	60
62	38	89	43	95	48	100	53	106	58	112	64	118	70	124	76	130	62
64	34	83	39	89	44	94	48	100	53	105	59	111	64	116	70	122	64
66	32	78	36	83	40	89	44	94	49	99	54	104	59	109	64	114	66
68	29	72	33	79	37	84	41	88	45	93	49	98	54	103	59	108	68
70			30	74	34	79	37	83	41	88	45	93	50	97	54	102	70

- Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
- Straight line interpolations may be made between depths and spans.
- Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
- These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 4,900 lbs.
- Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
- Minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes has been considered but does not affect the values in this table.

## TJH™ Series with Nailed Floor

Depth	24		27		30		33		36		39		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
28	222	420	289	426	360	426		426		426		425		422	28
30	183	374	238	410	299	411	362	411		411		411		409	30
32	152	329	199	383	250	398	305	398	362	398		398		397	32
34	128	292	168	339	212	385	258	386	308	386	359	386		386	34
36	109	261	143	303	180	345	221	375	264	375	309	375	355	375	36
38	93	232	122	272	155	310	190	348	228	365	267	365	308	365	38
40	80	200	106	246	134	280	165	314	198	349	232	356	268	356	40
42	70	174	92	223	117	254	144	285	173	317	203	347	235	347	42
44	61	152	80	201	102	232	126	260	152	289	179	317	208	339	44
46	53	133	71	176	90	212	111	238	134	264	158	290	184	316	46
48	47	118	62	156	79	195	98	219	119	243	141	267	163	290	48
50	42	104	55	138	71	177	88	202	106	224	125	246	146	268	50
52	37	93	49	123	63	158	78	187	95	207	112	227	131	248	52
54	33	83	44	111	57	141	70	173	85	192	101	211	118	230	54
56	30	75	40	99	51	127	63	158	77	178	91	196	106	214	56
58			36	90	46	115	57	143	69	166	82	183	96	199	58
60			32	81	42	104	52	129	63	156	75	171	87	186	60
62			29	74	38	94	47	117	57	143	68	160	80	174	62
64					34	86	43	107	52	130	62	150	73	164	64
66					31	79	39	98	48	119	57	141	67	154	66
68					29	72	36	90	44	109	52	130	61	145	68
70							33	82	40	100	48	120	56	137	70

Depth	45		48		51		54		57		60		63		66		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
28		416		408		399		390		381		371		360		350	28
30		404		398		390		381		373		364		354		345	30
32		394		388		381		374		366		358		349		340	32
34		383		379		373		366		359		351		343		335	34
36		374		370		365		359		353		345		338		330	36
38	349	365		362		357		352		346		340		332		325	38
40	306	356	343	354		350		345		340		334		327		320	40
42	269	347	303	346	337	343		339		334		329		323		316	42
44	237	339	268	339	299	336	330	333		329		323		318		312	44
46	210	332	238	332	266	330	295	327		323		318		313		307	46
48	187	314	212	321	238	322	264	321	290	318		314		309		303	48
50	168	290	190	308	213	310	237	312	261	313	286	309		304		299	50
52	150	268	171	289	192	298	214	300	236	302	258	302	281	300		295	52
54	136	249	154	268	173	287	193	289	213	290	234	292	255	293	276	287	54
56	122	231	139	249	157	267	175	278	194	280	213	281	232	283	251	276	56
58	111	216	126	232	143	249	159	265	176	269	194	271	211	271	229	266	58
60	101	202	115	217	130	232	145	248	161	260	177	262	193	262	210	256	60
62	92	189	105	203	119	218	133	232	147	246	162	253	177	253	193	248	62
64	84	177	96	191	109	204	121	218	135	231	149	244	163	245	177	240	64
66	77	167	88	179	100	192	112	205	124	217	137	230	150	237	163	232	66
68	71	157	81	169	92	181	103	193	114	205	126	217	138	229	151	225	68
70	65	148	75	159	84	171	95	182	105	193	116	205	128	216	139	218	70

1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 7,400 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes has been considered but does not affect the values in this table.



# Load Tables/Floor (100%)

Allowable Uniform Load (plf)

# TJH™ Series

Simple Span

## TJH™ Series with Glue-Nailed Floor

Depth	24		27		30		33		36		39		42		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
28	226	420	294	426	366	426		426		426		425		422	28
30	186	374	243	410	304	411	368	411		411		411		409	30
32	155	329	203	383	255	398	310	398	368	398		398		397	32
34	130	292	171	339	215	385	263	386	313	386	365	386		386	34
36	111	261	145	303	184	345	225	375	268	375	314	375	360	375	36
38	95	234	125	272	158	310	193	348	232	365	271	365	313	365	38
40	82	204	108	246	136	280	168	314	201	349	236	356	273	356	40
42	71	177	94	223	119	254	146	285	176	317	207	347	239	347	42
44	62	155	82	203	104	232	128	260	154	289	182	317	211	339	44
46	54	136	72	180	92	212	113	238	136	264	161	290	187	316	46
48	48	120	64	159	81	195	100	219	121	243	143	267	166	290	48
50	43	106	56	141	72	180	89	202	108	224	128	246	149	268	50
52	38	95	50	126	64	161	80	187	96	207	114	227	133	248	52
54	34	85	45	113	58	144	71	173	86	192	103	211	120	230	54
56	30	76	41	101	52	130	64	161	78	178	93	196	108	214	56
58	27	69	37	91	47	117	58	145	70	166	84	183	98	199	58
60			33	83	42	106	53	132	64	156	76	171	89	186	60
62			30	75	38	96	48	120	58	145	69	160	81	174	62
64					35	88	44	109	53	133	63	150	74	164	64
66					32	80	40	100	49	121	58	141	68	154	66
68					29	73	37	91	44	111	53	133	62	145	68
70							34	84	41	102	49	122	57	137	70

Depth	45		48		51		54		57		60		63		66		Depth
Span	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	LL COM	TL	Span
28		416		408		399		390		381		371		360		350	28
30		404		398		390		381		373		364		354		345	30
32		394		388		381		374		366		358		349		340	32
34		383		379		373		366		359		351		343		335	34
36		374		370		365		359		353		345		338		330	36
38	355	365		362		357		352		346		340		332		325	38
40	310	356	349	354		350		345		340		334		327		320	40
42	273	347	307	346	342	343		339		334		329		323		316	42
44	241	339	272	339	304	336		333		329		323		318		312	44
46	214	332	242	332	270	330	299	327		323		318		313		307	46
48	191	314	216	321	242	322	268	321	295	318		314		309		303	48
50	170	290	193	308	217	310	241	312	265	313	290	309		304		299	50
52	153	268	174	289	195	298	217	300	239	302	262	302	285	300		295	52
54	138	249	157	268	176	287	196	289	217	290	238	292	259	293	280	287	54
56	125	231	142	249	160	267	178	278	197	280	216	281	235	283	255	276	56
58	113	216	129	232	145	249	162	265	179	269	197	271	215	271	233	266	58
60	103	202	117	217	132	232	148	248	163	260	180	262	196	262	213	256	60
62	94	189	107	203	121	218	135	232	150	246	165	253	180	253	196	248	62
64	86	177	98	191	110	204	124	218	137	231	151	244	165	245	180	240	64
66	78	167	90	179	101	192	113	205	126	217	139	230	152	237	166	232	66
68	72	157	82	169	93	181	104	193	116	205	128	217	141	229	153	225	68
70	66	148	76	159	86	171	96	182	107	193	118	205	130	216	142	218	70

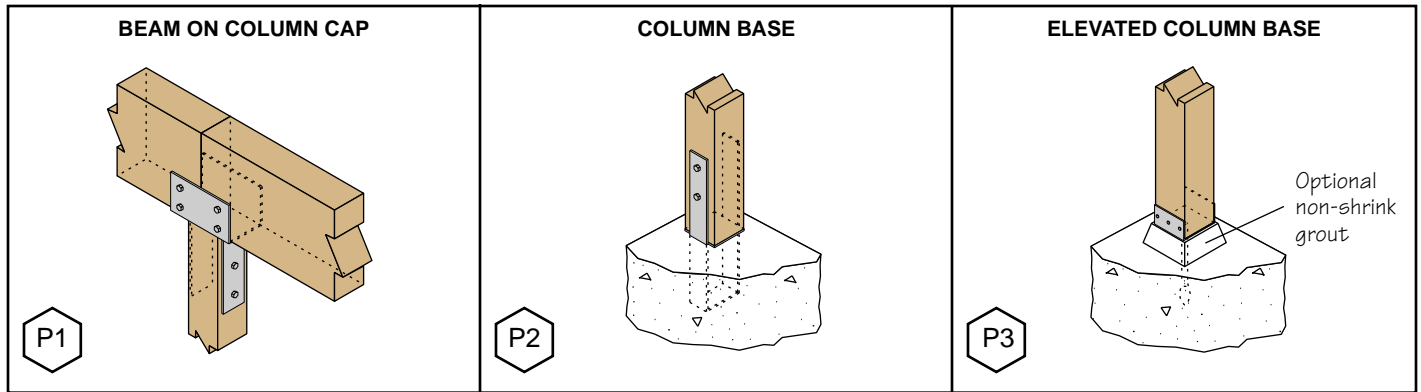
1. Values shown are maximum allowable load capacities. Open-web trusses will be custom designed to the specified loads.
2. Straight line interpolations may be made between depths and spans.
3. Values shown are maximum allowable load capacities of the trusses in pounds per lineal foot (plf) based on:
  - simple span, uniformly loaded conditions.
  - an assumed 22% ratio of dead load to total load (eg.: 50 psf live/20 psf partition/20 psf dead). **These tables may be non-conservative if the actual ratio is higher than 22%.** A more accurate analysis can be obtained by using the TJ-Beam® software program.
  - top chord Z bearing clips. Higher values may be possible with other types of bearing clips.
4. These tables may also be used for bottom chord bearing trusses with or without cantilevers - at one or both ends. Cantilevers are limited to 1/3 of the main span provided the inboard shear for cantilevered conditions is limited to 7,400 lbs.
5. Values in gray shaded areas may be increased 7% for repetitive member usage if the criteria on page 9.7 are met.
6. Minimum concentrated load analysis as required by the BOCA, SBCCI and UBC building codes has been considered but does not affect the values in this table.

## Notes

This image shows a full page of blank graph paper. The background is a very light gray, and it is covered by a precise grid of thin, medium-gray horizontal and vertical lines. These lines intersect to form a series of small, identical squares across the entire surface of the page. There are no margins, text, or other markings present.

# Parallam® PSL Columns and Posts

## CONNECTION DETAILS



## ALLOWABLE AXIAL LOADS

EFFECTIVE COLUMN LENGTH <sup>(1)</sup>	ALLOWABLE AXIAL LOAD ON PARALLAM® PSL COLUMNS (lbs)																	
	COLUMN SIZE																	
	3½" x 3½"			3½" x 5¼"			3½" x 7"			5¼" x 5¼"			5¼" x 7"			7" x 7"		
	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%
4'-0"	15,085	16,612	17,538															
5'-0"	12,811	13,779	14,340	19,217	20,669	21,510												
6'-0"	10,598	11,202	11,551	15,897	16,804	17,326	21,196	22,405	23,101	33,300	36,685	38,743						
7'-0"	8,740	9,143	9,375	13,111	13,715	14,063	17,481	18,287	18,751	30,016	32,551	34,041						
8'-0"	7,270	7,553	7,716	10,905	11,330	11,574	14,539	15,106	15,432	26,655	28,499	29,565	35,540	37,998	39,420			
9'-0"	6,115	6,323	6,441	9,173	9,484	9,662	12,231	12,645	12,883	23,484	24,845	25,631	31,312	33,127	34,175			
10'-0"	5,203	5,359	5,449	7,805	8,039	8,173	10,407	10,718	10,897	20,667	21,703	22,300	27,556	28,937	29,733			
11'-0"	4,474	4,595	4,663	6,712	6,892	6,995	8,949	9,189	9,327	18,239	19,047	19,512	24,318	25,395	26,016			
12'-0"	3,885	3,979	4,033	5,827	5,969	6,050	7,770	7,959	8,067	16,166	16,810	17,180	21,555	22,413	22,907			
13'-0"	3,402	3,478	3,521	5,103	5,217	5,282	6,804	6,956	7,042	14,401	14,922	15,221	19,201	19,895	20,295			
14'-0"	3,003	3,064	3,099	4,504	4,596	4,649	6,005	6,129	6,199	12,893	13,320	13,566	17,190	17,760	18,088	34,168	35,796	36,736
15'-0"										11,599	11,954	12,158	15,465	15,939	16,210	31,164	32,526	33,311
16'-0"										10,483	10,781	10,952	13,977	14,375	14,603	28,498	29,648	30,312
17'-0"										9,516	9,769	9,914	12,688	13,025	13,218	26,130	27,112	27,677
18'-0"										8,673	8,890	9,013	11,565	11,853	12,018	24,027	24,871	25,356
19'-0"										7,935	8,122	8,228	10,581	10,829	10,971	22,153	22,885	23,305
20'-0"										7,286	7,447	7,540	9,715	9,930	10,053	20,481	21,118	21,484
21'-0"										6,712	6,853	6,933	8,949	9,137	9,244	18,983	19,542	19,862
22'-0"																17,638	18,131	18,413
23'-0"																16,427	16,863	17,113
24'-0"																15,333	15,722	15,944

<sup>(1)</sup> Table assumes that the column is unbraced, except at the column ends and the effective column length is equal to the actual column length.

### General Notes:

- Table applies to solid, one-piece column members used in dry service conditions.
- Loads shown have been adjusted to accommodate the worst case of the following eccentric conditions: 0.167 of column thickness (first dimension) or 0.167 of column width.
- Loads are based on simple axially loaded columns using the design provisions of the National Design Specification® for Wood Construction (NDS), 1997 edition. For side loads or other combined bending and axial loads see provisions of NDS, 1997 edition.

### 1.8E PARALLAM® PSL ALLOWABLE DESIGN STRESSES (100% Load Duration)

Modulus of elasticity	E	=	1.8 x 10 <sup>6</sup> psi
Flexural stress	F <sub>b</sub>	=	2,400 psi <sup>(1)</sup>
Compression parallel to grain	F <sub>c  </sub>	=	2,500 psi

(1) For 12" depth. For others, multiply by  $\left[\frac{12}{d}\right]^{0.111}$

See NER-481 for additional design information.

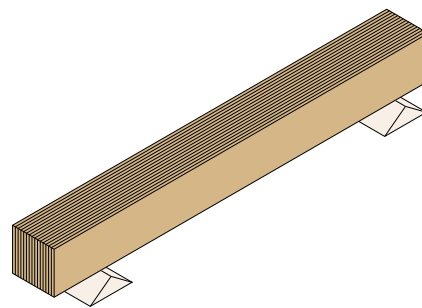
# Design Stresses (100%) Load Duration

## 1.9E Microllam® LVL (Beam Orientation) ALLOWABLE DESIGN STRESSES

Shear modulus of elasticity	G	=	118,750 psi
Modulus of elasticity	E	=	$1.9 \times 10^6$ psi
Flexural stress	$F_b$	=	2,600 psi <sup>(1)</sup>
Compression perpendicular to grain			
parallel to glue line	$F_{c\perp}$	=	750 psi <sup>(2)</sup>
Compression parallel to grain	$F_{c\parallel}$	=	2,510 psi
Horizontal shear			
perpendicular to glue line	$F_v$	=	285 psi

(1) For 12" depth. For others, multiply by  $\left[\frac{12}{d}\right]^{0.136}$

(2)  $F_{c\perp}$  shall not be increased for duration of load.  
Refer to NER-481 or CCMC 08675-R for additional design information.



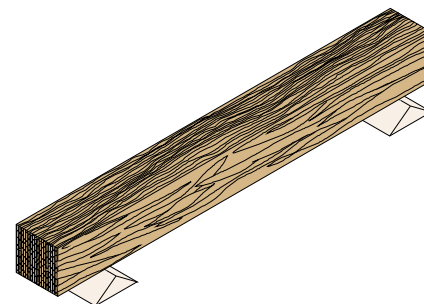
Microllam® LVL in Beam Orientation

## 2.0E Parallam® PSL (Beam Orientation) ALLOWABLE DESIGN STRESSES

Shear modulus of elasticity	G	=	125,000 psi
Modulus of elasticity	E	=	$2.0 \times 10^6$ psi
Flexural stress	$F_b$	=	2,900 psi <sup>(1)</sup>
Compression perpendicular to grain			
parallel to wide face of strands	$F_{c\perp}$	=	750 psi <sup>(2)</sup>
Compression parallel to grain	$F_{c\parallel}$	=	2,900 psi
Horizontal shear perpendicular to			
wide face of strands	$F_v$	=	290 psi

(1) For 12" depth. For others, multiply by  $\left[\frac{12}{d}\right]^{0.111}$

(2)  $F_{c\perp}$  shall not be increased for duration of load.  
Refer to NER-481 or CCMC 11161-R for additional design information.



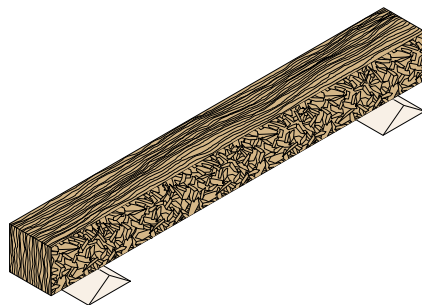
Parallam® PSL in Beam Orientation

## 1.5E TimberStrand® LSL (Beam Orientation) ALLOWABLE DESIGN STRESSES

Modulus of elasticity	E	=	$1.5 \times 10^6$ psi
Flexural stress	$F_b$	=	2,250 psi <sup>(1)</sup>
Compression perpendicular to grain			
parallel to wide face of strands	$F_{c\perp}$	=	750 psi <sup>(2)</sup>
Compression parallel to grain	$F_{c\parallel}$	=	1,950 psi
Horizontal shear perpendicular to			
wide face of strands	$F_v$	=	400 psi

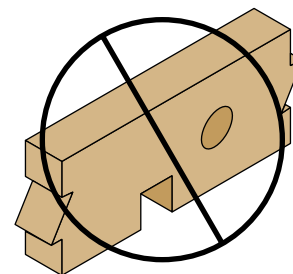
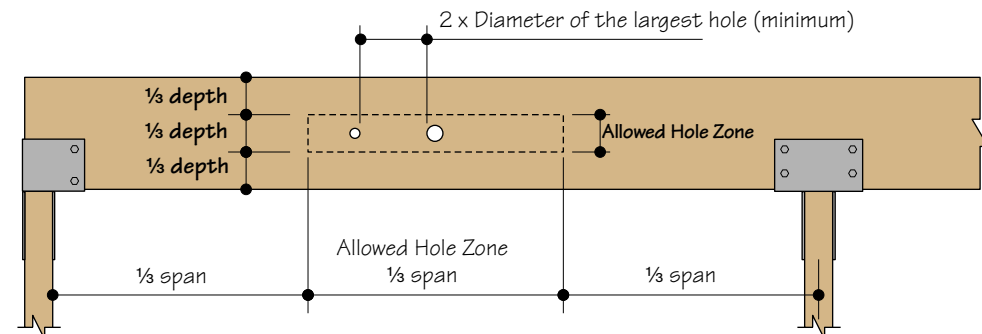
(1) For 12" depth. For others, multiply by  $\left[\frac{12}{d}\right]^{0.092}$

(2)  $F_{c\perp}$  shall not be increased for duration of load.  
Refer to NER-481 or CCMC 12627-R for additional design information.



TimberStrand® LSL in Beam Orientation

## ALLOWABLE HOLES FOR UNIFORMLY LOADED BEAMS



DO NOT CUT, notch or drill holes except as indicated in illustration at left

# Material Weights

Refer to local building code for live load design requirements.

## Composition Roofing

2-15 and 1-90 lb. . . . .	1.7 psf
3-15 and 1-90 lb. . . . .	2.2 psf
3-ply and gravel. . . . .	5.6 psf
4-ply and gravel. . . . .	6.0 psf
5-ply and gravel. . . . .	6.5 psf
Insulated Roof Membrane Assembly (IRMA) 2" thick . . . .	13.0 psf
Single-ply roofs (insulation not included)	
Ballasted system . . . . .	13.0 psf
Mechanically fastened. . . . .	2.0 psf
Fully adhered. . . . .	2.0 psf

## Douglas Fir Sheathing\*

(Based on 36 pcf for plywood, 40 pcf for OSB)

½" plywood . . . . .	1.5 psf
⅝" plywood . . . . .	1.8 psf
¾" plywood . . . . .	2.3 psf
1⅛" plywood . . . . .	3.4 psf
½" OSB . . . . .	1.7 psf
⅝" OSB . . . . .	2.0 psf
¾" OSB . . . . .	2.5 psf
7⁄8" OSB . . . . .	2.9 psf
1⅛" OSB . . . . .	3.7 psf

## Miscellaneous Roofing Materials

Corrugated galvanized steel	
16 ga. . . . .	2.9 psf
20 ga. . . . .	1.8 psf
22 ga. . . . .	1.5 psf
24 ga. . . . .	1.3 psf
Asphalt shingles . . . . .	2.5 psf
Wood shingles. . . . .	2.0 psf
Clay tile . . . . .	9.0 to 14.0 psf
Slate (¾" thick) . . . . .	15.0 psf

## Rigid Insulation (1" thick)

Temlock . . . . .	1.2 psf
Cork . . . . .	0.7 psf
Gold bond . . . . .	1.5 psf
Polystyrene foam. . . . .	0.2 psf
Foamglass. . . . .	0.8 psf
Rigid fiberglass . . . . .	1.5 psf

## Roll or Batt Insulation (1" thick)

Rock wool . . . . .	0.2 psf
Glass wool. . . . .	0.1 psf

## Floors

Hardwood (nominal 1") . . . . .	4.0 psf
Concrete (1" thick)	
Regular . . . . .	12.0 psf
Lightweight . . . . .	8.0 to 10.0 psf
Gypsum concrete (¾" thick) . . . . .	6.5 psf
Sheet vinyl. . . . .	0.5 psf
Carpet and pad . . . . .	1.0 psf
¾" ceramic or quarry tile . . . . .	10.0 psf

## Ceilings

Acoustical fiber tile . . . . .	1.0 psf
½" gypsum board . . . . .	2.2 psf
⅝" gypsum board. . . . .	2.8 psf
Plaster (1" thick) . . . . .	8.0 psf
Metal suspension system (including tile) . . . . .	1.8 psf

**When calculating total dead load we strongly urge you to use a minimum of 1.5 psf for 'miscellaneous' with all dead loads.**

## Approximate Weights of Truss Joist Products

Joist or Truss Series	PLF Weight
TJI®/L65 Joists	3.4 - 5.8
TJI®/L90 Joists	4.7 - 6.6
TJI®/H90 Joists	4.6 - 7.1
TJL™ or TJLX™ Trusses	3.75 - 4.25
TJW™ Trusses	4.50 - 5.25
TJS™ Trusses	4.75 - 5.75
TJM® Trusses	8.00 - 9.00
TJH™ Trusses	10.00 - 12.00

## Weights of Douglas Fir Framing Members\*

Nominal Size	Joist Spacing		
	12"	16"	24"
2 x 4	1.4 psf	1.1 psf	0.7 psf
2 x 6	2.2 psf	1.7 psf	1.1 psf
2 x 8	2.9 psf	2.2 psf	1.5 psf
2 x 10	3.7 psf	2.8 psf	1.9 psf
2 x 12	4.4 psf	3.3 psf	2.2 psf
3 x 6	3.6 plf		
4 x 6	5.0 plf		
4 x 8	6.8 plf		
4 x 10	8.6 plf		
4 x 12	10.4 plf		

## Weights of Sprinkler Lines

Size of Pipe	Schedule 40, Standard Pipe		Schedule 10, Thin Wall Pipe	
	Dry (plf)	Wet (plf)	Dry (plf)	Wet (plf)
1"	1.7	2.1	1.4	1.8
1¼"	2.3	3.0	1.8	2.5
1½"	2.7	3.6	2.1	3.1
2"	3.7	5.2	2.7	4.2
2½"	5.8	7.9	3.6	5.9
3"	7.6	10.8	4.3	8.0
3½"	9.2	13.5	5.0	9.8
4"	10.9	16.4	5.6	11.8
5"	14.8	23.5	7.8	17.3
6"	19.2	31.7	9.3	23.1
8"	28.6	50.8	16.9	40.1
10"	40.5	74.6		

\* For southern pine weights, increase Douglas fir weights by 10%.

## Technical Support Organization and Functions

Located at each of the Trus Joist regional sales offices is an engineering department staffed by professional engineers and technologists. Their role is to provide technical support and service to our field representatives, the professional design community and the producing plant. The engineering department personnel have access to extensive test data, policy and procedure information, production standards, building code product acceptance criteria, and the most current computer design software.

The engineering departments work closely with our field representatives and can provide the following services: Review and analysis of potential applications submitted by our field representatives; drawings showing placement, bearing conditions, dimensions and installation suggestions; custom design of the product; quality inspection responsibility for all plant production; and assistance in resolving field problems should they arise.

This section of the manual contains data, procedure, policy and design information frequently required by the design professional in using our products. Because of the variety of possible conditions, the design professional is encouraged to request support from the Trus Joist production engineering department through our field representatives.

## Product Application Assumptions

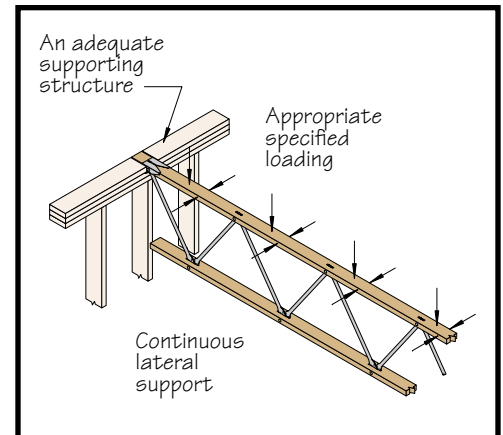
We must presume that there will be adequate supporting structure for our products. Trus Joist's role is not the design of the entire structure, nor can we assume accountability for the full function of the roof or floor system. We can only be responsible for the internal design integrity of our own products, which are structural components of roof and floor systems necessarily designed by others.

We also presume continuous lateral support to the compression chord (flange) of our products unless specific design provisions account for other lateral support conditions. Continuous lateral support is provided by 8d (2½") nails at 24" on-center minimum for TJI® trusses, by 8d (2½") nails at 32" on-center minimum for TJL™

and TJW™ trusses, and by 8d (2½") nails at 12" on-center staggered to each of the double chord members minimum for TJS™, TJM® and TJH™ trusses, all connected to an adequate diaphragm or total lateral strength system.

The magnitude, direction and location of all design loads are presumed to be as specified by the building designer. The review of this loading by our personnel is only for purposes of designing our product.

Other application assumptions are referenced on the terms and conditions of our purchase agreement contract.

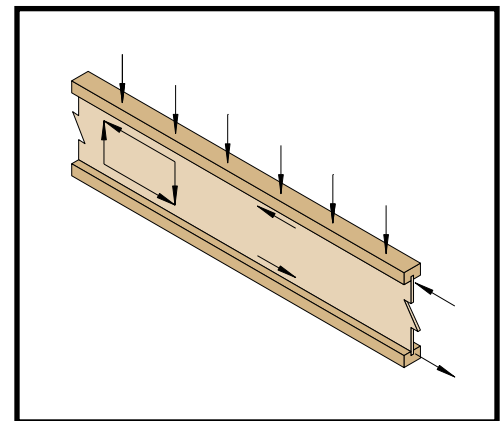


## Analysis Procedure — TJI® Joists

The TJI® truss product is analyzed as a wood joist with Microllam® LVL flanges, utilizing allowable stresses as designated in the product acceptance criteria. The bending capacity is determined using the net areas of the flanges (rout area deducted) as sole flexural strength with moments of inertia and extreme fiber stresses so calculated. Shear capacity has been established through testing and is continually confirmed in quality control testing. Local web buckling in high shear locations as well as bearing load transfer to the web may require reinforcement of the web, typically by use of web stiffeners. Stiffener requirements and fastening details have been established by test.

The composite nature of the TJI® joist results in

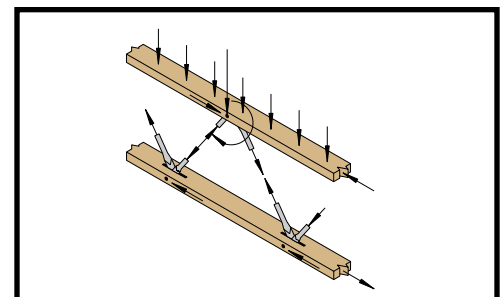
multiple control mechanisms, all of which are accounted for in testing, but are generally unrelated to the shear mechanics of solid joists and timbers. For this reason, ignoring loads near supports is not generally appropriate, and the basic design shear is the vertical shear at the face of the support. In some cases, web confinement and inelastic beam behavior are observed to cause increases in shear strength during testing of members continuous over a support. Deflection of the TJI® series joist is closely predicted through flexural and shear deflection analysis with composite interactions with the sheathing material accounting for the nailed or glue-nailed attachment.



## Analysis Procedure — TJL™, TJLX™, TJW™, TJS™, TJM®, TJH™ Open-Web Trusses

Open-web trusses are analyzed as pin connected trusses with continuity in the top chord member, which receives the superimposed loading. Allowable truss member forces are designated in the product acceptance criteria or derived from allowable unit stresses therein. Chord members are analyzed considering both net section at panel points and gross sections between the panels. Web member allowable forces consider gross

and net sections, pin bearing and buckling. Pin connection details consider allowable bearing in the wood both parallel and perpendicular to grain direction. Reaction detail analysis includes allowable bearing, induced moments where applicable and detail stresses. Stress and deflection calculations are by the displacement method. All of the above is substantiated through continual testing.





# TJI® Joist Design Properties/Performance Plus® Web Material

Basic Properties							Reaction Properties <sup>(4) (5) (6)</sup>							
Joist Depth	Joist Weight (plf)	Resistive Moment <sup>(1)</sup> (ft-lbs)	Vertical Shear <sup>(2)</sup> (lbs)	EI x 10 <sup>6</sup> (in. <sup>2</sup> lbs)	EI <sup>(3)</sup> x 10 <sup>6</sup> TJI® Joist with Nailed Plywood Floor Sheathing (in. <sup>2</sup> lbs)	EI <sup>(3)</sup> x 10 <sup>6</sup> TJI® Joist with Glue-Nailed Plywood Floor Sheathing (in. <sup>2</sup> lbs)	End Reaction (lbs)				Intermediate Reaction (lbs)			
							1 3/4"		3 1/2"		3 1/2"		5 1/4"	
							Bearing Length		Bearing Length		Bearing Length		Bearing Length	
							Web Stiffeners <sup>(8)</sup>		Web Stiffeners <sup>(8)</sup>		Web Stiffeners <sup>(8)</sup>		Web Stiffeners <sup>(8)</sup>	
							No	Yes	No	Yes	No	Yes	No	Yes
TJI®/L65 Joist														
11 7/8"	3.4	6260	1925	459	511	553	1390	1680	1885	1925	2780	3150	3395	3765
14"	3.7	7655	2125	678	747	801	1390	1680	1885	2125	2780	3400	3395	4015
16"	3.9	8935	2330	930	1014	1081	1390	1680	1885	2330	2780	3525	3395	4140
18"	4.2	9835	2535	1227	1326	1405	1390	1680	1885	2535	2780	3650	3395	4265
20"	4.5	11040	2740	1572	1685	1775	NA	1680	NA	2740	NA	3720	NA	4385
22"	4.8	12245	2935	1967	2093	2193	NA	1680	NA	2935	NA	3720	NA	4510
24"	5.0	12975	3060	2414	2551	2660	NA	1680	NA	3060	NA	3720	NA	4635
26"	5.3	14140	2900	2915	3060	3177	NA	1680	NA	2900	NA	4760	NA	5380
28"	5.6	15305	2900	3473	3624	3745	NA	1680	NA	2900	NA	4885	NA	5505
30"	5.8	16465	2900	4089	4242	4365	NA	1680	NA	2900	NA	5005	NA	5625
TJI®/L90 Joist														
16"	4.7	12425	2330	1246	1343	1420	1400	2030	1885	2330	3355	3985	3970	4605
18"	5.0	13680	2535	1635	1751	1844	1400	2030	1885	2515	3355	3985	3970	4605
20"	5.3	15360	2740	2085	2219	2326	NA	2190	NA	2675	NA	4145	NA	4760
22"	5.6	17040	2935	2597	2748	2869	NA	2345	NA	2830	NA	5090	NA	5710
24"	5.8	18060	3060	3172	3340	3474	NA	2345	NA	2830	NA	5195	NA	6025
26"	6.1	19680	2900	3814	3996	4141	NA	2345	NA	2900	NA	5800	NA	5800
28"	6.4	21300	2900	4525	4718	4872	NA	2345	NA	2900	NA	5800	NA	5800
30"	6.6	22925	2900	5306	5507	5668	NA	2345	NA	2900	NA	5800	NA	5800
TJI®/H90 Joist														
11 7/8"	4.6	9730	1925	687	751	801	1400	1715	1885	1925	3495	3810	4100	4420
14"	4.9	11975	2125	1015	1100	1167	1400	1875	1885	2125	3495	3970	4100	4575
16"	5.2	14100	2330	1389	1493	1577	1400	2031	1885	2330	3495	4130	4100	4735
18"	5.4	15685	2535	1827	1952	2053	1400	2031	1885	2515	3495	4130	4100	4735
20"	5.7	17670	2740	2331	2478	2595	NA	2190	NA	2675	NA	4285	NA	4890
22"	6.0	19625	2935	2904	3072	3206	NA	2345	NA	2830	NA	5195	NA	5840
24"	6.3	20810	3060	3549	3735	3885	NA	2345	NA	2830	NA	5195	NA	6155
26"	6.5	22695	2900	4266	4471	4634	NA	2345	NA	2900	NA	5800	NA	5800
28"	6.8	24580	2900	5059	5279	5455	NA	2345	NA	2900	NA	5800	NA	5800
30"	7.1	26465	2900	5930	6163	6349	NA	2345	NA	2900	NA	5800	NA	5800

The stated allowable design properties are for loads of normal duration. Adjustments to the allowable design values shall be in accordance with the applicable code.

- (1) Resistive Moment values may be increased 4% for repetitive member usage. See page 9.7 for criteria.
- (2) For possible increases in shear capacity see below.
- (3) For deflection calculation only. Assumes 3/4" plywood or other wood-based structural use panels.
- (4) Interpolation between bearing lengths and joist depths is permitted for allowable design reactions.
- (5) The minimum bearing length is permitted to be reduced for joists supported by hangers if supplemental nail attachment is provided to the web stiffener.
- (6) Allowable bearing lengths have been determined based on Trus Joist products. Allowable bearing on supporting members shall be checked.
- (7) Shaded areas indicate 5 1/4" and 7" bearing lengths at intermediate reactions.
- (8) Refer to page 9.3 for web stiffener details.

## TJI® Joist Shear Design

When joists are used as simple-span members, the design shear is equal to the shear at the face of the support.

When joists **up to 24" in depth** are used as multiple-span members, the design shear is the calculated shear at the interior support reduced by the following:

$$R = \frac{W}{19.25} \leq 18\%$$

Where: R is the percent reduction  
W is uniform load in plf

# Web Stiffeners and Bearing Distances

## The Importance of Web Stiffeners

Web stiffeners are an important part of almost all TJI® joist installations. Web stiffeners will:

- Stiffen the TJI® joist web material and prevent buckling.
- Minimize the bearing distance required for the TJI® joist.
- Help transfer reaction loads into the TJI® joist web.
- Provide stabilization in hangers.

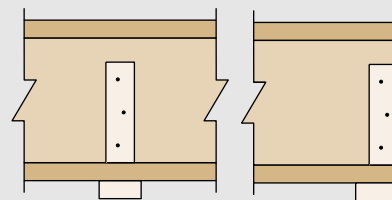
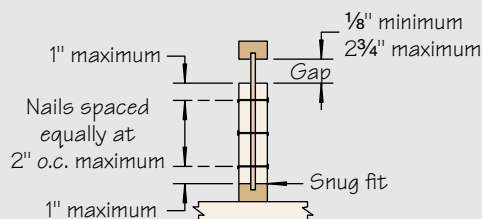
## To Ensure System Performance

- Web stiffeners must be installed at bearing points as shown in the details below and at points of concentrated loads exceeding 1500 lbs.
- Web stiffeners are available from Trus Joist and are usually plant installed on joists 22" deep and deeper.
- Gap must be at top at all bearing conditions. In case of concentrated loads, the gap must be at the bottom (see details below).

## Web Stiffener Attachment

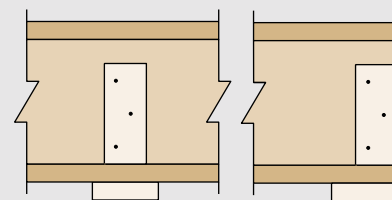
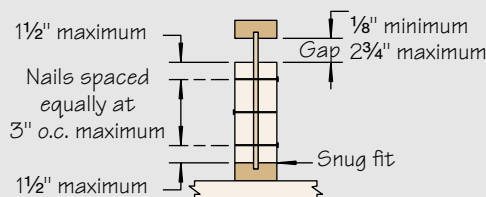
### TJI®/L45T, L60T and L65 Joists

- Web stiffener material shall be sheathing meeting the requirements of PS 1 or PS 2 or of CSA Standards O151, O325 or O437 with face grain vertical.
- Minimum web stiffener size is 1" x 2<sup>5</sup>/<sub>16</sub>" (5/8" x 2<sup>5</sup>/<sub>16</sub>" with TJI®/L45T joists; 7/8" x 2<sup>5</sup>/<sub>16</sub>" with TJI®/L60T joists).
- Use 8d (2<sup>1</sup>/<sub>2</sub>") box nails minimum, spaced at 2" on-center maximum, clinched when possible.



### TJI®/L90, L90T and H90 Joists

- Web stiffener material shall be 2x4 construction grade or better.
- Use 16d (3<sup>1</sup>/<sub>2</sub>") box nails minimum, spaced at 3" on-center maximum. **At intermediate supports with joist depths of 22" and greater, use 2 rows of 16d (3<sup>1</sup>/<sub>2</sub>") box nails minimum, spaced at 3" on-center maximum.**



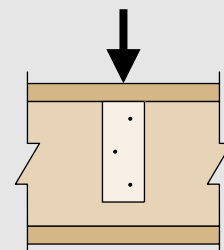
## Concentrated Loads Exceeding 1500 Pounds

### TJI®/L45T, L60T and L65 Joists:

- Web stiffener material shall be sheathing meeting the requirements of PS 1 or PS 2 or of CSA Standards O151, O325 or O437 with face grain vertical.
- Minimum web stiffener size is 1" x 2<sup>5</sup>/<sub>16</sub>" (5/8" x 2<sup>5</sup>/<sub>16</sub>" with TJI®/L45T joists; 7/8" x 2<sup>5</sup>/<sub>16</sub>" with TJI®/L60T joists).
- Use 8d (2<sup>1</sup>/<sub>2</sub>") box nails minimum, spaced at 2" on-center maximum, clinched.

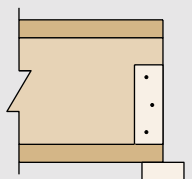
### TJI®/L90, L90T and H90 Joists:

- Web stiffener material shall be 2x4 construction grade or better.
- Use 3-16d (3<sup>1</sup>/<sub>2</sub>") box nails minimum.



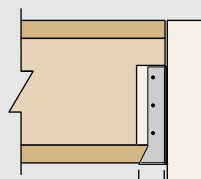
## Assumed Bearing Distance

### End Support



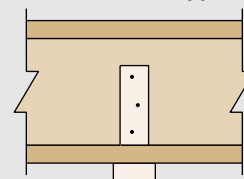
Assumed bearing distance  
(See table below)

### Hanger Support



Assumed bearing distance  
(See table below)

### Intermediate Support



JOIST DEPTH <sup>(3)</sup>	ASSUMED BEARING DISTANCES FOR LOAD TABLES							
	Tapered TJI®/L45T Joists		TJI®/L65, L90 and H90 Joists		Tapered TJI®/L60T		Tapered TJI®/L90T	
	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>	End Support or Hanger Support <sup>(1)(2)</sup>	Intermediate Support <sup>(2)</sup>
11 <sup>7</sup> / <sub>8</sub> " <sup>(4)</sup>	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2"	3 <sup>1</sup> / <sub>2</sub> "
14" <sup>(4)</sup>	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2"	3 <sup>1</sup> / <sub>2</sub> "
16"	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2"	3 <sup>1</sup> / <sub>2</sub> "
18"	1 <sup>3</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "
20"	1 <sup>3</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	3 <sup>1</sup> / <sub>2</sub> "
22"	2 <sup>1</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "	3"	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "
24"	2 <sup>1</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "	5 <sup>1</sup> / <sub>4</sub> "	3"	5 <sup>1</sup> / <sub>4</sub> "	3"	5 <sup>1</sup> / <sub>4</sub> "
26"	N/A	N/A	2 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>3</sup> / <sub>4</sub> "	7"
28"	N/A	N/A	2 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>3</sup> / <sub>4</sub> "	7"
30"	N/A	N/A	2 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>1</sup> / <sub>2</sub> "	7"	3 <sup>1</sup> / <sub>2</sub> "	7"

(1) The minimum bearing length may be reduced for joists supported by hangers if supplemental nail attachment to the end web stiffeners is provided.

(2) Dimensions shown are for maximum load. Specific application may permit reduction in this criteria.

(3) For tapered TJI® joists, use next higher depth.

(4) These depths not available in all series. See page 3.1.

# Camber and Deflection Criteria

## Trus Joist Camber Criteria

The manufacture of Trus Joist open-web trusses includes the ability to provide a specified camber for appearance and to resist the possibility of deflection below a level line under load. Camber must be considered on an individual job basis, although certain policies derived from successful experiences are indicated. If camber is not specified in the order, our policy and considerations of other related job information will be used by our design department towards its selection.

Although excessive camber in any product may cause problems in framing, it is recommended that these policies be followed closely to avoid the serious problems caused by inadequate camber. In the case of flat roofs, the camber policy will be strictly adhered to unless it is shown that an adequate drainage system is provided to avoid ponding water and resulting overloads.

Camber selection in structural members should include consideration for matching requirements of adjacent members of different length as well as cantilevers meeting at a common point and the related elevation control of fascia details. In addition, consideration should be given to concentrated loads, non-load bearing walls and special drainage prob-

lems. Our Trus Joist representative is available to consult with you to assist in developing the camber requirements.

**The TJI® joists are normally produced without camber.** However, camber is available at 2250' radius as a special order. Camber is not recommended for multiple span or cantilever applications.

Application		Recommended Camber	Min. Recommended Camber
Roof	Snow Load Location:		
	Flat Roofs	TLΔ	DLΔ + ½ LLΔ
	Sloped Roofs (¼" per foot minimum)	DLΔ + ½ LLΔ	DLΔ + ¼ LLΔ
	Non-Snow Load Locations: All Roofs	1½ DLΔ	1¼ DLΔ
Floor	All Floors	1½ DLΔ	DLΔ

DLΔ = Dead Load Deflection  
LLΔ = Live Load Deflection  
TLΔ = Total Load Deflection

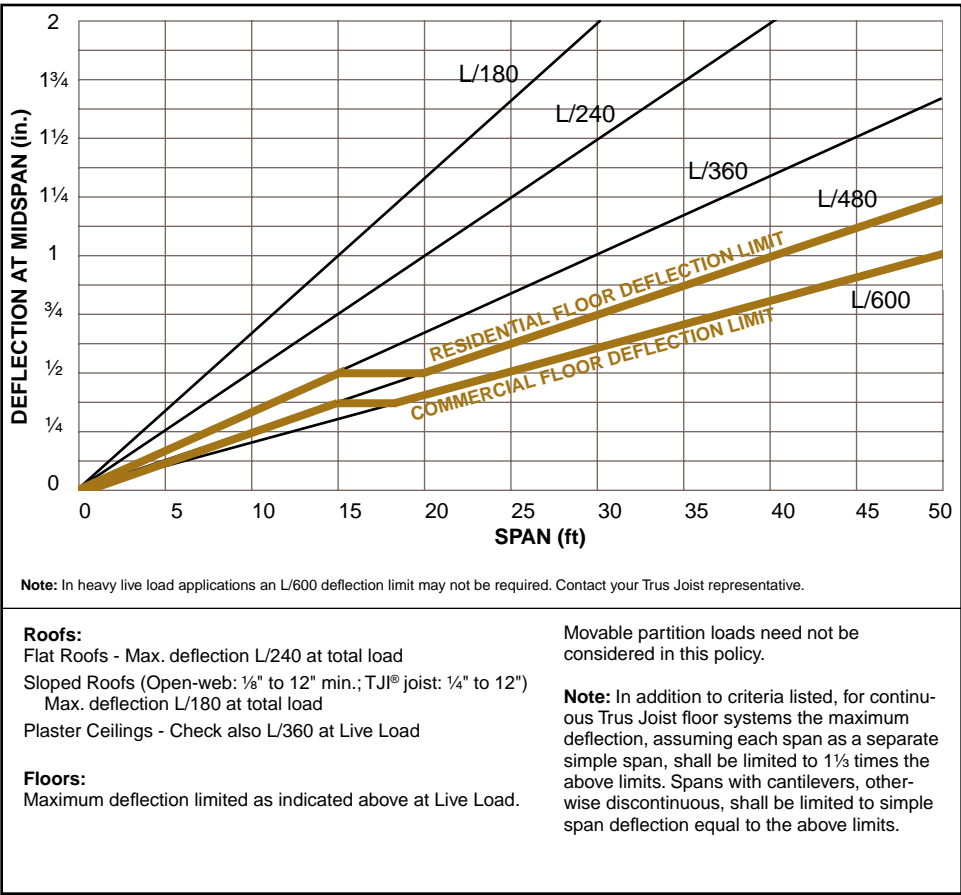
**Note:** Movable partition loads are not to be considered in this policy.

## Trus Joist Recommended Deflection Criteria

Full scale tests have shown repeatedly that Trus Joist products have deflection characteristics which are consistently predictable by calculation, with negligible set after load withdrawal.

The chart at right is much more restrictive than the minimum required by building codes. The load tables presented in this manual incorporate these deflection criteria.

Logically, the deflection criteria vary by application. In a roof system, excessive deflection would be unsightly and potentially cause ceiling cracks and/or drainage problems. Floor systems, on the other hand, have entirely different—usually much more restrictive—deflection performance requirements.



## TJI® Joists

The deflection characteristics of TJI® joists can be closely approximated by standard analysis of beams, using the EI values in the Design Properties table (page 9.2) for flexural deflections, and a modulus of rigidity of 90,000 psi for plywood and 150,000 psi for OSB for shear deflections. The EI values selected from the Design Properties table must be determined based upon application, i.e., use EI for joist only for roof applications and EI with nailed sheathing or glue-nailed sheathing for floor applications.

For the uniformly loaded simple span, the mid-span deflection in inches can be calculated as follows:

TJI®/L65, L90 and H90 Joists:

$$\Delta = \frac{22.5WL^4}{EI} + \frac{2.26WL^2}{d \times 10^5}$$

(The second function is shear deflection)

Where:

W = Uniform load in plf

L = Span in feet

d = Depth of TJI® joist in inches

EI = Value from the proper column in the Design Properties table (page 9.2)

### Example:

14" TJI®/L65 floor joist  
Nailed plywood floor sheathing  
20' span floor  
100 plf uniform load

$$\Delta = \frac{22.5 \times 100 \times 20^4}{747 \times 10^6} + \frac{2.26 \times 100 \times 20^2}{14 \times 10^5} = 0.55"$$

If this same application had the plywood deck glue-nailed to the TJI® joists the deflection would reduce to:

$$\Delta = \frac{22.5 \times 100 \times 20^4}{801 \times 10^6} + \frac{2.26 \times 100 \times 20^2}{14 \times 10^5} = 0.51"$$

## Open-Web Trusses

Deflections for the open-web truss series can be closely approximated by calculation, assuming the chord members act as the resistance to deflection with the Modulus of Elasticity "E" of the chords adjusted to allow for the deflection of the webs. Thus the product of the Moment of Inertia "I" and the effective Modulus of Elasticity "E" is as follows:

Truss Series	EI Truss Only (Roof)	EI Nailed Floor	EI Glue-nailed Floor
TJL™	5.00 x 10 <sup>6</sup> d <sup>2</sup>	5.42 x 10 <sup>6</sup> d <sup>2</sup>	5.75 x 10 <sup>6</sup> d <sup>2</sup>
TJLX™	5.26 x 10 <sup>6</sup> d <sup>2</sup>	5.69 x 10 <sup>6</sup> d <sup>2</sup>	6.03 x 10 <sup>6</sup> d <sup>2</sup>
TJW™	6.78 x 10 <sup>6</sup> d <sup>2</sup>	7.20 x 10 <sup>6</sup> d <sup>2</sup>	7.54 x 10 <sup>6</sup> d <sup>2</sup>
TJS™	6.94 x 10 <sup>6</sup> d <sup>2</sup>	7.41 x 10 <sup>6</sup> d <sup>2</sup>	7.79 x 10 <sup>6</sup> d <sup>2</sup>
TJM®	10.06 x 10 <sup>6</sup> d <sup>2</sup>	10.60 x 10 <sup>6</sup> d <sup>2</sup>	11.02 x 10 <sup>6</sup> d <sup>2</sup>
TJH™	15.93 x 10 <sup>6</sup> d <sup>2</sup>	16.54 x 10 <sup>6</sup> d <sup>2</sup>	17.03 x 10 <sup>6</sup> d <sup>2</sup>

For uniformly loaded simple spans, the deflection in inches becomes:

$$\Delta = \frac{22.5WL^4}{EI}$$

Where:

W = Uniform load in pounds per lineal foot

L = Span in feet

d = The average pin to pin depth of the truss in inches, which is the average depth of the truss minus the following:

TJL™/TJLX™	1.5 inches
TJW™	1.5 inches
TJS™	2.3 inches
TJM®	3.5 inches
TJH™	5.5 inches

### Uniform Load Example:

30" TJM® truss  
40' span roof  
160 plf uniform load

$$\Delta = \frac{22.5 \times 160 \times 40^4}{10.06 \times 10^6 \times 26.5^2} = 1.30"$$

### Concentrated Load Example:

If the total uniform load were to act as a concentrated load at mid-span, the calculated deflection would be equal to 1.6 times the uniform load deflection. Therefore, if a 400 lb. load is placed at mid-span of the above example, the additional deflection would be calculated as follows:

$$\Delta = \frac{1.6 \times 22.5 \left( \frac{400}{40} \right) 40^4}{10.06 \times 10^6 \times 26.5^2} = 0.13"$$

# Allowable Lumber Stresses

## Sawn Lumber Grades

Trus Joist developed its own lumber grade several years ago because the standard grading rules did not contain all the provisions necessary for our products' extraordinary use. Industry standard grades for these sizes of lumber are based on use in light framing as joists or planks where the primary stresses are in bending.

With Trus Joist products, the primary stresses are axial compression or tension and bending stresses are secondary. In addition, the chords of open-web trusses are regraded at the pin areas, where stresses are highest, to ensure clear wood at the net section. At other sections

of the chord the stresses are lower.

Trus Joist grades must provide for determining a clear wood strength as well as a strength where knots are allowed. Mechanical stress rating provides a more accurate method of determining clear wood strength than can be accomplished visually. The combinations of both machine stress rating and visual grading not only meet our unique needs but provide for more reliable strength and Modulus of Elasticity determination.

Many lumber mills supply lumber conforming to

the specific Trus Joist product requirements. Several grade stamps are used to identify the lumber as follows:

A(1.8E), AA(2.0E), AAA(2.2E), 2100f 1.8E, 2400f 2.0E and 2700f 2.2E. Some suppliers grade to meet all requirements of the Trus Joist grades.

An extensive test program has been conducted to prove the grades. The design values approved by the model building code groups are as follows:

Allowable Unit Stresses in Pounds Per Square Inch						
Lumber Grade Identification	Tension Parallel to Grain		Compression Parallel to Grain		Bending in Extreme Fiber	MOE x 10 <sup>6</sup>
	At Panel Point <sup>(1)</sup>	Other	At Panel Point <sup>(1)</sup>	Other		
TJAAA <sup>(3)</sup> or 2700f 2.2E	2200	2150	2500	2500	2700 <sup>(2)</sup>	2.2
TJAA <sup>(3)</sup> or 2400f 2.0E	1925	1650	1925	1925	2400 <sup>(2)</sup>	2.0
TJA <sup>(3)</sup> or 2100f 1.8E	1600	1460	1700	1700	2100 <sup>(2)</sup>	1.8

(1) Used at drilled areas

(2) Stress shown is for lumber used on edge. When loaded flatwise, values may be increased 18%.

(3) Species used are Douglas fir-larch, southern pine, hem-fir, spruce-pine-fir and Englemann spruce-lodgepole pine

## Microllam® Laminated Veneer Lumber

Trus Joist developed Microllam® laminated veneer lumber (LVL) through a unique manufacturing process. The basic log is roll-peeled to obtain 1/16" and 1/8" thick veneers which are then laminated together with a waterproof adhesive in a continuous press. The resulting billet of Microllam® LVL can be up to 4' wide, as much as 80' in length, and in various specific thicknesses between 3/4" and 3 1/2". Microllam® LVL is

then ripped to specified widths and used as flange material for TJ® joists, chord material for open-web trusses and for numerous other—primarily structural—applications.

Through ultrasonic grading of the veneers, natural defects of the basic log are removed or become so dispersed that their individual effect becomes almost negligible. This process

ensures that Microllam® LVL will have extraordinarily consistent moisture content, strength and deflection characteristics. The coefficient of variation in strength characteristics of Microllam® LVL is less than half that of sawn lumber, producing a highly reliable structural material. The following are established allowable stresses and properties of Microllam® LVL:

Allowable Unit Stresses in Pounds Per Square Inch										
Grade	Tension Parallel to Grain		Compression Parallel to Grain		Bending in Extreme Fiber <sup>(5)</sup>	Compression Perpendicular to Grain		Horizontal Shear		MOE x 10 <sup>6</sup>
	At Panel Point <sup>(1)</sup>	Other	At Panel Point <sup>(1)</sup>	Other		Perpendicular to Glue Line (Plank)	Parallel to Glue Line (Joist)	Perpendicular to Glue Line (Joist)	Parallel to Glue Line (Plank)	
Truss Chord Grade	2300 <sup>(4)</sup>	2100	3000	2550	3000	480	750	285	190	2.06 <sup>(3)</sup>
Header Stock <sup>(2)</sup> 1.9E	—	—	—	—	2600	480	750	285	190	1.9

Lateral nail holding and withdrawal with Microllam® LVL are as provided for Douglas fir sawn lumber. Reference page 10.2 for nail spacing.

(1) Used at drilled areas

(2) See NER-481 for other Microllam® LVL grades

(3) Axial MOE of 2.2 x 10<sup>6</sup> used for truss deflection calculation

(4) For panel point spacing less than 24" on-center, tension stress shall be reduced to 2100 psi

(5) For 12" depths. For other depths multiply by  $\left[\frac{12}{d}\right]^{0.136}$

## Repetitive Member Design

Structural wood products used repetitively can be shown to share loads between adjacent members, increasing the total load carrying capacity of the system.

The criteria for increases in flexural stresses for repetitive member usage are as follows:

1. 3 or more members are adjacent.
2. Member spacing is 24" on-center or less.

3. The members are joined by transverse load-distributing elements (decking) adequate to support the design load.

Products with greater consistency, such as Microllam® laminated veneer lumber (LVL), logically are given less credit for repetitive member increases; therefore, the increase in flexure shall be 7% for products utilizing machine stress

rated grades of sawn lumber and 4% for products utilizing Microllam® LVL. Increases, where appropriate, are so indicated in the load tables.

Repetitive member design is not appropriate for members connected together to form a beam or girder.

## Stress Adjustments in Lumber Design

**Duration of Load.** Because of the characteristic of lumber to provide different strengths depending upon duration of load, the National Design Specification® for Lumber and the major building codes provide for stress adjustments in that regard. "Normal" duration for 100% allowable stress levels in the lumber is established at a 10-year full design load duration either continuously or cumulatively. This 100% stress level applies to floor loads and also to some very heavy roof snow load areas where full design loads can apply for this period of time over the life of the structure.

For full design load durations up to 60 days, a 115% stress level is used. This stress level

applies to snow loadings on roofs for the majority of the snow load areas. For full design load durations up to 7 days, a 125% stress level is used. This stress level applies to roofs in most non-snow areas. A 133% stress level can be used for earthquake and wind loading conditions. Permanent loadings should use a 90% duration factor.

The load/span tables in this manual have the assumed load duration stress adjustment indicated as a percentage in the table heading. Other duration factors can be provided for by adjusting the table values by a direct ratio of stress level percentages.

**Treated Lumber** used in Trus Joist products is considered a special requirement for manufacture and design, and your Trus Joist representative should be consulted.

The effects on strength can be considerable and varied, particularly with fire retardant treatment (in all series of products) and with water-borne preservative treatments in the TJI® joist.

Recent changes in the wood industry will require re-evaluation of stress reductions when treated lumber is used. Contact your Trus Joist representative for the latest information.

## Concentrated and Non-Uniform Loads

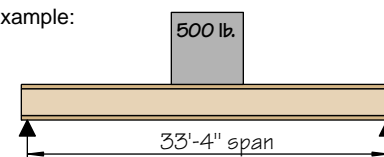
As a general rule extra joists should be added to the system to carry concentrated loads such as bearing partitions, air conditioners, other mechanical equipment, etc. This method of handling the problem usually provides the most economical system and has the added advantage of ensuring more uniform deflection. When a few trusses are loaded heavier than the others in the system, non-uniform deflection will occur.

For most efficient use of Trus Joist products having concentrated loads, non-uniform loads and/or other than simple spans, consult your

representative for precise sizing. However, a product size can be selected by using basic engineering calculations and ensuring that both moment and shear diagrams do not exceed those of a uniformly loaded truss of the same span indicated in the tables. For a concentrated load at mid-span, this equivalent uniform load is obtained from the following formula:

$$WE = \frac{2 \times \text{concentrated load}}{\text{span in feet}}$$

Example:



$$\text{Solution: } WE = \frac{2 \times 500}{33.33}$$

$$WE = 30 \text{ plf}$$

Thus the concentrated load is the equivalent of 30 plf along the entire member, and the member should be sized accordingly.

## Bridging Criteria

We consider bridging as that part of the roof or floor system that **may be required** to make each truss act with those next to it in a load sharing manner to resist jointly the vertical loads they must carry, and possibly minimize or equalize deflections from non-uniform loads. Bridging should not be confused with bracing, which has an altogether different purpose.

We have tested and evaluated the effectiveness of various bridging details used with our products and continue to be apprised of the research of others on this subject. Our bridging criteria are as follows:

**Roof Systems** utilizing most Trus Joist products do not require bridging due to the reliability of our products and the fact that differential deflections, vibrations, etc., are typically not a

problem with the uniformity of live loads that roof systems tend to receive. However, we do require bridging for load sharing with TJI™ TJLX™ and TJW™ trusses because of their single-member sawn lumber chords and their common use in relatively long spans with wide on-center spacing.

**Floor Systems**, on the other hand, perform better under typical loads—particularly regarding deflection and vibration—if they have an effective bridging system. We do not believe the metal cross bridging or 1x wood cross bridging often used in TJI® joist applications to be effective bridging because they lack rigidity. Hence, we do not require TJI® joist floor bridging. We continue to seek an effective, economical TJI® joist floor bridging detail, while

maintaining a relatively restrictive deflection policy with proven performance. Our open-web truss products have effective bridging details which we maintain for floor applications.

Generally, the design community—i.e., the professional architects and engineers and code jurisdictions—is willing to follow our lead on the subject of bridging. There are some who, because of their experience with other like products, have required bridging beyond our criteria.

Of course we must comply with all criteria established by jurisdictions and the professionals responsible for the structures, but we would like the opportunity to present our position on bridging where it varies from other criteria.



# Building Codes and Product Acceptance

Trus Joist supports the concept of building codes, product approval and plan review for design acceptance. Product recognition from the model building code evaluation service organizations and other regulatory agencies has been obtained by presenting results of extensive product testing, design approach and details of quality control programs. Trus Joist products are recognized by all major evaluation service organizations with assigned report numbers as indicated (at right). In addition, numerous state and local agencies have reviewed Trus Joist products and approved their use. Your local Trus Joist representative is available to assist as needed with Trus Joist product acceptance in your area.

The following code reports are available upon request. Contact your Trus Joist representative for current updates.

**Open-web trusses:**  
NER-148  
ICBO ES PFC-4354  
L.A. CITY RR # 22614

**TJI® Joists**  
NER-200  
ICBO ES PFC-4354  
HUD SEB No. 689  
L.A. CITY RR # 22614  
NER-119  
ICBO ES PFC-5676P  
CCMC 12832-R

**Microllam® laminated veneer lumber (LVL)**  
NER-481  
ICBO ES ER-4979  
HUD MR 925g  
L.A. CITY RR # 25202  
CCMC 08675-R

**Parallam® parallel strand lumber (PSL)**  
NER-481  
ICBO ES ER-4979  
HUD MR 1303  
L.A. CITY RR # 25202  
CCMC 11161-R

**TimberStrand® laminated strand lumber (LSL)**  
NER-481  
ICBO ES ER-4979  
HUD MR 1265a  
L.A. CITY RR # 25202  
CCMC 12627-R

**TimberStrand® LSL Rim Board <sup>(1)</sup>**  
NER-481  
ICBO ES ER-4979  
HUD MR 1265a  
L.A. CITY RR # 25202  
CCMC 12627-R

(1) 1¼" and 1½" thicknesses only

CCMC - Canadian Construction Materials Center  
DGS - Department of General Services, Division of State Architect State of California

**Note:**  
NES (National Evaluation Service, Inc.) NER acceptance includes BOCA ES, SBCCI PST and ESI.

## Sound Control

### Noise Measurement

The ability of walls and floors to reduce noise is measured over the most important part of the hearing range (from 125 to 4,000 cycles per second) and the results reduced to a Sound Transmission Class (STC) number.

### STC Rating

The significance of the STC numbers is illustrated in the chart from the Acoustical and Insulation Materials Association. (In comparing rated constructions, remember that 3 db is the smallest difference that the human ear can clearly detect. Thus, differences of 1 or 2 points may be considered negligible. Also note that even this general comparison is valid only with respect to a given level of background noise.)

- 25 Normal speech can be understood quite clearly.
- 30 Loud speech can be understood fairly well.
- 35 Loud speech audible but not intelligible.
- 42 Loud speech audible as a murmur.
- 45 Must strain to hear loud speech.
- 48 Some loud speech barely audible.
- 50 Loud speech not audible.

### Impact Rating

In addition to being rated for airborne sound transmission, floors are also rated by INR (Impact Noise Rating) or IIC (Impact Insulation Class). The Impact Insulation Class rating is replacing the earlier INR system. It's easier to use and to compare with the STC system because most floors

require equivalent STC and IIC values. INR ratings can be approximately converted ( $\pm 2$  db) to IIC ratings by the (algebraic) addition of 51 db.

### Testing

The construction assemblies shown in this section have been tested and rated for sound resistance according to standard test methods by recognized acoustical laboratories.

The transmission and impact ratings shown for these constructions are well within the range of acceptable ratings for multi-family buildings. They should apply to actual construction, provided that recognized precautions are taken for preventing flanking noise and sound leaks and provided the construction actually conforms to the assembly that has been tested. However, quality of workmanship, material and conditions at the site may vary widely.

## Fire Assemblies

Conventionally framed systems (roof ceiling, floor ceiling) have many variations and have been widely used in both rated and non-rated fire resistive assemblies. Most model codes address these systems and have applied specific fire resistance levels (e.g., one-hour ratings) to these assemblies.

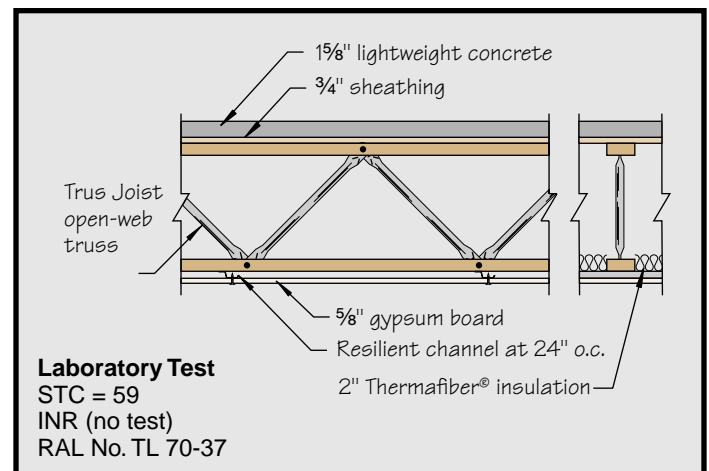
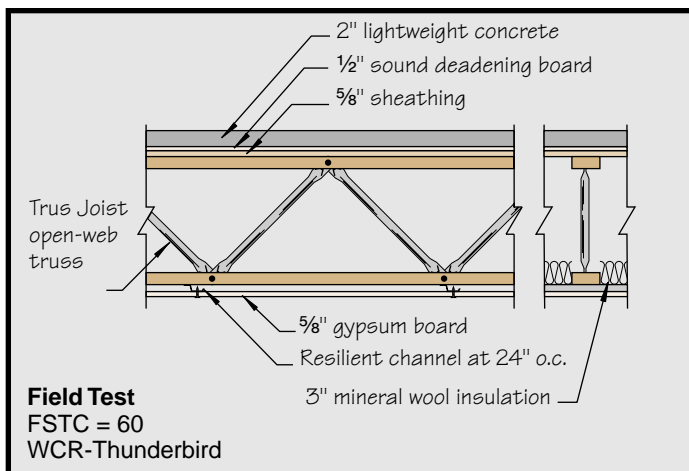
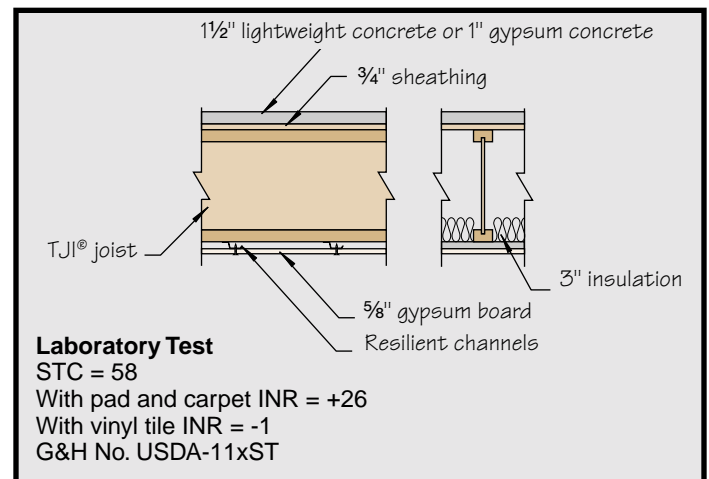
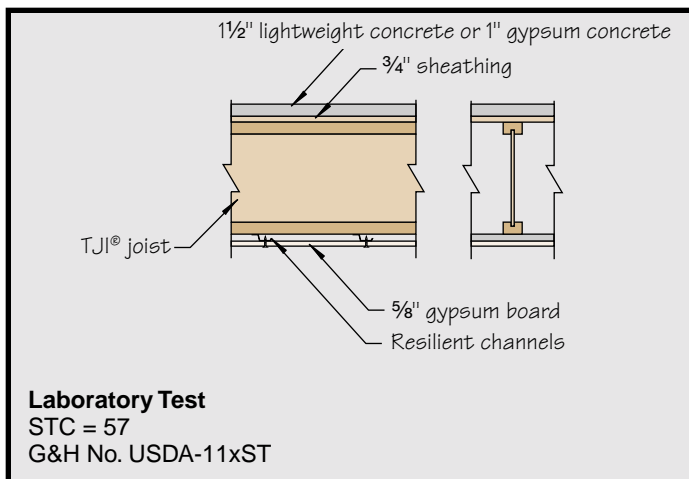
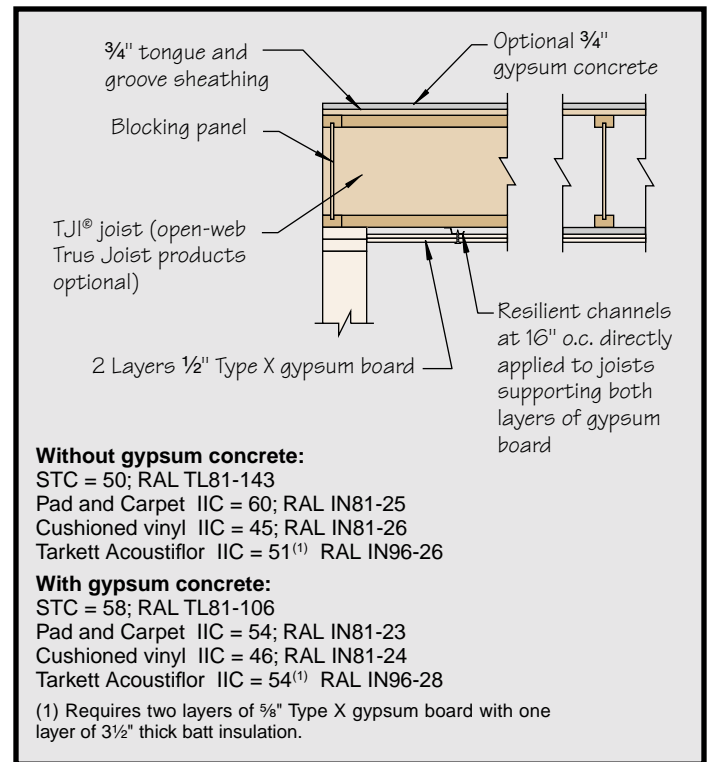
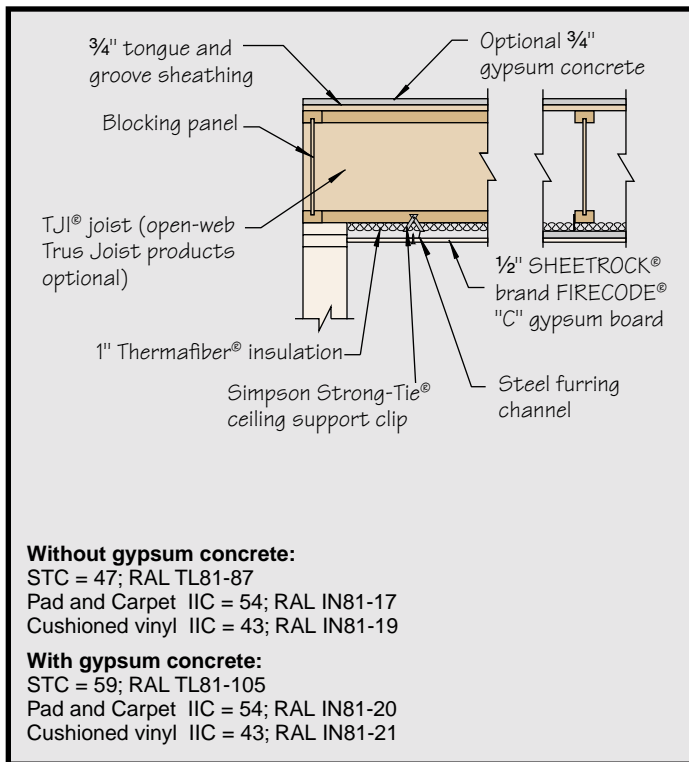
With the introduction of alternative construction materials it became necessary to assign fire

resistive ratings to these components. Many Trus Joist systems have been tested through standard testing methods. These systems have been evaluated by NES, and ICBO ES and the results and details are contained in the NER-200, NER-148 and ICBO ES PFC-4354. A few local jurisdictions have a separate approval procedure. In Canada, these systems have been evaluated by Intertek Testing Services,

Inc. N.A. (Warnock Hersey). As a result, many 45, 60, 90 and 120 minute rated floor ceiling and roof ceiling assemblies are listed in the current Certification Listings Book published by Intertek Testing Services, Inc. N.A. (Warnock Hersey).

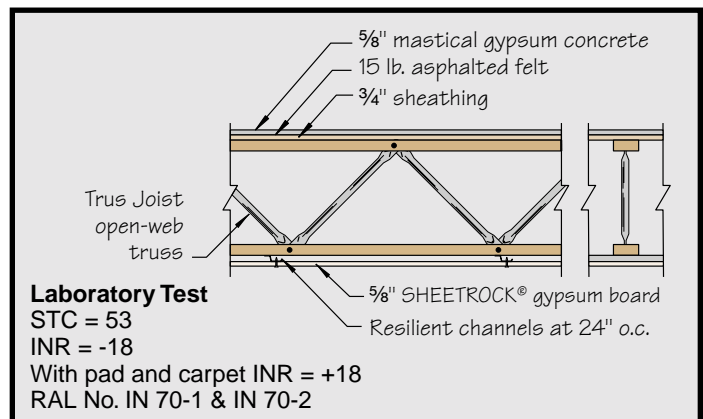
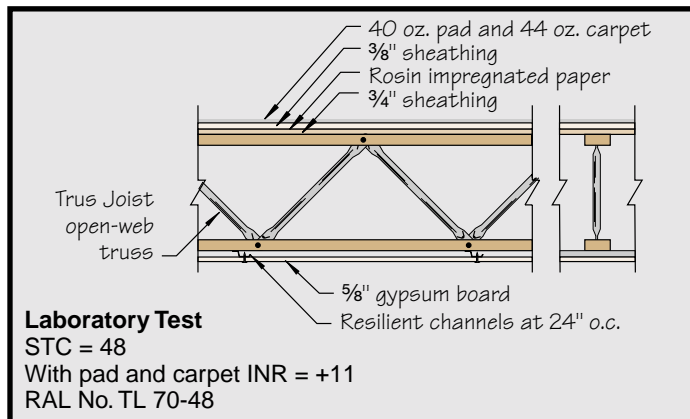
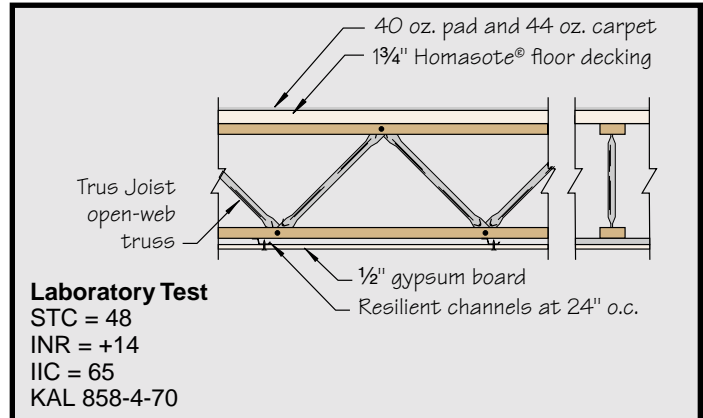
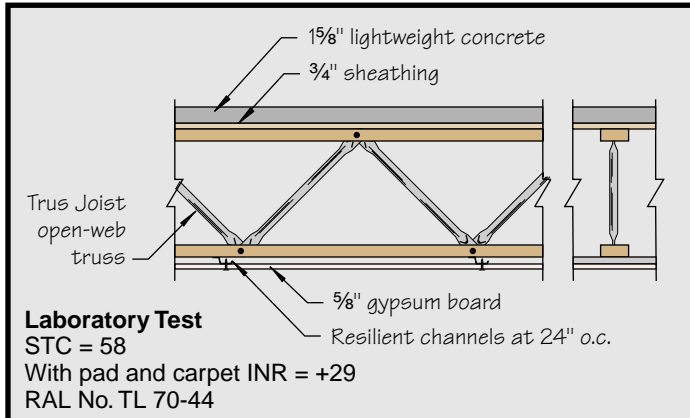
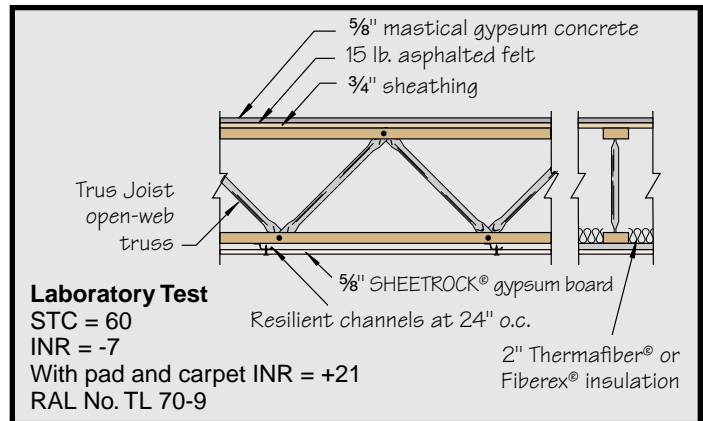
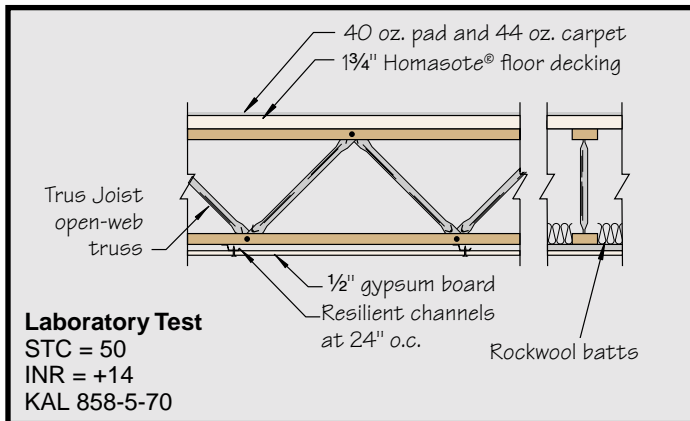
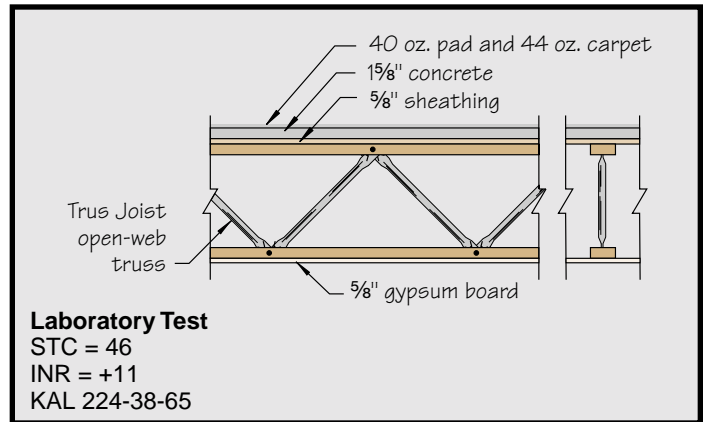
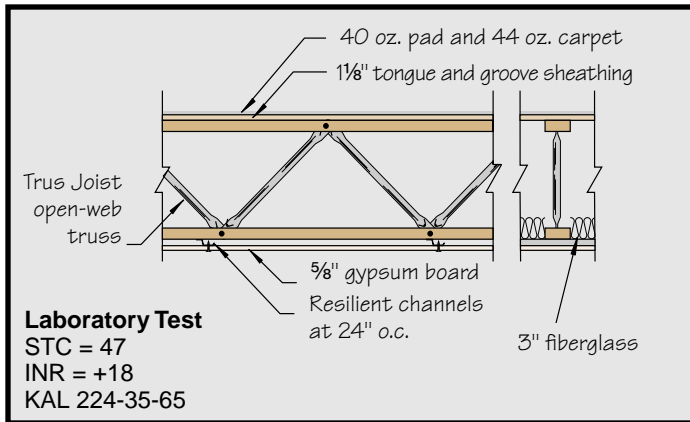
For additional information, refer to reports listed above, or contact your Trus Joist representative.

# Sound Control Details



FIRECODE® and SHEETROCK® are registered trademarks of United States Gypsum Company.  
Thermafiber® is a registered trademark of Thermafiber.  
Fiberex® is a registered trademark of Fiberex® Insulation Inc.

# Sound Control Details



SHEETROCK® is a registered trademark of United States Gypsum Company. Thermafiber® is a registered trademark of Thermafiber. Fibrex® is a registered trademark of Fibrex® Insulation Inc. Homasote® is a registered trademark of Homasote Company.

## 1 HOUR WALL SEPARATION

Suggested details subject to local code acceptance

Perpendicular Wall	Parallel Wall	Description
		<ol style="list-style-type: none"> <li>1. Continuous 5/8" Type X gypsum board</li> <li>2. 2x4 minimum studs</li> <li>3. 2x6 minimum studs</li> <li>4. TJI® joists</li> <li>5. Continuous 1 1/2" TimberStrand® LSL rim board</li> <li>6. Unrated one-hour floor/ceiling system*</li> </ol> <p>*If floor ceiling assembly is rated, rim board protection may be omitted.</p>

Perpendicular Wall	Parallel Wall	Description
<p>Continuous rim</p>	<p>Blocking between joists</p>	<ol style="list-style-type: none"> <li>1. Continuous 5/8" Type X gypsum board</li> <li>2. 5/8" Type X gypsum board between joists (notch to fit into web area of adjacent joists)</li> <li>3. 2x4 minimum studs</li> <li>4. 2x6 minimum studs</li> <li>5. TJI® joists</li> <li>6. TJI® blocking between joists</li> <li>7. Continuous TJI® rim joist (single joist allowed where vertical load is satisfied)</li> <li>8. Continuous 5/8" Type X gypsum board in web area of rim joist</li> <li>9. 5/8" Type X gypsum board in web area of TJI® blocking (extend to fit into web area of adjacent joists)</li> <li>10. One-hour floor/ceiling system (if required)</li> </ol>

## 2 HOUR WALL SEPARATION (From occupant side)

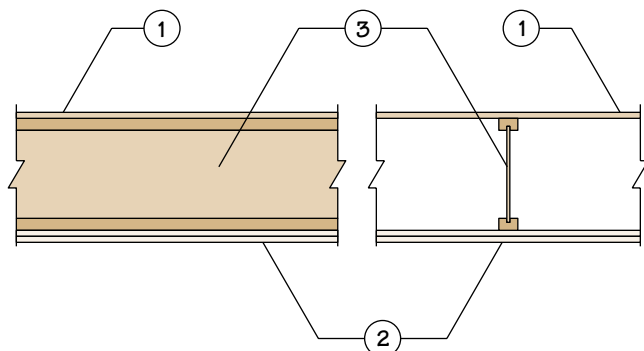
Suggested details subject to local code acceptance

Perpendicular Wall	Parallel Wall	Description
		<ol style="list-style-type: none"> <li>1. Two layers 5/8" thick Type X gypsum board</li> <li>2. 2x4 minimum studs</li> <li>3. 2x6 minimum studs</li> <li>4. TJI® joists</li> <li>5. Minimum one layer 1 1/2" TimberStrand® LSL rim board for commercial TJI® joists</li> <li>6. Two layers 1/2" thick Type X gypsum board. One layer 5/8" thick Type X gypsum board when floor/ceiling assembly is one-hour rated.</li> <li>7. Continuous 5/8" thick Type X gypsum board in web area of rim joist</li> <li>8. Continuous TJI® rim joist</li> <li>9. One-hour rated floor/ceiling assembly (if required)</li> </ol>

# Floor/Ceiling Systems

## 1 HOUR FLOOR/CEILING SYSTEM

### All Joist Series



### Assembly B

1. 48/24 tongue-and-groove span-rated sheathing (Exposure 1)
2. Two layers of ½" thick Type X gypsum board
3. TJI® joist or open-web truss
4. Optional 3½" thick glass fiber batt insulation (not shown), when resilient channels are used

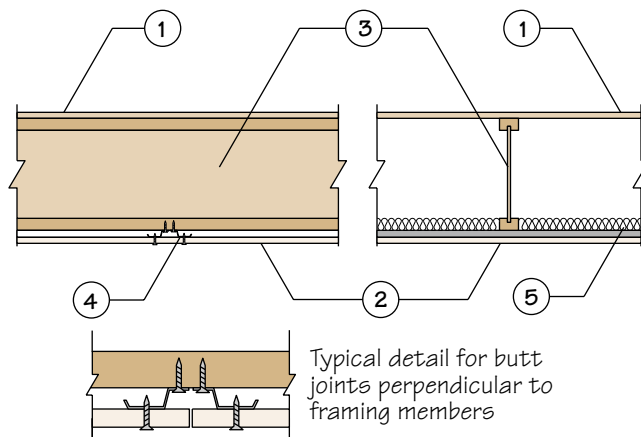
#### Note

A single layer of 40/20 span-rated sheathing (Exposure 1) over joists at a maximum of 24" on-center with 1½" lightweight concrete or 1" of gypsum concrete is an allowed deck alternative. If the joists are spaced no more than 20" on-center, a ¾" gypsum concrete topping is permitted.

Resilient channels may be installed between the joists and gypsum board if improved STC and IIC sound ratings are desired.

See NER-148, NER-200, ICBO ES PFC-4354 and UL Design No. L518 for specific assembly requirements.

### TJI®/L90 and TJI®/H90



### Assembly F

1. 48/24 tongue-and-groove span-rated sheathing (Exposure 1)
2. ⅝" thick USG FIRECODE® Type C or Westroc Fireboard® C gypsum board
3. TJI®/L90 or TJI®/H90 joists
4. USG RC-1 channel at 16" on-center
5. Thermafiber®, Fibrex®-FBX or Fibrex®-SAFB mineral wool blankets

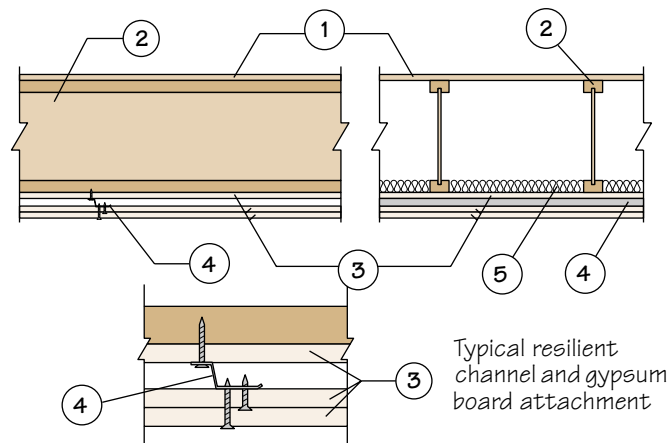
#### Note

A single layer of 40/20 span-rated sheathing (Exposure 1) over joists at a maximum of 24" on-center with 1½" lightweight concrete or 1" of gypsum concrete is an allowed deck alternative. If the joists are spaced no more than 20" on-center, a ¾" gypsum concrete topping is permitted.

See NER-200 ICBO ES PFC-4354 for specific assembly requirements.

## 2 HOUR FLOOR/CEILING SYSTEM

### All Joist Series



### Assembly G

1. 48/24 tongue-and-groove span-rated sheathing (Exposure 1)
2. TJI® joists or open-web trusses, 24" on-center maximum
3. Three layers of ⅝" Gold Bond Fireshield® G Type X gypsum board
4. Resilient channels at 16" on-center located between first and second layers of gypsum board
5. Optional glass fiber insulation

#### Note

A single layer of 40/20 span-rated sheathing (Exposure 1) over joists at a maximum of 24" on-center with 1½" lightweight concrete or 1" of gypsum concrete is an allowed deck alternative.

See NER-148, NER-200 and ICBO ES PFC-4354 for specific assembly requirements.

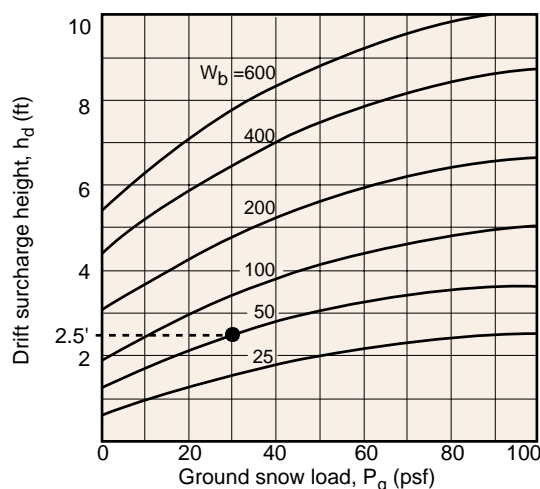
# Snowdrift Loading

Wind direction, site exposure and roof type and shape are some of the factors that can dramatically influence the accumulation of snow on a roof structure. ASCE 7-93, "Minimum Design Loads for Buildings and Other Structures" and the applicable building code, as well as other local state and regional codes provide guidelines for calculating snowdrift loadings on all types of building construction.

Drifts usually occur at locations of discontinuity in a roof such as high roof/low roof, parapet walls and valleys. Closer on-center spacing or additional support may be required at these locations.

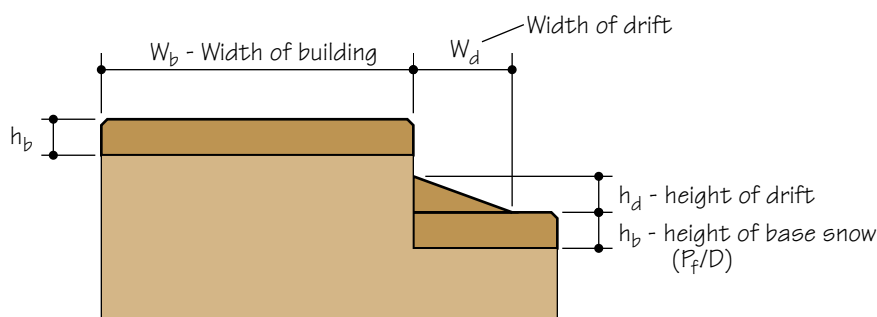
Three examples below illustrate unique snowdrifting potentials. The snowdrift calculations shown are presented as general guidelines only. The project design professional must determine the acceptable method for snowdrift analysis in the area, considering such factors as slope of roof, density of snow, exposure to wind, distance from other buildings, roof exposure, roof thermal conditions, unbalanced load, rain-on-snow and ponding conditions.

For additional information on this subject refer to ASCE 7-93 and your local building code or contact your Trus Joist representative.



## Snowdrifts onto Lower Roofs

Snowdrifts form on lower roofs that are adjacent to higher roofs. When snow is blown from the higher roof onto the lower one, the wider the high roof, the larger the drift.

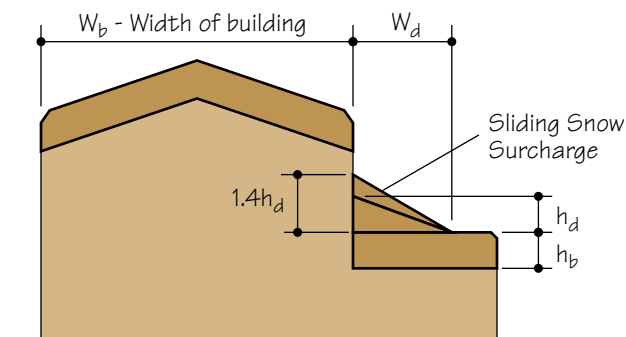


- Given:  
 $P_f = 25.5$  psf  
 $P_g = 30$  psf  
 $W_b = 50$  feet
- Find drift height in graph:  
 $h_d = 2.5'$
- Calculate drift width:  
 $W_d = 4 \times h_d$   $W_d = 10'$
- Calculate snow density:  
 $D = (0.13 P_g) + 14$   $D = 17.9$  pcf
- Calculate maximum drift load:  
 $D \times h_d = 17.9$  pcf  $\times$   $2.5$  ft. =  $44.75$  psf

The drift load is additive to the base snow load ( $P_f$ ).

## Sliding Snow

Sliding snow can also accumulate on lower roofs and is calculated as a surcharge on top of the drifted snow.

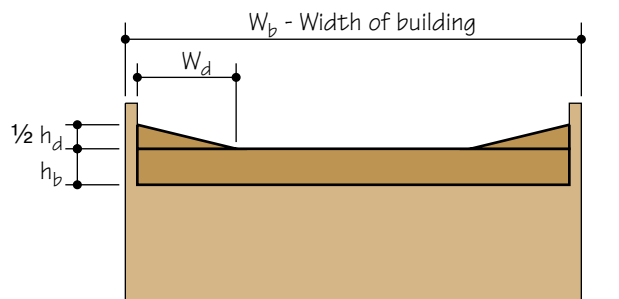


- Given:  
 $P_f = 25.5$  psf  
 $P_g = 30$  psf  
 $W_b = 50$  feet
- Find drift height in graph:  
 $h_d = 2.5'$
- Calculate drift width:  
 $W_d = 4 \times h_d$   $W_d = 10'$
- Calculate snow density:  
 $D = (0.13 P_g) + 14$   $D = 17.9$  pcf
- Calculate drifted and sliding snow surcharge:  
 $1.4 \times h_d = 1.4 \times 2.5' = 3.5'$
- Calculate maximum drift load:  
 $D \times h_d = 17.9$  pcf  $\times$   $3.5$  ft. =  $63$  psf

The drift load is additive to the base snow load ( $P_f$ ).

## Parapet Walls

The drifts that form at exterior parapets tend to be smaller than the drifts that form on lower roofs. Note: This is interpreted differently in some model codes. ASCE 7-93 method is shown here.



- Given:  
 $P_f = 25.5$  psf  
 $P_g = 30$  psf  
 $W_b = 50$  feet
- Find drift height in graph:  
 $h_d = 2.5'$   
 Use  $\frac{1}{2}$  graph height:  $\frac{1}{2} h_d = 1.25'$
- Calculate drift width:  
 $W_d = 4 (\frac{1}{2} h_d)$   $W_d = 5'$
- Calculate snow density:  
 $D = (0.13 P_g) + 14$   $D = 17.9$  pcf
- Calculate maximum drift load:  
 $D \times (\frac{1}{2} h_d) = 17.9$  pcf  $\times$   $1.25'$  =  $22.4$  psf

The drift load is additive to the base snow load ( $P_f$ ).

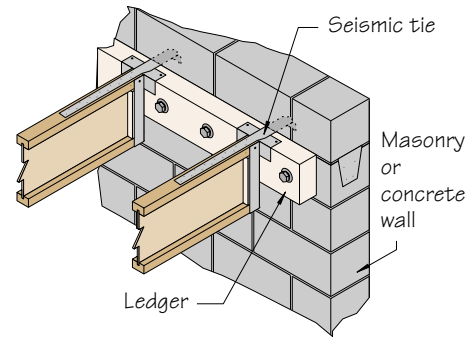


## TENSION TIES

Simpson Model Strap	Length (in.)	10d (1½") Common Nails <sup>(1)</sup>		Allowable Loads (lbs)			
				Masonry		Concrete	
		Masonry	Concrete	133%	160%	133%	160%
TJI®/L65 Maximum Capacity/1.75 LVL, 3x and 4x Ledger							
PAI18	18	7 nails	9 nails	875	1055	1130	1355
PAI23	23	12 nails	14 nails	1505	1805	1755	2105
PAI28	29	18 nails	20 nails	2255	2705	2505	3010
PAI35	35	23 nails	26 nails	2815	2815	3260	3685
TJI®/L90, H90 and H90X Maximum Capacity/1.75 LVL, 3x and 4x Ledger							
PAI18	18	7 nails	9 nails	875	1055	1130	1355
PAI23	23	12 nails	14 nails	1505	1805	1755	2105
PAI28	29	18 nails	20 nails	2255	2705	2505	3010
PAI35	35	23 nails	26 nails	2815	2815	3260	3685
CPAI32	32		16 nails			1940	2330
CPAI44	44		24 nails			2910	3435
MPAI32	32	16 nails		1960	2355		
MPAI44	44	24 nails		2865	2865		
LTTI31	31	18 nails	18 nails	2185	2310	2185	2310

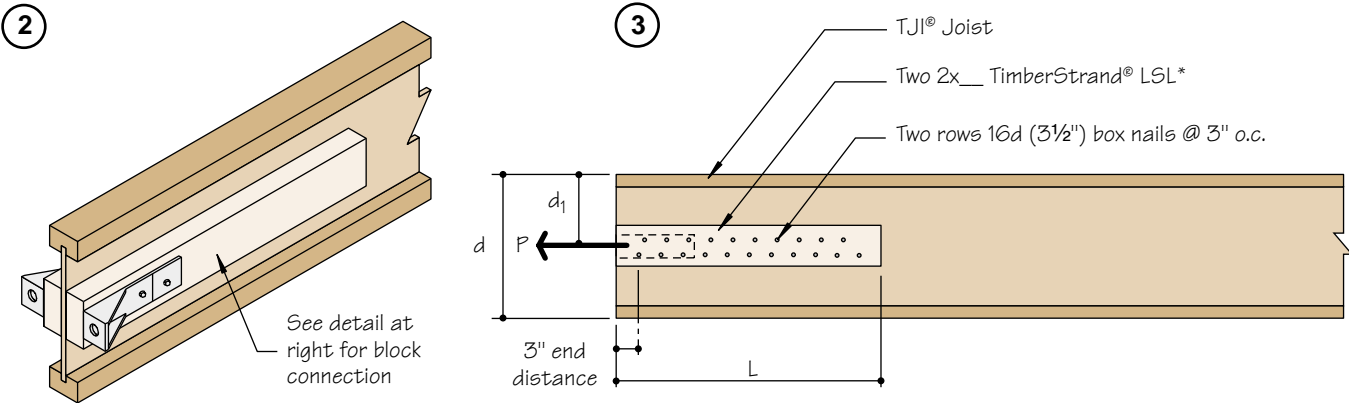
(1) 10d x 3" are permitted with same design values

### 1 TJI® Joist Strap Tension Tie



Connections made to 1½" thick Trus Joist structural composite lumber (Microllam® LVL, Parallam® PSL or TimberStrand® LSL) may be used for out-of-plane wall anchorage to flexible diaphragms in lieu of the minimum 2½" (63.5 mm) wood element thickness specified in Item 5 of Section 1633.2.8.1 of the UBC.

## HDA CONNECTIONS



**\*To calculate length of TimberStrand® LSL block:**

1. Find: 
$$L_1 = \frac{0.54Pd_1}{(1.33V_{All}) - [V_{DL} + (0.75V_{LL})]}$$

2. Find: 
$$L_2 = \frac{2}{3}(n) + 3, \text{ where } n = \frac{P}{V_n C_D}$$

3. Compare  $L_1$  and  $L_2$ . Use maximum of the two values for the length of the TimberStrand® LSL block.

$C_D$  = Load duration factor (in)

$d_1$  = Distance to axial load (in) from top of joist

$n$  = Number of nails

$P$  = Axial load (lb)

$V_{All}$  = Allowable shear load use for TJI® joist (lbs)– (see table page 9.2)

$V_{DL}$  = Shear load due to gravity dead load (lbs)

$V_{LL}$  = Shear load due to gravity live load (lbs)

$V_n$  = Shear capacity of 16d (3½") nail

## TENSION TIES

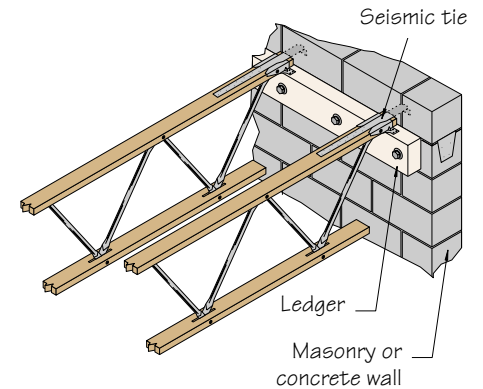
Simpson Model Strap	Length (in)	10d (1½") Common Nails <sup>(1)</sup>		Allowable Loads (lbs)			
				Masonry		Concrete	
		Masonry	Concrete	133%	160%	133%	160%
TJL™/TJW™ Maximum Capacity/1.75 LVL, 3x and 4x Ledger <sup>(3)</sup>							
CPAI32	32		16 nails			1940	2330
CPAI44	44		24 nails			2910	3435
MPAI32	32	16 nails		1960	2355		
MPAI44	44	24 nails		2865	2865		
LTTI31	31	18 nails	18 nails	2185	2310	2185	2310
TJS™/TJM®/TJH™ Maximum Capacity/1.75 LVL, 3x and 4x Ledger <sup>(3)</sup>							
PAI18 <sup>(2)</sup>	18	7 nails	9 nails	875	1055	1130	1355
PAI23 <sup>(2)</sup>	23	12 nails	14 nails	1505	1805	1755	2105
PAI28 <sup>(2)</sup>	29	18 nails	20 nails	2255	2705	2505	3010
PAI35 <sup>(2)</sup>	35	23 nails	26 nails	2815	2815	3260	3685
CPAI32	32		16 nails			1940	2330
CPAI44	44		24 nails			2910	3435
MPAI32	32	16 nails		1960	2355		
MPAI44	44	24 nails		2865	2865		
LTTI31	31	18 nails	18 nails	2185	2310	2185	2310

(1) 10d x 3" are permitted with same design values

(2) PAI straps must be used with a TimberStrand® LSL nailer

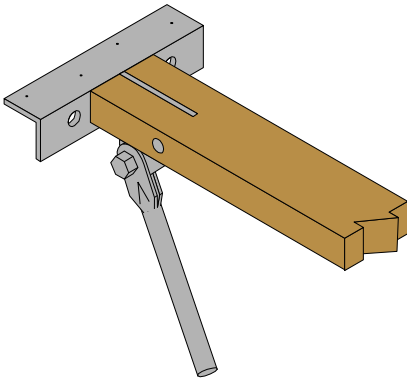
(3) Bearing configurations may be limited with 1¼" and 3x ledgers. Contact your Trus Joist representative for assistance.

### 1 Open Web Truss Strap Tension Tie



## BEARING CLIPS

### 2 Single Chord Flush-Mount Bearing Clip



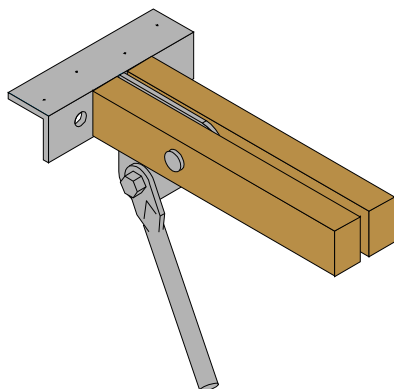
Connections made to 1½" thick Trus Joist structural composite lumber (Microllam® LVL, Parallam® PSL or TimberStrand® LSL) may be used for out-of-plane wall anchorage to flexible diaphragms in lieu of the minimum 2½" (63.5 mm) wood element thickness specified in Item 5 of Section 1633.2.8.1 of the UBC.

### AXIAL TENSION LOADS

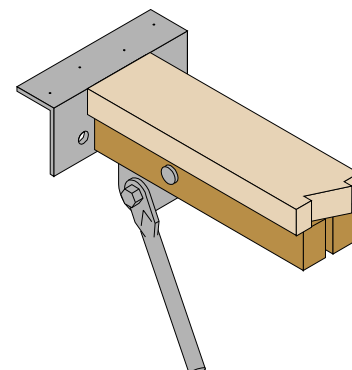
Truss	Load (lbs)	Load Duration Factor (C <sub>D</sub> )
TJL™	2000	1.33
TJW™	2700	1.33
TJS™ <sup>(1)</sup>	3000	1.33
TJM™ <sup>(1)</sup>	3000	1.33
TJH™ <sup>(1)</sup>	4540	1.33

(1) With or without top chord nailer.

### 3 Double Chord Flush-Mount Bearing Clip



### 4 Double Chord Flush Mount Bearing Clip with Nailer



# Shear Diaphragm Nailing

## TJI®/L65 Joists

Panel Grade	Minimum Panel Thickness (in)	Lines of 10d Common Nails	Nail spacing per line at diaphragm boundaries and at continuous joints for Case 3 and 4			
			4"	3"	3"	2½"
			Nail spacing per line at other panel edges			
			6"	5"	4"	3"
Structural I Plywood	15/32	1	440	500	590	<b>740</b>
		2	640	750	920	1190
	19/32	1	490	560	660	<b>800</b>
		2	700	820	1000	<b>1280</b>
	23/32	1	510	580	690	870
		2	750	870	1070	1390
Other Plywood or Sheathing Grades	15/32	1	360	420	510	670
		2	580	690	860	1140
	19/32	1	380	450	550	720
		2	630	750	920	1220
	23/32	1	420	490	600	780
		2	690	820	1010	1330

• Values in **bold** are controlled by continuous edge or boundary nailing.

## 3½" and Wider Open-web Trusses and TJI® Joists

Panel Grade	Minimum Panel Thickness (in)	Lines of 10d Common Nails	Nail spacing per line at diaphragm boundaries and at continuous joints for Case 3 and 4			
			4"	3"	3"	2½"
			Nail spacing per line at other panel edges			
			6"	5"	4"	3"
Structural I Plywood	15/32	1	440	500	590	<b>740</b>
		2	750	870	1060	1370
		3	920	1080	1330	1740
	19/32	1	490	560	660	<b>800</b>
		2	830	960	1160	1490
		3	1000	1180	1450	1890
	23/32	1	510	580	690	870
		2	870	1020	1230	1600
		3	1070	1260	1550	2040
Other Plywood or Sheathing Grades	15/32	1	360	420	510	670
		2	670	790	980	1290
		3	860	1030	1270	1690
	19/32	1	380	450	550	720
		2	720	850	1050	1380
		3	920	1100	1370	1810
	23/32	1	420	490	600	780
		2	780	930	1150	1510
		3	1010	1200	1490	1980

• Values in **bold** are controlled by continuous edge or boundary nailing.

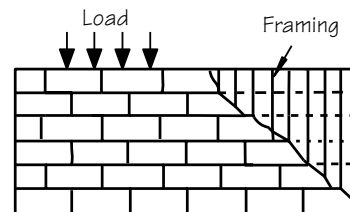
## General Notes

- Panels conforming to U.B.C Standard 23-2 or 23-3.
- Reference document APA Report 138.

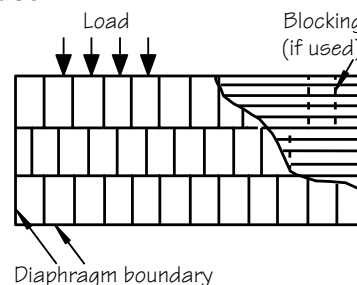
## Assumptions:

- Values are for short-term loads due to wind or earthquake.
- Shear values are based on 24" joist spacing for 15/32" panels, 32" for 19/32" panels and 48" for 23/32" panels.
- 3" wide nominal blocking at panel boundaries, 4" wide nominal blocking at diaphragm boundaries.
- Shear values have been derived from code recognized methodologies. Any special inspection required should be specified by others.
- All double chord open-web products have 1½" x 3½" cap (SG ≥ 0.5) for nailing.
- Table valid for 4" nominal or wider products.

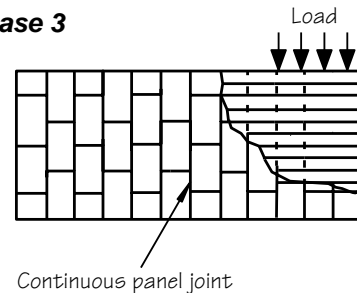
### Case 1



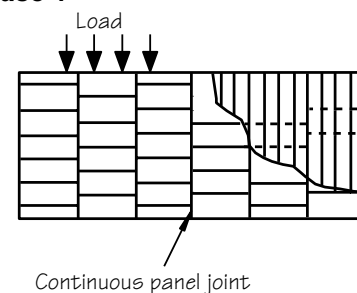
### Case 2



### Case 3



### Case 4



## Nailing:

- Values require 1½" penetration of 10d common nails into the member (full depth of the joist flange in TJI®/L65 joists).
- Number of nail lines applies to both boundary nailing and nailing at other panel edges.
- Do not space 10d common nails closer than 3" on-center into joist flange.

## Intermediate framing members:

- Space nails 12" on-center, except when joist spacing is greater than 32", in which case nail spacing should be 6" on-center.

## Roof— Allowable Live Loads (psf) <sup>(2)(3)(5)</sup> 10 psf Dead Load Assumed

Panel Span Rating <sup>(1)</sup>	Sheathing Thickness (in)	Maximum Span (in)	Unsupported Edge – Max. Length <sup>(4)</sup> (in)	Spacing of Supports Center-to-Center (in)									
				12	16	20	24	30	32	36	40	48	60
12/0	5/16	12	12	125									
16/0	5/16, 3/8	16	16	135	65								
20/0	5/16, 3/8	20	20	165	90	55							
24/0	3/8, 1/2	24	20 <sup>(8)</sup>	235	125	85	45						
32/16	15/32, 1/2, 5/8	32	28	380	210	140	90	45	35 <sup>(6)</sup>				
40/20	19/32, 5/8, 3/4, 7/8	40	32		305	210	130	80	70	40	30		
48/24	23/32, 3/4, 7/8	48	36			295	185	115	100	60	45	35	
48/24 <sup>(7)</sup>	23/32, 3/4, 7/8	48	36			345	215	130	105	70	55	40	
2-4-1	1 1/8	72	48				375	235	205	125	100	65	40
1 1/8" (Grp. 1&2)	1 1/8	72	48				290	185	160	95	75	50	30

Prepared by the American Plywood Association especially for application of APA sheathing on Trus Joist products.

<sup>(1)</sup> These loads apply to APA RATED SHEATHING, APA STRUCTURAL I and II RATED SHEATHING and APA STRUCTURAL I and II RATED SHEATHING Exterior, marked PSI-83.

Sheathing must span continuous over two or more supports, with grain of face plies across supports.

<sup>(2)</sup> Use 6d (2") common, smooth, ring-shank or spiral-thread nails for sheathing 1/2" thick or less and 8d (2 1/2") common, smooth, ring-shank or spiral-thread for sheathing 1"

thick or less. Use 8d (2 1/2") ring-shank or spiral-thread or 10d (3") common smooth-shank nails for 2-4-1, 1 1/8" panels. Space nails 6" at panel edges and 12" at intermediate supports, except where spans are 48" or more, in which case nails shall be 6" at all supports. Space panel ends 1/8" and panel edges 1/4".

<sup>(3)</sup> Special conditions, such as heavy concentrated loads, may require constructions in excess of these minimums.

<sup>(4)</sup> Provide adequate blocking, tongue-and-grooved edges or other suitable edge support such as Plyclips when spans exceed indicated value. Use two Plyclips for 48" or

greater spans and one for lesser spans.

<sup>(5)</sup> Uniform load deflection limit is 1/180th span under live load plus dead load and 1/240th under live load only.

<sup>(6)</sup> This value may be increased to 40 psf when supports are 3 1/2" wide, as with Trus Joist open-web trusses.

<sup>(7)</sup> These loads apply only to 23/32" and 3/4" APA STRUCTURAL I RATED SHEATHING, 23/32" and 3/4" APA STRUCTURAL I RATED SHEATHING Exterior, and APA RATED SHEATHING 48/24 Exterior, marked PSI-83.

<sup>(8)</sup> 24" for 1/2" thick panels.

## Floor – Allowable Live Loads (psf) <sup>(2)(3)(5)</sup> 10 psf Dead Load Assumed

Panel Span Rating <sup>(1)</sup>	Sheathing Thickness (in)	Maximum Span <sup>(4)</sup> (in)	Spacing of Supports Center-to-Center (in)					
			12	16	20	24	32	48
32/16	15/32, 1/2, 5/8	16		180				
40/20	19/32, 5/8, 3/4, 7/8	20			180			
48/24	23/32, 3/4, 7/8	24				160		
2-4-1	1 1/8	48					175	55*
1 1/8" (Grp. 1&2)	1 1/8	48					135	40*

Prepared by the American Plywood Association especially for application of APA sheathing on Trus Joist products.

<sup>(1)</sup> These loads apply to APA RATED SHEATHING, APA STRUCTURAL I and II RATED SHEATHING and APA STRUCTURAL I and II RATED SHEATHING Exterior, marked PSI-83. Sheathing must span continuous over two or more supports, with grain of face plies across supports.

<sup>(2)</sup> In some non-residential buildings, special conditions may impose heavy concen-

trated loads and heavy traffic requiring sheathing constructions in excess of these minimums.

<sup>(3)</sup> Edges shall be tongue-and-grooved or supported with blocking for square edge roof flooring, unless separate underlayment layer (1/4" minimum thickness) is installed.

<sup>(4)</sup> Spans limited to values shown because of possible effect of concentrated loads.

<sup>(5)</sup> Use 6d (2") common, smooth, ring-shank or spiral-thread nails for sheathing 1/2" thick

and 8d (2 1/2") common, smooth, ring-shank or spiral-thread for sheathing 1" thick or less. Use 8d (2 1/2") ring-shank or spiral-thread or 10d (3") common smooth-shank nails for 2-4-1, 1 1/8" panels. Space nails 6" at panel edges and 10" at intermediate supports, except where spans are 48", in which case space nails 6" at all supports.

\* This system is recommended for residential floors only.

## Installation Bracing Open-Web Trusses

Installation bracing for Trus Joist open-web trusses is required to prevent lateral buckling of the chord members until adequate stability is available by connection to the sheathing and permanent bracing of the completed structure as designed. This installation bracing includes 1) strut bracing rows, 2) cross bracing at bottom chord bearing conditions, 3) bottom chord restraint and 4) braced end wall or diaphragm restraint adequate to support the strut bracing rows. The criteria used for

this installation bracing assume **either** of the following conditions:

- Truss carries its own weight plus the weight of applied sheathing and two 250-pound workers concentrated at  $\frac{1}{3}$  points of the span; or
- An unloaded truss with a 30 mph wind

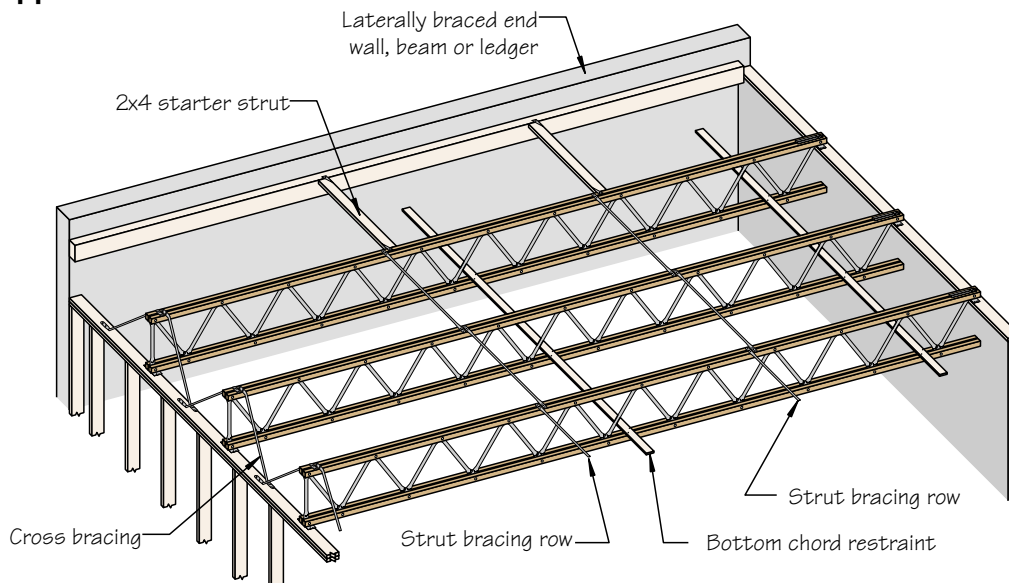
Bracing for construction loads equivalent or beyond these loads is the responsibility of the erector. **Bracing must be installed as each truss is put in position.**

**All trusses are unstable laterally** until properly braced. The longer the span, the more care is required. Adequate restraint is necessary at all stages of construction.

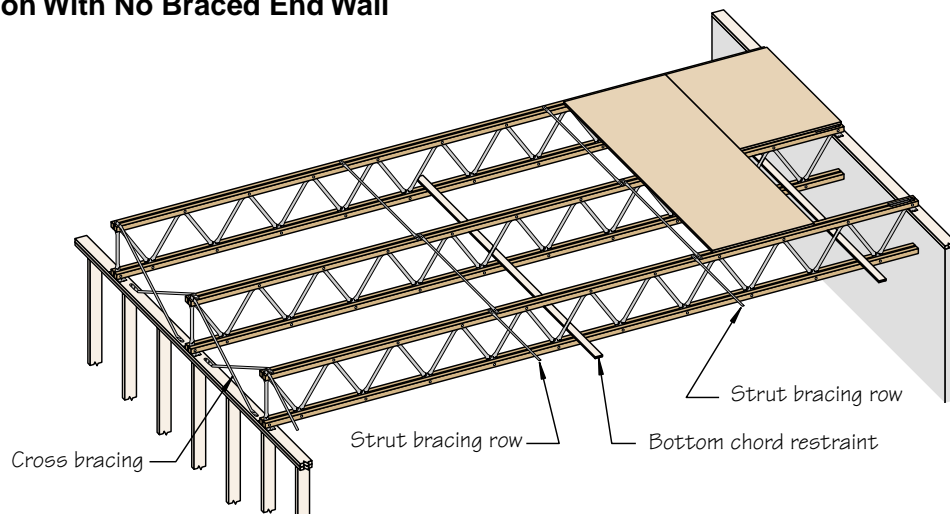
**Complete stability** is not achieved until all bracing and decking is completely installed and properly fastened.

**Installation bracing and procedures**, as well as the safety of the workers, are the responsibility of the erector.

## Typical Application



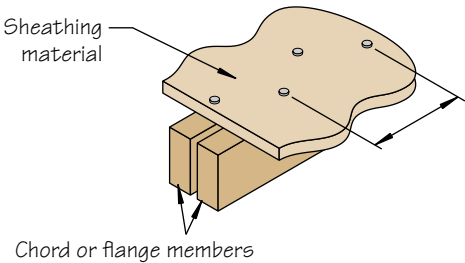
## Application With No Braced End Wall



# Nailing/Bracing

## Nailing to Chord and Flange Members

Nailing pattern to be per plans and specifications. In addition, nail spacing shall comply with the criteria listed herein. Nails shall not be less than 8d (2½") or greater than 16d (3½").



- Widest on-center spacing for nails in each chord or flange member:
- 24" o.c. in each chord member for all open-web trusses.
  - 18" o.c. for TJI® joists with flange widths less than 2 inches.
  - 24" o.c. for TJI® joists with flange widths greater than 2 inches.

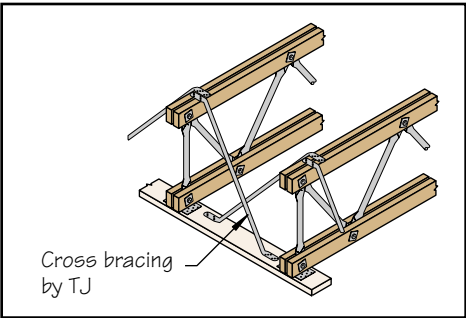
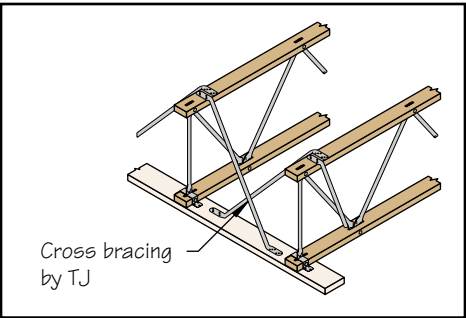
## Closest Allowable On-Center Spacing for Nails in a Row

Nail Size	Standard Nail Length	Nail Type	Nail Diameter	TJI® Joists	TJL™ & TJW™ Trusses	TJLX™ Series		TJS™ Trusses	TJM® & TJH™ Trusses
						Microllam® LVL Chord	Sawn Lumber Chord		
8d <sup>(1)</sup>	2½"	Box Common	0.113" 0.131"	2" 2"	4" 6"	2" 2"	4" 6"	4" 6"	2" 2"
10d	3"	Box Common	0.128" 0.148"	2" 3"	6" 6"	2" 3"	6" 6"	6" 6"	2" 2½"
12d	3¼"	Box Common	0.128" 0.148"	2" 3"	6" 6"	2" 3"	6" 6"	6" 6"	2" 2½"
16d	3½"	Box Common	0.135" 0.162"	3" 4"	6" 8"	3" 4"	6" 8"	6" 8"	2½" 4"

If more than one row of nails is used the rows must be offset at least ½" and staggered.

<sup>(1)</sup> 14 gauge staples may be a direct substitute for 8d (2½") nails when a minimum penetration of 1" into the main member is achieved.

## Cross Bracing

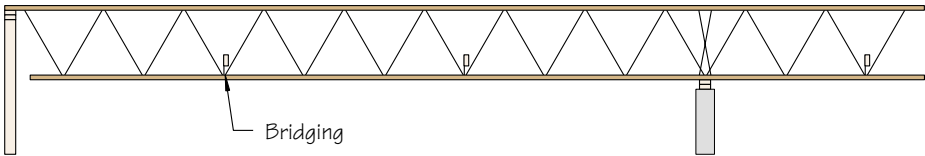


Cross bracing is provided for all open web trusses at bottom chord bearing conditions. Cross bracing to be installed as each truss is set. Maximum lateral load is 500 lbs. per truss.

## Bottom Chord Restraint

### TJL™, TJLX™ & TJW™ Trusses

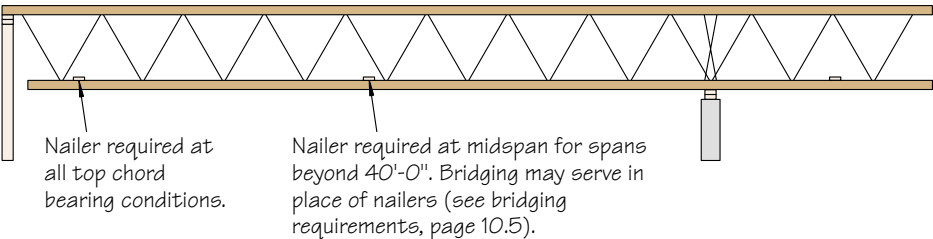
Bottom chord restraint is required to stabilize the bottom chord during installation. This restraint is adequately provided for by the bridging members and nailers as required.



Bracing may be required at cantilevers as determined by Trus Joist Engineering Department.

### TJS™, TJM® & TJH™ Trusses

Bottom chord restraint is required to stabilize the bottom chord during installation and is typically provided by the installer.



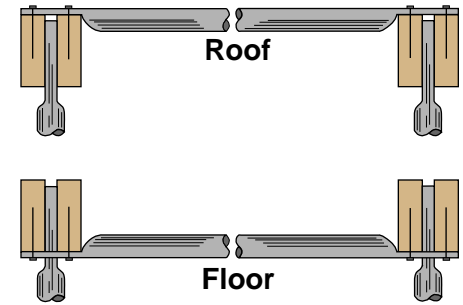
1x4 minimum nailer is to be attached to top of bottom chord with 1-8d (2½") nail in each chord member.



## Strut Bracing

Strut bracing is a required accessory with all open-web truss applications and is provided by Trus Joist. The number of evenly spaced strut bracing rows for each application is determined by the Trus Joist Engineering Department. The following charts give an approximation of

the number of rows required. Strut bracing for roof systems are attached as shown in these sketches. Strut bracing for floor systems is to be attached to the bottom of the top chord member so as not to interfere with the direct attachment of sheathing.



## Strut Bracing Charts

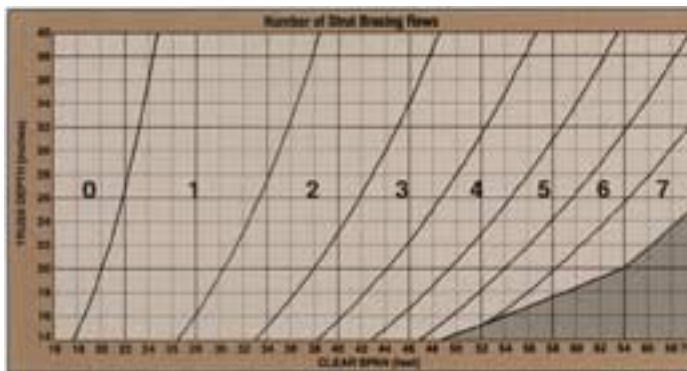
These charts present the approximate number of evenly spaced rows of strut bracing required. The Trus Joist Engineering Department will determine the actual number of rows and their location for each specific application. Enter the chart with a known clear span

and the truss depth. For tapered profiles use the depth at the shallow end plus  $\frac{1}{3}$  of the rise. For pitched profiles use the average of the wall depth and the ridge depth. The value obtained from the chart is the number of rows required. Use the higher value if the result is on a line.

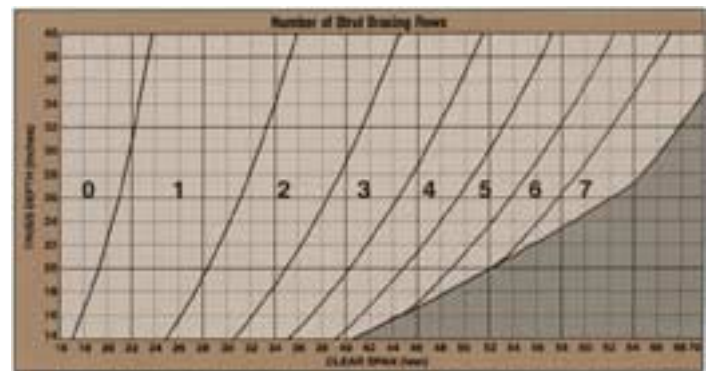
**Pitched profile requires an odd number of rows to provide a row at the ridge line.** Therefore, if the chart result is an even number, add one row to obtain an uneven number. Interpolate between charts for 32" on-center spacing.

## TJL™ & TJLX™ Trusses

### TJL™ & TJLX™ TRUSSES AT 24" O.C.\*



### TJL™ & TJLX™ TRUSSES AT 48" O.C.\*



## TJW™ Truss

### TJW™ TRUSS AT 24" O.C.\*



### TJW™ TRUSS AT 48" O.C.\*

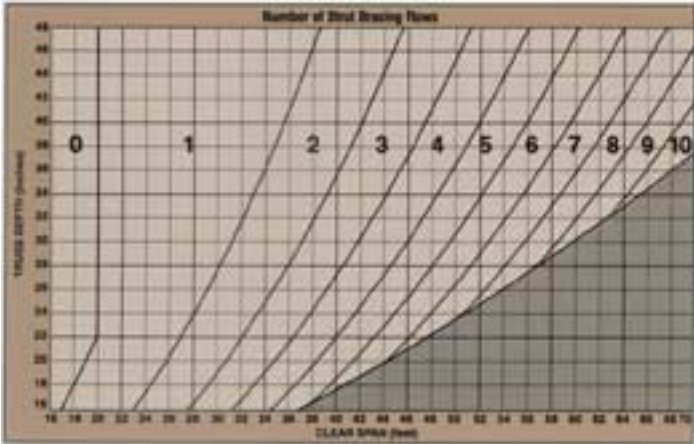


**\*NOTE:** Applications within gray shaded areas require special consideration. Contact your Trus Joist representative for assistance.

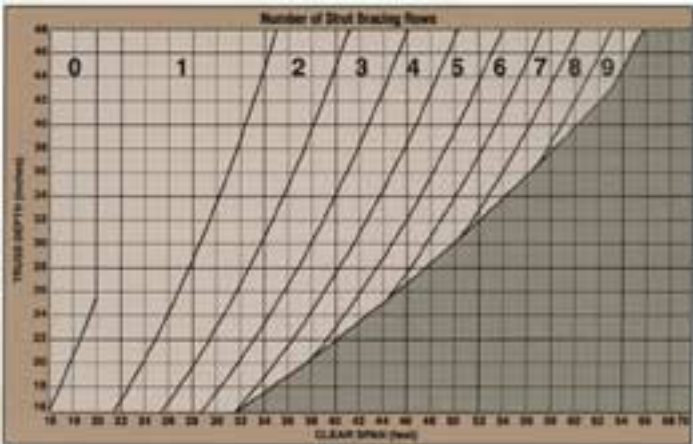
# Strut Bracing

## TJS™ Truss

TJS™ TRUSS AT 24" O.C.\*

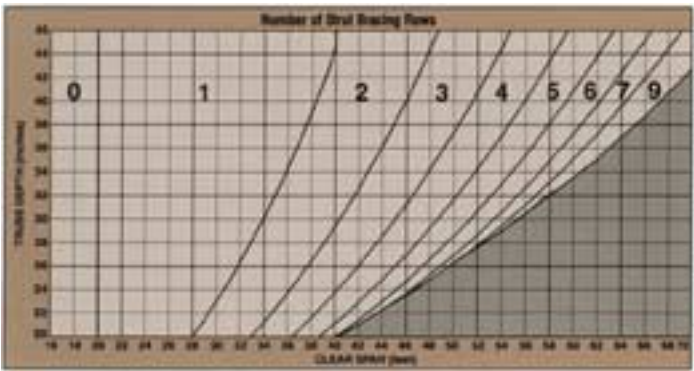


TJS™ TRUSS AT 48" O.C.\*

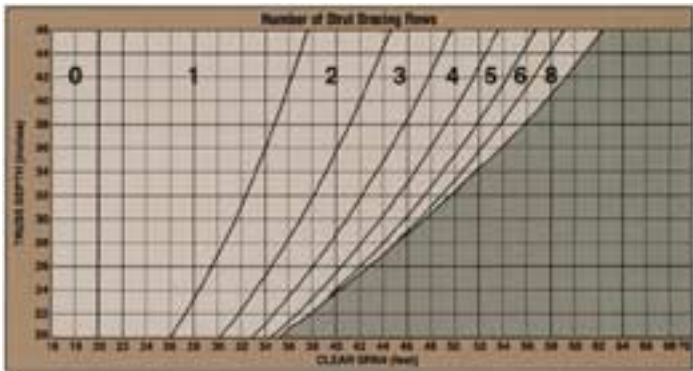


## TJM® Truss

TJM® TRUSS AT 24" O.C.\*

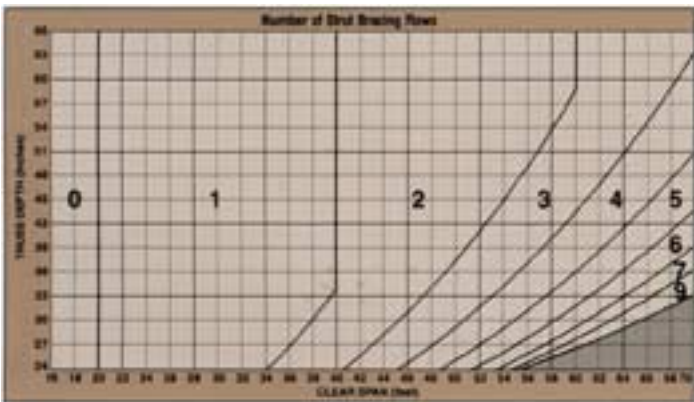


TJM® TRUSS AT 48" O.C.\*

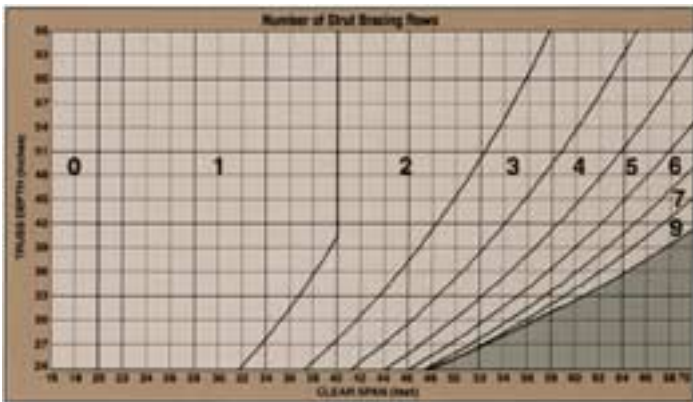


## TJH™ Truss

TJH™ TRUSS AT 24" O.C.\*



TJH™ TRUSS AT 48" O.C.\*



\*NOTE: Applications within gray shaded areas require special consideration. Contact your Trus Joist representative for assistance.

**TJI® Joists** – Bridging not required by Trus Joist. Check requirements of local code jurisdictions.

## TJL™, TJLX™ and TJW™ Trusses

Roof Truss Bridging <sup>(1)(2)</sup>				
Span (ft.)	To 16	16-35	35-55	55+
No. of Rows	1	2	3	4

Floor Truss Bridging <sup>(2)</sup>				
Span (ft.)	To 10	10-24	24-32	32+
No. of Rows	1	2	3	4

Floor Truss Bridging <sup>(2)</sup> with a Direct Applied Ceiling				
Span (ft.)	To 22	22-32	33-42	42+
No. of Rows	1	2	3	4

- (1) Additional bracing may be required when trusses are to be installed out of plumb greater than 1/4" in 12". Contact your Trus Joist representative.
- (2) Bridging required in cantilevers when the length of cantilever exceeds 3 times the truss depth.

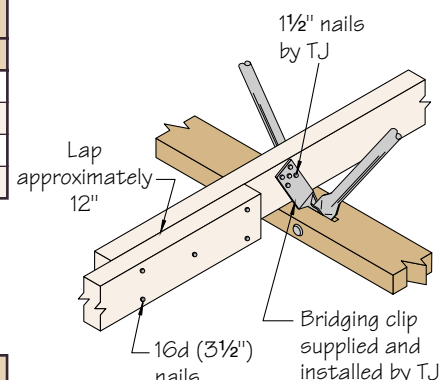
TimberStrand® LSL Bridging <sup>(1)</sup>		
Truss Spacing	Size of Continuous Bridging Member	
	Floor	Roof
12" - 19.2" o.c.	2x4	2x4
24" o.c.	2x6	2x4
32" o.c.	2x6	2x6 <sup>(2)</sup>
48" o.c.	2x8 <sup>(3)</sup>	2x6

- (1) Assumes 1.3E TimberStrand® LSL unless otherwise noted.
- (2) If 1.5E TimberStrand® LSL is specified, 2x4 bridging size may be used.
- (3) 2x8 bridging size assumes 1.5E TimberStrand® LSL.

Sawn Lumber Bridging	
Truss Spacing	Size of Continuous Bridging Member
	Floor or Roof
12" - 16" o.c.	2x4 <sup>(1)(2)</sup>
19.2" - 32" o.c.	2x6 <sup>(1)(2)</sup>
48" o.c.	2x8 <sup>(3)</sup>

- (1) Douglas fir-larch, southern pine or spruce-pine-fir minimum F<sub>b</sub> 1650 grade MSR.
- (2) If minimum F<sub>b</sub> 2100 grade is specified, 2x4 bridging may be used to 24" on-center.
- (3) Douglas fir-larch or southern pine minimum grade #2.

**2x strongback bridging is designed to transfer 500 lb impact load**



**Field bend bridging clip 30 degrees before nailing to bridging row**

## TJS™, TJM® and TJH™ Trusses

**Roof** – Bridging not required except for long-span modular-erection applications. Specific size and grade to be determined.

**Floor** – Bridging required at 12' o.c. max.

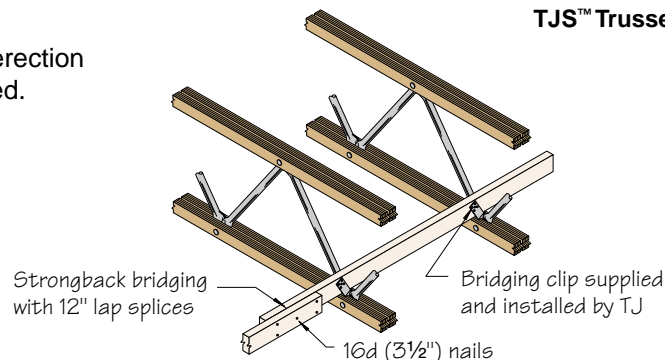
TimberStrand® LSL Floor Bridging <sup>(1)</sup> (Bridging Required at 12' o.c. Maximum)	
Truss Spacing	Size of Continuous Bridging Member
12" - 19.2" o.c.	2x4
24" - 32" o.c.	2x6
48" o.c.	2x8 <sup>(2)</sup>

- (1) Assumes 1.3E TimberStrand® LSL unless otherwise noted.
- (2) 2x8 bridging size assumes 1.5E TimberStrand® LSL.

TimberStrand® LSL Floor Bridging <sup>(1)</sup> (Bridging Required at 12' o.c. Maximum)	
Truss Spacing	Size of Continuous Bridging Member
	Floor or Roof
12" - 16" o.c.	2x4 <sup>(1)(2)</sup>
19.2" - 32" o.c.	2x6 <sup>(1)(2)</sup>
48" o.c.	2x8 <sup>(3)</sup>

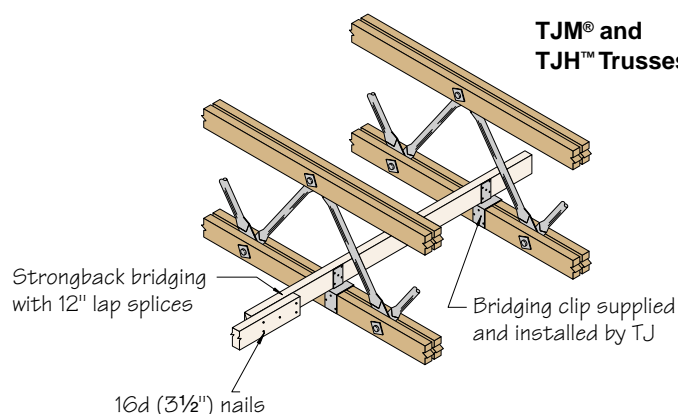
- (1) Douglas fir-larch or southern pine minimum F<sub>b</sub> 1650 grade.
- (2) If minimum F<sub>b</sub> 2100 grade is specified, 2x4 bridging may be used to 24" on-center.
- (3) Douglas fir-larch or southern pine minimum grade #2.

## TJS™ Trusses



**Field bend bridging clip 30 degrees before nailing to bridging row**

## TJM® and TJH™ Trusses





# Long Spans

## Long Spans—Over 70 Feet

Trus Joist open-web trusses with spans beyond 70 feet are available only if all of the following additional requirements are satisfied. Review each of the following criteria with our technical representative prior to sizing and detailing our products in any application involving spans beyond 70 feet.

1. There must be an architect and/or engineer of record throughout the design and construction period of the project.
2. The architect or engineer must include the following statement in the job specifications:

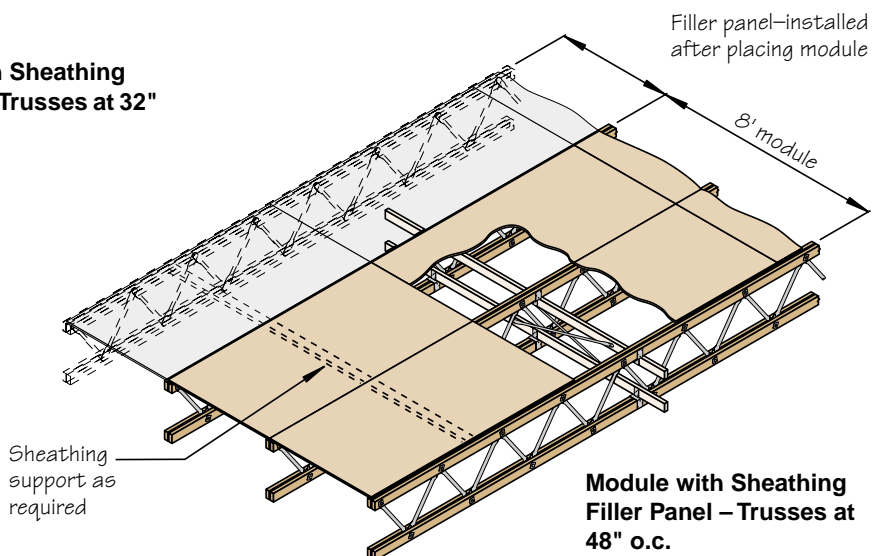
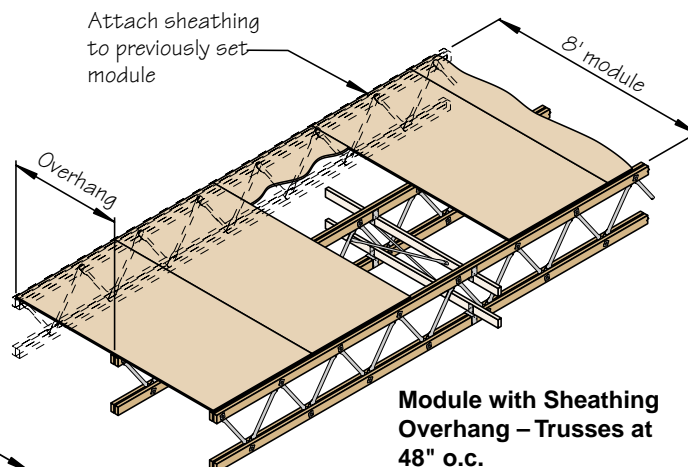
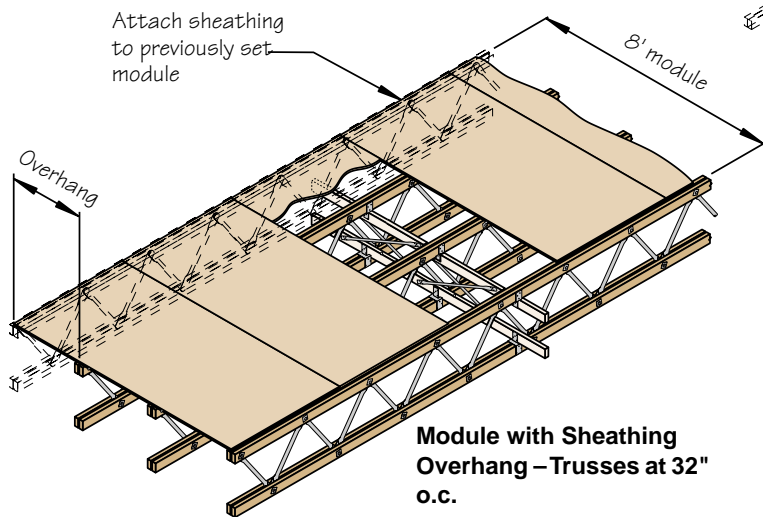
*Trus Joist open-web trusses with spans beyond 70 feet are to be erected in accordance with manufacturer's recommendations, which are that: "The trusses shall be erected in rigid modules at least 8 feet in width, accurately assembled in a jig with final sheathing permanently and totally attached while on the ground. Specified bridging shall be installed in each module as detailed."*

3. Only structural panel sheathing will be permitted.

4. An addendum to our standard purchase agreement, which contains the above criteria, must be signed by the purchaser-contractor.
5. Prior to execution of the purchase agreement, the specifications and details of the job must be submitted to a Trus Joist engineering department along with a description of the installation procedures proposed to be used.

The following are sketches of possible rigid modules that would satisfy the condition specified in criterion 2.

**A cap may be required over double chord open-web trusses where high shear loads are encountered**



Parallam® PSL is increasingly being used in heavy-timber applications. This unique material's high strength, long length and attractive look prompt many design professionals to investigate its potential uses.

The biggest challenge in designing with high strength material such as Parallam® PSL is the proper design of the connectors to adequately transfer loads between members. Investigations into efficiency and effectiveness of several types of connections have resulted in the conclusion that the material and connectors perform very consistently and predictably.

To encourage the proper design and construction of safe structures, NER-481 or CCMC 11161-R design values for Parallam® PSL are to be used in heavy-timber applications. Connector design shall be in accordance with the 1997 National Design Specification® for Wood Construction (NDS) or CSA Standard O86.1-94, Engineering Design in Wood (Limit States Design) and as modified or restricted in this document.

The following information is intended to assist design professionals in the design of heavy-timber applications using

Parallam® PSL. The first part includes **recommended** design procedures and considerations, and the second part includes design procedures which are **required** in order to fall under Trus Joist acceptable design guidelines. The truss design engineer is responsible for proper design and fabrication as applicable, regardless of his or her adherence to or deviation from Trus Joist's recommended or required design procedures.

## Recommended Design Procedures

Connectors currently allowed for use in Parallam® PSL heavy-timber design include dowel-type connectors (bolts, pins, nails, etc.), shear plates and timber rivets. Split rings are not recommended for use in Parallam® PSL.

The use of Parallam® PSL in wet-use applications (where the moisture content of the wood will exceed 16%) is not recommended.

All joints shall be concentric with the longitudinal axis of each member in the joint converging at the center of the chord. All joints shall be symmetric across the width of the joint (i.e. no two-member/single-shear joints).

Do not specify dowel-type connectors of the same diameter but differing grades (i.e.  $\frac{3}{4}$ " - A307 and  $\frac{3}{4}$ " - A325) on the same project.

Bolted and shear plate connections shall be used in conjunction with steel main or side plates only.

When using 4" shear plates, utilize  $\frac{3}{4}$ " diameter bolts only (i.e. no  $\frac{7}{8}$ " diameter bolts).

$F_{yb}$  for bolts approximately equals the average of  $F_y$  and  $F_u$ . Therefore the following values may be used:

A307 bolts:

$F_{yb} = 45,000$  psi max.

A325 bolts:

$F_{yb} = 106,000$  psi max.

When calculating the "Group Action Factor,  $C_g$ " (NDS), or " $J_G$ " (CSA Standard O86.1-94) for joints with multiple rows of bolts or shear plates, use the minimum  $C_g$  as calculated by the following two methods:

1. Per the NDS or CSA Standard O86.1-94 as appropriate.
2. Use the distance between rows when calculating the gross cross-sectional areas of main and side plate members.

# Required Design Procedures

Construction and design practices shall be as described in Appendix A of the 1997 NDS or Section 3 of CSA Standard O86.1-94.

Wood truss metal plate connector values **do not** apply to heavy-timber Parallam® PSL applications and are not to be used.

Analysis and design shall include consideration of member stability and ensure all necessary bracing location information is provided (both installation and perma-

nent). Design shall include all necessary sizes, dimensions and tolerances required for fabrication. Design, including fabrication and assembly/installation review, is the responsibility of the design professional as required.

All member stresses are to be calculated using net section. Where allowed by the appropriate building code, the maximum duration of load increase for loading that includes wind and/or seismic forces shall be 1.6 for Parallam® PSL strength parameters and 1.33 for connection strength.

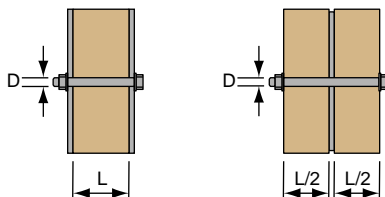
In applications where Parallam® PSL is exposed to the elements but the moisture content of the wood will not exceed 16% (e.g., partially exposed, wind-blown water, etc.), dry-use connection design values shall be multiplied by 0.67 to account for occasional moisture collection in the connection. Hardware (bolts, nuts, washers, rivets, etc.) shall be hot-dip galvanized and, as a minimum, steel shall be shop primed.

## Bolted Connections

Bolted (or dowel) connections shall be designed and fabricated in accordance with the 1997 NDS or CSA Standard O86.1-94, with the following restrictions and requirements:

- Use Douglas fir-larch values (specific gravity of 0.5).
- The minimum L/D ratio (length of bolt to thickness of Parallam® PSL member), shall be 4 for A307 bolts or pins, and 6 for A325 bolts or pins. These L/D values will increase the probability that the connection yield mode will be controlled by ductile fastener bending.

- Bolts shall be ASTM A307 or ASTM A325 with a maximum diameter of 1".



- Placement of bolts in joints shall be in accordance with the 1997 NDS or CSA Standard O86.1-94 with the following exceptions:

1. The end distance for parallel-to-grain loading toward the loaded end (tension member) shall be a minimum of 9 times the bolt diameter for full design value (i.e., 9D rather than 7D).
2. The spacing of A325 bolts in a row parallel to grain shall be 6D rather than 4D for full design value.

- As a minimum, the steel side plates shall conform to the requirements of ASTM standard A36 or CSA Standard CAN/CSA-G40.21.

## Shear Plate Connections

Shear plate connections shall be designed and fabricated in accordance with the 1997 NDS or CSA Standard O86.1-94, with the following restrictions and requirements:

- Use Douglas fir-larch values (specific gravity of 0.5, Group B species).
- Shear plates shall be 4" or 2 7/8" in diameter and manufactured by Cleveland Steel or other manufacturers that adhere to the ASTM D 5933-96 standard for metal shear plates.

- Footnote No. 2(b) of Table 10.2B of the 1997 NDS, which limits loads based on the shear strength of an A307 bolt, does not apply for A325 bolts.

- Values for shear plates when used on material less than 2 1/2" thick shall be reduced 25% from those calculated by the 1997 NDS or CSA Standard O86.1-94.

- Placement of shear plates in joints shall be in accordance with the 1997 NDS or CSA Standard O86.1-94 with the following exceptions:

1. The end distance for parallel-to-grain loading toward the loaded end (tension member) for a 4" shear plate shall be a minimum of 9" for full design value (i.e., 9" rather than 7").
2. The end distance for parallel-to-grain loading toward the loaded end (tension member) for a 2 5/8" shear plate shall be a minimum of 7" for full design value (i.e., 7" rather than 5 1/2").

- As a minimum, the steel side plates shall conform to the requirements of ASTM Standard A36 or CSA Standard CAN/CSA-G40.21.

## Timber Rivet Joints

Timber rivet joints shall be designed and fabricated in accordance with the 1997 NDS or CSA Standard O86.1-94, with the following restrictions and requirements:

- The tips of rivets driven from opposite faces of the member shall not overlap.

- Rivets shall be driven perpendicular to the wide face of strand only (i.e., no edge or end grain rivet connections).

- When designing per CSA Standard O86.1-94, the use of a Material Factor "H" of 1.00 is acceptable for both parallel and perpendicular to grain loading.

- Check block shear of Parallam® PSL material when designing multiple-row connections.