

A-9.23.4.4. Concrete Topping. Vibration-controlled spans given in Table A-2 for concrete topping are based on a partial composite action between the concrete, subflooring and joists. Normal weight concrete having a compressive strength of not less than 20 MPa, placed directly on the subflooring, provides extra stiffness and results in increased capacity. The use of a bond breaker between the topping and the subflooring, or the use of lightweight concrete topping limits the composite effects.

Where either a bond breaker or lightweight topping is used, Table A-1 may be used but the additional dead load imposed by the concrete must be considered. The addition of 51 mm of concrete topping can impose an added load of 0.8 to 1.2 kPa, depending on the density of the concrete.

Example

Assumptions:

- basic dead load	= 0.5 kPa
- topping dead load	= 0.8 kPa
- total dead load	= 1.3 kPa
- live load	= 1.9 kPa
- vibration limit	per A-9.23.4.2.(2)
- deflection limit	= 1/360
- ceiling attached directly to joists, no bridging	

The spacing of joists in the span tables can be conservatively adjusted to allow for the increased load by using the spans in Table A-1 for 600 mm spacing, but spacing the joists 400 mm apart. Similarly, floor beam span tables can be adjusted by using 4.8 m supported length spans for cases where the supported length equals 3.6 m.

A-9.23.8.3. Joint Location in Built-Up Beams.

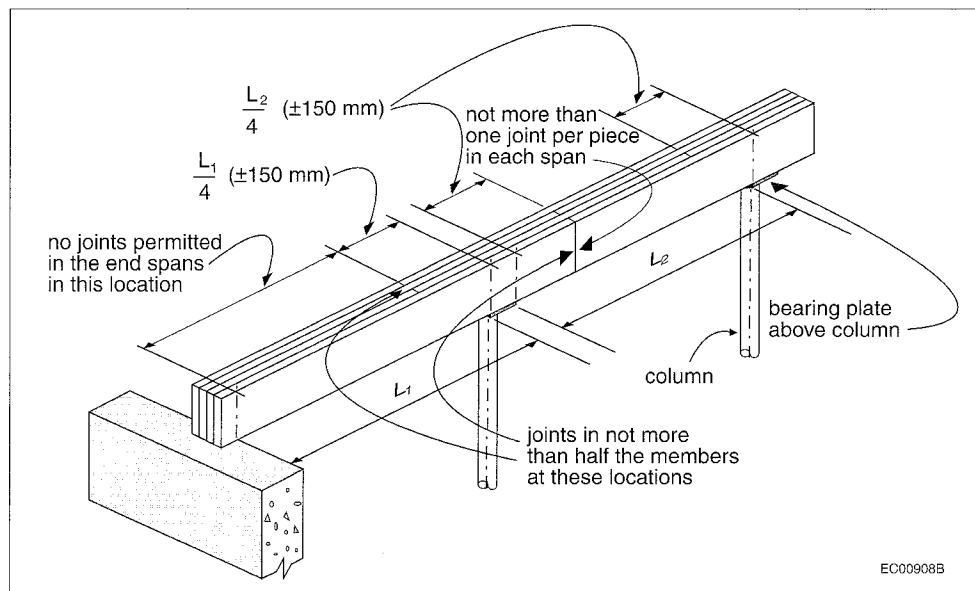


Figure A-9.23.8.3.

Joint location in built-up beams

A-9.23.10.2. Bracing. Traditionally, diagonal bracing has been provided at the corners of wood-framed walls to provide resistance against wind racking forces. Laboratory tests have indicated, however, that the bracing that had been traditionally used contributed relatively little to the overall strength of the wall. Most of the racking resistance was in effect provided by the interior finish. Because of this, the requirements for bracing were deleted in the late 1950's. (See "Shear Resistance of Wood Frame Walls," by A.T. Hansen, Building Practice Note 61, Institute for Research in Construction, National Research Council, Ottawa.)