

# CODE OF STANDARD PRACTICE FOR STEEL JOISTS AND JOIST GIRDERS

**TABLE 2.7-1c**

<b>MAXIMUM BRIDGING FORCE (<math>P_{br}</math>) FOR HORIZONTAL BRIDGING (lbs)</b>							
<b>JOIST SPACING (ft.-in.)</b>	<b>BRIDGING ANGLE SIZE (EQUAL LEG ANGLE)</b>						
	<b>1 x 7/64 r = 0.20"</b>	<b>1¼ x 7/64 r = 0.25"</b>	<b>1½ x 7/64 r = 0.30"</b>	<b>1¾ x 7/64 r = 0.35"</b>	<b>2 x 1/8 r = 0.40"</b>	<b>2½ x 5/32 r = 0.50"</b>	<b>3 x 3/16 r = 0.60"</b>
2'-0"	2150	3960	5600				
2'-6"	1370	2730	4410	5910			
3'-0"	950	1890	3290	4850			
3'-6"	700	1390	2420	3840	6180		
4'-0"	530	1060	1850	2960	5030		
4'-6"	420	840	1460	2340	4000		
5'-0"	340	680	1180	1890	3240		
5'-6"	-	560	980	1560	2670		
6'-0"	-	470	820	1310	2250	5490	
6'-6"	-	-	700	1120	1910	4680	
7'-0"	-	-	600	960	1650	4030	
7'-6"	-	-	520	840	1440	3510	
8'-0"	-	-	-	740	1260	3090	
8'-6"	-	-	-	650	1120	2740	5680
9'-0"	-	-	-	-	1000	2440	5060
9'-6"	-	-	-	-	890	2190	4540
10'-0"	-	-	-	-	810	1970	4100
10'-6"	-	-	-	-	-	1790	3720
11'-0"	-	-	-	-	-	1630	3390
11'-6"	-	-	-	-	-	1490	3100
12'-0"	-	-	-	-	-	1370	2850



**(d) Sizing of Bridging**

Horizontal and diagonal bridging shall be capable of resisting the nominal unfactored horizontal compressive force,  $P_{br}$  given in Equation 5.4-3.

$$P_{br} = 0.0025 n A_t F_{\text{construction}}, \text{ lbs (N)} \quad (5.4-3)$$

Where:

$n = 8$  for horizontal bridging

$n = 2$  for diagonal bridging

$A_t$  = cross sectional area of joist top chord,  $\text{in.}^2$  ( $\text{mm}^2$ )

$F_{\text{construction}}$  = assumed ultimate stress in top chord to resist construction loads

$$F_{\text{construction}} = \left( \frac{\pi^2 E}{\left( \frac{0.9 \ell_{brmax}}{r_y} \right)^2} \right) \geq 12.2 \text{ ksi} \quad (5.4-4a)$$

$$F_{\text{construction}} = \left( \frac{\pi^2 E}{\left( \frac{0.9 \ell_{brmax}}{r_y} \right)^2} \right) \geq 84.1 \text{ MPa} \quad (5.4-4b)$$

Where:  $E$  = Modulus of Elasticity of steel = 29,000 ksi (200,000 MPa) and  $\frac{\ell_{brmax}}{r_y}$  is determined from

Equations 5.4-1a, 5.4-1b or 5.4-2

The bridging nominal unfactored horizontal compressive forces,  $P_{br}$ , are summarized in Table 5.4-3.

**TABLE 5.4-3**

*Section Number	Horizontal $P_{br}$ ( $n=8$ )		Diagonal $P_{br}$ ( $n=2$ )	
	lbs	(N)	lbs	(N)
#1 thru #8	340	(1512)	85	(378)
#9, #10	450	(2002)	113	(503)
#11, #12	560	(2491)	140	(623)
*Last digit(s) of joist designation shown in Load Table				

