

Table 7-5
Available Bearing Strength at Bolt Holes
Based on Bolt Spacing
kips/in. thickness

Hole Type	Bolt Spacing, s , in.	F_u , ksi	Nominal Bolt Diameter d_b , in.							
			$5/8$		$3/4$		$7/8$		1	
			r_n/Ω_v	$\phi_v r_n$	r_n/Ω_v	$\phi_v r_n$	r_n/Ω_v	$\phi_v r_n$	r_n/Ω_v	$\phi_v r_n$
STD SSLT	$2\frac{2}{3} d_b$	58 65	—	51.1 57.3	—	62.0 69.5	—	72.9 81.7	—	82.8 91.4
	3 in.	58 65	—	65.3 73.1	—	78.3 87.8	—	91.4 102	—	102
SSLP	$2\frac{2}{3} d_b$	58 65	—	41.3 46.3	—	52.2 58.5	—	63.1 70.7	—	70.7
	3 in.	58 65	—	65.3 73.1	—	78.3 87.8	—	91.4 102	—	102
OVS	$2\frac{2}{3} d_b$	58 65	—	44.6 50.0	—	55.5 62.2	—	66.3 74.3	—	74.3
	3 in.	58 65	—	65.3 73.1	—	78.3 87.8	—	91.4 102	—	102
LSLP	$2\frac{2}{3} d_b$	58 65	—	5.44 6.09	—	6.53 7.31	—	7.61 8.53	—	8.53
	3 in.	58 65	—	65.3 73.1	—	58.7 65.8	—	42.4 47.5	—	47.5
LSLT	$2\frac{2}{3} d_b$	58 65	—	42.6 47.7	—	51.7 57.9	—	60.7 68.0	—	68.0
	3 in.	58 65	—	54.4 60.9	—	65.3 73.1	—	76.1 85.3	—	85.3
STD, SSLT, SSLP, OVS, LSLP	$s \geq s_{full}$	58 65	—	65.3 73.1	—	78.3 87.8	—	91.4 102	—	102
LSLT	$s \geq s_{full}$	58 65	—	54.4 60.9	—	65.3 73.1	—	76.1 85.3	—	85.3
Spacing for full bearing strength s_{full}^a , in.			STD, SSLT, LSLT	$1\frac{15}{16}$		$2\frac{5}{16}$		$2\frac{11}{16}$		$3\frac{1}{16}$
			OVS	$2\frac{1}{16}$		$2\frac{7}{16}$		$2\frac{13}{16}$		$3\frac{1}{4}$
			SSLP	$2\frac{1}{8}$		$2\frac{1}{2}$		$2\frac{7}{8}$		$3\frac{5}{16}$
			LSLP	$2\frac{13}{16}$		$3\frac{3}{8}$		$3\frac{15}{16}$		$4\frac{1}{2}$
Minimum Spacing ^a = $2\frac{2}{3} d_b$, in.				$1\frac{11}{16}$		2		$2\frac{5}{16}$		$2\frac{11}{16}$

STD = Standard Hole

SSLT = Short-Slotted Hole oriented transverse to the line of force

SSLP = Short-Slotted Hole oriented parallel to the line of force

OVS = Oversized Hole

LSLP = Long-Slotted Hole oriented parallel to the line of force

LSLT = Long-Slotted Hole oriented transverse to the line of force

Note: Spacing indicated is from the center of the hole or slot to the center of the adjacent hole or slot in the line of force. Hole deformation is considered. When hole deformation is not considered, see AISC Specification Section J3.10.

^a Decimal value has been rounded to the nearest sixteenth of an inch.

$\Omega_v = 2.00$ $\phi_v = 0.75$

Table 7-5 (continued)
Available Bearing Strength at Bolt Holes
Based on Bolt Spacing
kips/in. thickness

Hole Type	Bolt Spacing, s , in.	F_u , ksi	Nominal Bolt Diameter d_b , in.							
			$1\frac{1}{8}$		$1\frac{1}{4}$		$1\frac{3}{8}$		$1\frac{1}{2}$	
			r_n/Ω_v	$\phi_v r_n$	r_n/Ω_v	$\phi_v r_n$	r_n/Ω_v	$\phi_v r_n$	r_n/Ω_v	$\phi_v r_n$
STD SSLT	$2\frac{2}{3} d_b$	58 65	—	94.6 106	—	105 118	—	116 130	—	127 143
	3 in.	58 65	—	94.6 106	—	—	—	—	—	—
SSLP	$2\frac{2}{3} d_b$	58 65	—	78.3 87.8	—	89.2 99.9	—	100 112	—	111 124
	3 in.	58 65	—	78.3 87.8	—	—	—	—	—	—
OVS	$2\frac{2}{3} d_b$	58 65	—	81.6 91.4	—	92.4 104	—	103 116	—	114 128
	3 in.	58 65	—	81.6 91.4	—	—	—	—	—	—
LSLP	$2\frac{2}{3} d_b$	58 65	—	9.79 11.0	—	10.9 12.2	—	12.0 13.4	—	13.1 14.6
	3 in.	58 65	—	9.79 11.0	—	—	—	—	—	—
LSLT	$2\frac{2}{3} d_b$	58 65	—	78.8 88.4	—	87.9 98.5	—	97.0 109	—	106 119
	3 in.	58 65	—	78.8 88.4	—	—	—	—	—	—
STD, SSLT, SSLP, OVS, LSLP	$s \geq s_{full}$	58 65	—	117 132	—	131 146	—	144 161	—	157 176
LSLT	$s \geq s_{full}$	58 65	—	97.9 110	—	109 122	—	120 134	—	131 146
Spacing for full bearing strength s_{full}^a , in.			STD, SSLT, LSLT	$3\frac{7}{16}$		$3\frac{13}{16}$		$4\frac{3}{16}$		$4\frac{9}{16}$
			OVS	$3\frac{1}{16}$		$4\frac{1}{16}$		$4\frac{7}{16}$		$4\frac{13}{16}$
			SSLP	$3\frac{3}{4}$		$4\frac{1}{8}$		$4\frac{1}{2}$		$4\frac{7}{8}$
			LSLP	$5\frac{1}{16}$		$5\frac{5}{8}$		$6\frac{3}{16}$		$6\frac{3}{4}$
Minimum Spacing ^a = $2\frac{2}{3} d_b$, in.				3		$3\frac{5}{16}$		$3\frac{11}{16}$		4

STD = Standard Hole

SSLT = Short-Slotted Hole oriented transverse to the line of force

SSLP = Short-Slotted Hole oriented parallel to the line of force

OVS = Oversized Hole

LSLP = Long-Slotted Hole oriented parallel to the line of force

LSLT = Long-Slotted Hole oriented transverse to the line of force

— indicates spacing less than minimum spacing required per AISC Specification Section J3.3.

Note: Spacing indicated is from the center of the hole or slot to the center of the adjacent hole or slot in the line of force. Hole deformation is considered. When hole deformation is not considered, see AISC Specification Section J3.10.

$\Omega_v = 2.00$ $\phi_v = 0.75$