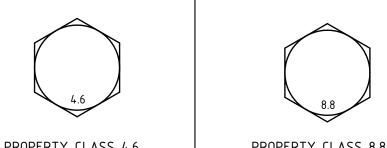
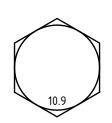
DESIGN CAPACITIES FOR SNUG-TIGHTENED BOLTS (CATEGORY/S) IN ACCORDANCE WITH AS4100 (2020) STEEL STRUCTURES





	PROPERTY CLASS 4.6		PROPERTY CLASS 8.8		PROPERTY CLASS 10.9		
	TENSION	SINGLE SHEAR	TENSION	SINGLE SHEAR	TENSION	SINGLE SHEAR	
	φN _{tf} (kN)	ϕV_f (kN)	φN _{tf} (kN)	ϕV_f (kN)	φN _{tf} (kN)	ϕV_f (kN)	
M12	27	14 [22]	56	30 [46]	70	31 [58]	
M16	50	27 [39]	104	58 [82]	130	60 [103]	
M20	78	43 [62]	163	90 [129]	204	94 [162]	
M24	113	62 [89]	234	130 [186]	293	135 [233]	
M30	179	100 [140]	372	209 [290]	466	217 [364]	

DESIGN CAPACITIES FOR SNUG-TIGHTENED BOLTS (CATEGORY/S) IN ACCORDANCE WITH AS4100 (2020) STEEL STRUCTURES

	GRADE 2		GRADE 5		GRADE 8		
	TENSION	SINGLE SHEAR	TENSION	SINGLE SHEAR	TENSION	SINGLE SHEAR	
	φN _{tf} (kN)	φV _f (kN)	φN _{tf} (kN)	φV _f (kN)	φN _{tf} (kN)	φV _f (kN)	
1/2" UNC	38	20 [32]	61	33 [51]	77	34 [64]	
5/8"UNC	60	32 [50]	98	53 [81]	122	55 [101]	
3/4" UNC	89	49 [72]	144	79 [116]	180	82 [146]	
1" UNC	131	72 [104]	261	145 [207]	327	151 [259]	
1-1/4" UNC	209	117 [162]	366	206 [284]	522	244 [406]	

NOTES

- 1. DESIGN CAPACITIES SHOWN ARE FOR SNUG-TIGHTENED BOLTS (CATEGORY /S) IN ACCORDANCE WITH AS4100 (2020) STEEL STRUCTURES. THESE CAPACITIES ARE NOT APPLICABLE TO TENSION-CONTROLLED JOINTS.
- 2. SINGLE PLANE SHEAR VALUES SHOWN ARE FOR BOLTS WITH THREADS INCLUDED IN THE SHEAR PLANE. VALUES SHOWN IN [] ARE FOR BOLTS WITH THREADS EXCLUDED FROM THE SHEAR PLANE.
- 3. A BOLT REQUIRED TO RESIST BOTH DESIGN SHEAR (V_f^*) AND DESIGN TENSION (N_{ff}^*) AT THE SAME TIME SHALL SATISFY:

$$(V_{f^*}/\phi V_{f})^2 + (N_{f^*}/\phi N_{f^*})^2 \le 1.0$$

- 4. CALCULATION OF INDIVIDUAL BOLT LOADS MUST CONSIDER THE GEOMETRICAL PROPERTIES OF THE BOLT GROUP AS WELL AS ANY ADDITIONAL FORCES DUE TO PRYING ACTION. BOLTED CONNECTIONS SHALL BE DESIGNED BY A SUITABLY QUALIFIED ENGINEER.
- 5. CORRECT INTERPRETATION AND USE OF THIS INFORMATION IS THE RESPONSIBILITY OF THE USER. TRANG TAKES NO RESPONSIBILITY FOR THE OUTCOMES OF THE USE OF THIS INFORMATION.
- 6. FOR DESIGN OF YOUR BOLTED CONNECTIONS CONTACT TRANG IMAGINEERING ON 13 000 87264 OR EMAIL info@trang.com.au

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REV DATE DETAIL BY CHK DES	Α	04/09/23	INITIAL RELEASE	SB	GH	SB	
	REV	DATE	DETAIL	BY	CHK	DES	



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