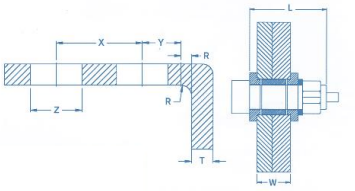
AJAX FASTENERS

ONESIDE™ STRUCTURAL FASTENER

Without prejudice
Commercial in confidence



Critical Dimensions

Bolt Size and thread pitch	Required Hole dia (Z)	Min Pitch Length (X)	Distance to Flat Corner (Y)	Min Thickness of Material (W)	Across the flat dimensions of Nut	Bolt lengths available				
M16 x 2.0	**0.945" 0.965"**	**1.57"**	**0.709"**	**0.197"**	**1.02" - 1.06"**	45mm (1.77")	60mm (2.36")	75mm (2.95")	90mm (3.54")	
M20 x 2.5	**1.181" 1.220"**	**1.97"**	**0.945"**	**0.197"**	**1.30" - 1.34"**	65mm (2.56")	95mm (3.74")	135mm (5.32")	165mm (6.50")	250mm (9.84")

Mechanical Properties

Bolt Size and thread pitch	Ultimate Stress ksi (psi)	Yield Stress ksi (psi)	Proof Stress ksi (psi)	Hardness Range HRC	Shank Area in Sq Inches	Stress Area in Sq Inches	Core Shear Area in Sq inches	Sleeve Shear Area in Sq Inches
M16 x 2.0	120.38 ksi (120381psi)	95.72 ksi (95725 psi)	87.02 ksi (87022psi)	25 - 32*	0.312	0.244	0.223	0.253
M20 x 2.5	120.38 ksi (120381psi)	95.72 ksi (95725 psi)	87.02 ksi (87022psi)	25 - 32*	0.487	0.380	0.349	0.434

*Hardness HRC specialized to ensure acceptance to ISO-898-1 (8.8) and ASTM 325

Bolt Size and thread pitch	Tensile Load *		Shear Across Shank*		Shear Across Threads*		Tightening Torque ft/lbs
	Ultimate (lbs)	Proof (lbs)	Ultimate (lbs)	Proof (lbs)	Ultimate (lbs)	Proof (lbs)	
M16 x 2.0	30,275	20,407	23,155	16,860	16,635	12,140	144 - 160
M20 x 2.5	45,636	33,046	36,419	26,302	26,077	18,884	280 - 300

The following table summarises the maximum load carrying capacities (causing the failure of the bolt) for the product. Shear data is given per shear plane based on ASTM A325M and International Structural standards.

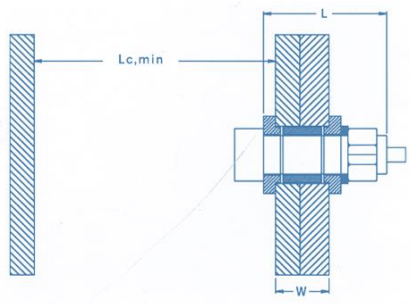
* Note that these values assume the breakage of the bolt achieved when the tube wall thickness is large. Otherwise the failure will be due to tearing of the tube wall which is dependent on the strength and thickness of the tube wall among other parameters.

** Tightening torques are based on 65% proof load and a nut factor of 0.2. These are suggestions only. Engineer must specify the desired tightening specifications as per the design.

Shear Across Standard Sleeve		Shear Across "Hi Shear" Sleeve	
Ultimate (lbs)	Proof (lbs)	Ultimate (lbs)	Proof (lbs)
18,884	13,713		
32,372	23,380	46,310	36.868

Design Scope Hollow Section (cavity) installation

Bolt Size and thread pitch	Bolt Length in MM	Bolt Length in inches	Range of Joint Thickness (W)	Min Cavity Length Required (Lc, Min)
M16 x 2.0	45	1.77"	0.197 - 0.59"	5.51"
	60	2.36"	0.197" - 1.181"	6.10"
	75*	2.95"	0.787" - 1.772"	6.69"
	90	3.54"	1.377" - 2.36"	7.28"
Special Order item only				
M20 x 2.5	65	2.56"	0.197" - 1.14"	7.48"
	95	3.74"	0.197" - 2.32"	8.66"
	135	5.32"	0.787" - 3.74"	10.24"
	165	6.50"	2.165" - 4.92"	11.42"
	250	9.84"	7.00" - 8.46"	11.42"



The ONESIDE™ structural blind fastening system requires a minimum length of cavity space (Lc,min) available behind the joint. This is governed by the joint thickness / grip length (W) and the Bolt Length (L). Bolt length is measured from under head to the end of the thread as shown in the figure (spigot not included). The following table provides the available range of joint thickness / grip length (W) and the minimum cavity length required for each bolt size.