
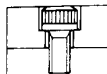



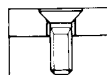

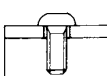

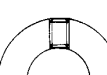

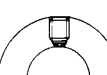

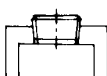

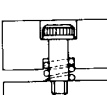
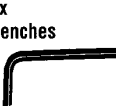
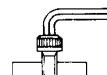

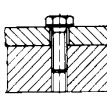

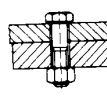

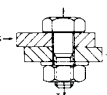




# HIGH TENSILE FASTENERS: QUICK SELECTION GUIDE

Product	Hardness	Max. Operating Temp. °C	Tensile Strength		Size Range				Equivalent Standards						Application / Feature
			(Property Class)		Metric		Inch*		IS	ISO	DIN	BS	ANSI	JIS	
			Psi min	N/mm <sup>2</sup> min	Diameter	Length	Diameter	Length							
 Socket Head Cap Screws	HRc 39-44	300°	190000	1220 (12.9)	M3 to M42	5 to 300 mm	1/8" to 1"	3/8" to 12"	2269	4762	912	4168 2470	B18.3.1M	B1176	 Suitable for all high tensile applications.
 Socket Low Head Cap Screws	HRc 33-40	300°	-	1040 (10.9)	M4 to M20	10 to 90 mm	-	-	-	6912 7984	-	-	-	-	 Suitable for use in parts too thin to Std. S.H.C.S.; and for applications with limited clearances.
 Socket Countersunk Head Screws	HRc 39-44	300°	160000	1220 <sup>1</sup> (12.9)	M3 to M16	6 to 60 mm	3/16" to 5/16"	3/8" to 1.1/4"	6761	-	7991	4168 2470	B18.3.5M	-	 Controlled angle under the head ensures max. flushness and side wall contact. Non-slip hex socket prevents marring of material.
 Socket Button Head Cap Screws	HRc 39-44	300°	-	1220 <sup>1</sup> (12.9)	M3 to M10	6 to 50 mm	-	-	-	7380	9427	4168	B18.3.4M	-	 Low head streamline design. Use them in materials too thin to counters; also for non-critical loading requiring heat treated screws.
 Socket Set Screws (Knurled Cup Point)	HRc 45-53	250°			M3 to M20	3 to 75 mm	1/8" to 3/4"	1/8" to 3"	-	-	-	-	B18.3.6M	B1177	 Fasten collars, sleeves, gears, knobs on shafts. Locate machine parts.
 Socket Set Screws (Special Points)	HRc 45-53	250°			M3 to M20	3 to 75 mm	1/8" to 3/4"	1/8" to 3"	6094	4026 4027 4028 4029	913 914 915 916	4168 2470	B18.3.6M	B1177	 For permanent location of parts and for higher axial and torsional loading.
 Pressure Plugs	HRb 82-95	300°			M18 to M30	-	1/8" to 1***	-	9645	-	906	-	-	-	 Taper threads for positive seal without sealing compound. Controlled chamber for faster starting.
 Socket Head Shoulder Screws	HRc 39-44	300°	Shear 96000 730		M6 to M24	10 to 120 mm	1/4" to 1"	1/2" to 5"	-	7379	9841	4168 2470	-	B1175	 Replace costly special parts - shafts, pivot pins, guides, linkages and trunion mountings. Also standard for tool and die industries.
 Hex Wrenches	HRc 47min	-		Hardness HRc 47 Min	1.5 to 32mm A/F	-	1/16" to 3/4" A/F	-	3082	2936	911	4168 2470	B18.3.2M	B4648	 Tough, ductile, for high torquing; corners won't round; accurate fit in all type socket screws.
 Hex Head Screws / Bolts	HRc (8.8) 22-34 (10.9) 32-39	300°	120000 (5) 150000 (8)	800/830 (8.8) 1040 (10.9)	M4 to M48	10 to 300 mm	1/4" to 1"	1/2" to 8"	1364	4014 4017	931 933	1083 1768	B18.2.1	B1180	 Suitable for a wide range of industrial applications, in the automotive, plant and machinery, structural and electrical industries.
 Hex Nuts	HRc (8) 19-36 (10) 26-36	300°	Proof Stress (8) 840 (10) 1040		M10 to M42	-	-	-	1364	4032	934 970	1083 1768	B18.2.1M B18.2.2	B1181	 Suitable for a wide range of industrial applications, in the automotive, plant and machinery, structural and electrical industries.
 High Strength Structural Bolts, Nuts, Washers	HSS Bolt (8S) 22-34 (10S) 32-39 HSS Nut (Class 8) HRb89 to HRc36 (Class 10) HRc26 to HRc36			Bolts 8.8/10.9 Nuts 8/10	M16 to M30	40 to 300 mm	-	-	3757 6623 6649	7412 4775 7415	6914 6915 6916	4395	B18.2.3.7M B18.2.4.6M	B1186	 Heavy Hex series structural bolts, nuts and washers for use in both friction grip and bearing type structural joints.
 Special Products				800/840 (8.8) 1040 (10.9)	M3 to M42	6 to 410 mm	1/8" to 1"	3/8" to 12"	As per customers specifications.						 As per customers specifications.

\* Thread type in any of the following inch series: BSW, BA, UNC & UNF. \*\* Thread type in NPTF. <sup>1</sup>Because of their head configuration these screws may not meet their minimum tensile load properties. Note: PFL standards meet, or in many instances, exceed the requirements of the standards listed. The strengths quoted are at room temperature, tensile strength varies considerably with operating temperature.