






External Thread and Material Marking Chart

Material Marking	Specification	Material	Size Range	Mechanical Properties		
				Proof Load Min (psi)	Yield Strength Min (psi)	Tensile Strength Min (psi)
	SAE J429 Grade 5	Medium Carbon Steel, Quenched and Tempered	¼ to 1 Over 1 to 1-½	85,000 74,000	92,000 81,000	120,000 105,000
	ASTM A449		¼ to 1 Over 1 to 1-½ Over 1-½ to 3	85,000 74,000 55,000	92,000 81,000 58,000	120,000 105,000 90,000
A325	ASTM A325 Type 1		½ to 1 1-⅝ to 1-½	85,000 74,000	92,000 81,000	120,000 105,000
	ASTM A325 Type 2	Low Carbon Martensitic Steel, Quenched and Tempered	½ to 1	85,000	92,000	120,000
A325	ASTM A325 Type 3	Atmospheric Corrosion Resistant Steel, Quenched & Tempered	½ to 1 1-⅝ to 1-½	85,000 74,000	92,000 81,000	120,000 105,000
BC	ASTM A354 Grade BC	Alloy Steel, Quenched and Tempered		105,000 95,000	109,000 99,000	122,000 115,000
	SAE J429 Grade 7	Medium Carbon Alloy Steel, Quenched and Tempered 4	¼ to 1-½	105,000	115,000	133,000
	SAE J429 Grade 8			120,000	130,000	150,000
	ASTM A354 Grade BD					
A490	ASTM A490	Alloy Steel, Quenched and Tempered	½ to 1-½	120,000	130,000	150,000 min 170,000 max
F593C	ASTM F593 Grp 1 Cond CW1	303, 304, 304L, 305, 384, XM1, 18-9LW, 302HQ, 303Se	¼ to ⅝	—	65,000	100,000
F593D	ASTM F593 Grp 1 Cond CW2					
F593G	ASTM F593 Grp 2 Cond CW1	316, 316L	¾ to 1 ½	—	45,000	85,000
F593H	ASTM F593 Grp 2 Cond CW2					
B7	ASTM A193 Grade B7	AISI 4140, 4142, OR 4105	¼ to 2-½ Over 2-½ to 4 Over 4 to 7	—	105,000 95,000 75,000	125,000 115,000 100,000
B16	ASTM A193 Grade B16	CrMoVa Alloy Steel			105,000 95,000 85,000	125,000 115,000 100,000
B8	ASTM A193 Grade B8	AISI 304	¼ and larger	—	30,000	75,000
B8M	ASTM A193 Grade B8M	AISI 316				



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				Proof Load Min (psi)	Yield Strength Min (psi)	Tensile Strength Min (psi)
B8SH	ASTM A193 Grade B8 Cl. 2	AISI 304 Strain Hardened	1/4 to 3/4 Over 3/4 to 1 Over 1 to 1-1/4 Over 1-1/4 to 1-1/2	—	100,000 80,000 65,000 50,000	125,000 115,000 105,000 100,000
B8MSH	ASTM A193 Grade B8M Cl. 2	AISI 316 Strain Hardened		95,000 80,000 65,000 50,000	110,000 100,000 95,000 90,000	
L7	ASTM A320 Grade L7	AISI 4140, 4142 or 4145	1/4 to 2-1/2	—	105,000	125,000
B8	ASTM A320 Grade B8	AISI 304	1/4 and larger	—	30,000	75,000
B8C	ASTM A320 Grade B8C	AISI 347				
B8T	ASTM A320 Grade B8T	AISI 321				
B8F	ASTM A320 Grade B8F	AISI 303 or 303Se				
B8M	ASTM A320 Grade B8M	AISI 316				
B8	ASTM A320 Grade B8 Cl. 2	AISI 304 Strain Hardened	1/4 to 3/4 Over 3/4 to 1 Over 1 to 1-1/4 Over 1-1/4 to 1-1/2	—	100,000 80,000 65,000 50,000	100,000 80,000 65,000 50,000
B8M	ASTM A320 Grade B8M Cl. 2	AISI 316 Strain Hardened				
B8T	ASTM A320 Grade B8T Cl. 2	AISI 321 Strain Hardened				
8.8 or 88	ISO 898 Class 8.8	Alloy Steel, Quenched & Tempered	All sizes thru 38mm	85,000	92,000	120,000
10.9 or 109	ISO 898 Class 10.9			120,000	130,000	150,000
12.9 or 129	ISO 898 Class 12.9			140,000	155,000	175,000
A2-70	ISO 3506 A2	304, 304L, 321, 347	All sizes thru 20mm	—	65,000	100,000
A7-70	ISO 3506 A4	316, 316L, 317, 317L				