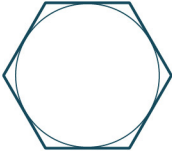


How to Read and Understand Bolt Grades

SAE or Standard Bolts

Head Marking	Grade/ Specification	Material	Nominal Size	Proof Load (psi)	Yield Strength Minimum (psi)	Tensile Strength Minimum (psi)
	Grade 2	Low or medium carbon steel	$\frac{1}{4}" - \frac{3}{4}"$	55,000	57,000	74,000
			$\frac{3}{4}" - 1 \frac{1}{2}"$	33,000	36,000	60,000
	Grade 5	Medium carbon steel, quenched and tempered	$\frac{1}{4}" - 1"$	85,000	92,000	120,000
			$1" - 1 \frac{1}{2}"$	74,000	81,000	105,000
	Grade 8	Medium carbon alloy steel, quenched and tempered	$\frac{1}{4}" - 1 \frac{1}{2}"$	120,000	130,000	150,000
Stainless Markings Vary	18-8 & 316 Stainless	Steel alloy with chromium and nickel	Up to 1"	N/A	20,000 Min. 65,000 Typical	65,000 Min. 100,000 – 150,000 Typical

How to Read and Understand Bolt Grades

Metric Bolts

Head Marking	Grade/ Specification	Material	Nominal Size	Proof Load (MPa)	Yield Strength Minimum (MPa)	Tensile Strength Minimum (MPa)
	Class 8.8	Medium carbon steel, quenched and tempered	All sizes below 16mm	580	640	800
			16mm - 72mm	600	660	830
	Class 10.9	Alloy steel, quenched and tempered	5mm - 100mm	830	940	1,040
	Class 12.9	Alloy steel, quenched and tempered	1.6mm - 100mm	970	1,100	1,220
Usually Stamped A-2 or A-4	A-2 & A-4 Stainless	Steel alloy with chromium and nickel	All sizes thru 20mm	N/A	210 Min. 450 Typical	500 Min. 700 Typical