Reli-A-Pak® Bolt, Nut, & Gasket Sets by Reliable Fasteners, Inc.

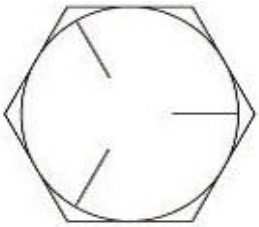
SAE J429

The SAE J429 Specification covers the material, manufacturing methods, mechanical properties, and testing requirements for cap screws. A cap screw differs from a regular bolt in many ways. Standard bolts have looser tolerances, which allow the body to be larger than the nominal diameter where as a cap screw's body is never larger than the nominal diameter. Cap screws also have a washer face under the head that provides a bearing surface when tightened. SAE J429 cap screws meet the dimensions of ASME / ANSI B18.2.1, and are available in diameters ranging from 1/4" to 1-1/2".

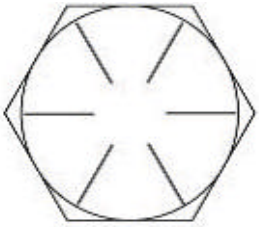
Grades	
2 (Low Strength)	Low or Medium Carbon Steel / Cold Formed
5 (Medium Strength)	Medium Carbon Steel / Quenched and Tempered / Heat Treated
8 (High Strength)	Medium Carbon Alloy Steel / Quenched and Tempered / Heat Treated

Grade Identification Markings

J429 Grade 2



J429 Grade 5



J429 Grade 8

Mechanical Properties								
Grades	**Size**	**Tensile, psi, min**	**Yield, psi, min**	**Proof Load, psi**	**Rockwell Hardness Min**	**Max**	**Recommended Nut**	**F/W**
2	1/4" – 3/4"	74,000	57,000	55,000	B80	B100	A563	
	7/8" – 1-1/2"	60,000	36,000	33,000	B70	B100		
5	1/4" – 1"	120,000	92,000	85,000	C25	C34	A563	
	1-1/8" – 1-1/2"	105,000	81,000	74,000	C19	C30	or Gr.5	
8	1/4" -1-1/2"	150,000	130,000	120,000	C33	C39	Gr.8	Gr.8

Tensile Strength: The maximum load in tension (pulling apart) that a material can withstand before breaking or fracturing.
Yield Strength: The maximum load at which a material exhibits a specific permanent deformation
Proof Load: An axial tensile load that the product must withstand without evidence of any permanent set.