

Grade Identification Markings for Carbon Steel Externally Threaded Fasteners

Grade Identification Marking	Specification	Material	Nominal Size in.	Proof Load Stress ksi	Tensile Strength Min ksi	Hardness Rockwell		See Note
						Min	Max	
 No Mark	SAE J429 - Grade 1	Low or Medium Carbon Steel	1/4 thru 1 1/2	33	60	B70	B100	
	SAE J429 - Grade 2		1/4 thru 3/4 over over 3/4 thru 1 1/2	55	74	B80	B100	
	ASTM A307 - Grade A		1/4 thru 4	–	60	B69	B100	
	ASTM A307 - Grade B		1/4 thru 4	–	60 Min 100 Max	B69	B95	
	SAE J429 - Grade 5 ASTM A449 - Type 1	Medium Carbon Steel, Quenched and Tempered	1/4 thru 1 over 1 thru 1 1/2	85 74	120 105	C25	C34	
	ASTM A449 - Type 1		over 1 1/2 thru 3	55	90	183	235	3
	SAE J429 - Grade 5.1	Low or Medium Carbon Steel, Quenched and Tempered	N0.6 Thru 1/2	85	120	C25	C40	4
	SAE J429 - Grade 5.2 ASTM A449 - Type2	Low Carbon Martensite Steel, Quenched and Tempered	1/4 thru 1	85	120	C26	C36	
						C25	C34	
	ASTM A325 - Type 1	Medium Carbon Steel Quenched and Tempered						5
	ASTM A325 - Type 2	Low Carbon Martensite Steel, Quenched and Tempered	1/2 Thru 1 over 1 to 1 1/2	85 74	120 105	C24	C35	
	ASTM A325 - Type 3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered					C19	C31
	ASTM A354 - Grade BC	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 2 1/2 over 2 1/2 thru 4	105 95	125 115	C26	C36	
	SAE J429 - Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1 1/2	120	150	C33	C39	
	ASTM A354 - Grade BD		1/4 thru 2 1/2 over 2 1/2 thru 4	120 105	150 140	C33	C39	7
	SAE J429 - Grade 8.2	Low Carbon Martensite Alloy Steel, Quenched and Tempered	1/4 thru 1	120	150	C33	C39	
	ASTM A490 - Type 1	Medium Carbon Alloy Steel, Quenched and Tempered	1/2 Thru 1 1/2	120	150 Min 170 Max	C33	C38	
	ASTM A490 - Type 2	Low Carbon Martensite Steel, Quenched and Tempered	1/2 Thru 1	120	150 Min 170 Max	C33	C38	
	ASTM A490 - Type 3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered	1/2 Thru 1	120	150 Min 170 Max	C33	C38	6

- NOTES:
- In addition to the indicated grade marking, all grades included in this Table must be marked for manufacturer identification.
 - While hex heads are shown, grade markings apply equally to products with other head configurations.
 - Hardnesses are Brinell Hardness Numbers.
 - Grade 5.1 is a popular grade for sems
 - A325 Type 1 bolts may also be marked with 3 radial lines 1200 apart in addition to the A325 marking.
 - The bolt manufacturer, at his option, may add other markings to indicate the use of atmospheric corrosion resistant steel.
 - A354 Grade BD products, in sizes 1 1/2 in. and smaller, are identified as shown and, at the manufacturers option, may have the letters BD added. Larger sizes are marked only BD.