











Grade Identification Marking	Specification	Material	Nominal Size In.	Proof Load Stress ksi	Tensile Strength Min ksi	Hardness Rockwell	
						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 3/4 thru 1 1/2	55 33	74 60	B80 B70	B100 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 C19	C34 C30
	ASTM A449 - Type 1		over 1/2 thru 3	55	90	183	235
	SAE J429 - Grade 5.1	Low or Medium Carbon Steel, Quenched and Tempered	No. 6 thru 1/2	85	120	C25	C40
	SAE J429 - Grade 5.1	Low Carbon Martensite Steel, Quenched and Tempered	1/4 thru 1	85	120	C26	C36
	ASTM A449 - Type 2					C25	C34
 A325	ASTM A325 - Type 1	Medium Carbon Steel, Quenched and Tempered	1/2 thru 1	85 74	120 105	C24 C19	C35 C31
 A325	ASTM A325 - Type 2	Low Carbon Steel, Quenched and Tempered	over 1 to 1 1/2				

	ASTM A325 - Type 3	Atmospheric Corrosion Resistant Steel, Quenched and Tempered					
	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 C22	C36 C33
	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 C31	C39 C39
	SAE J429 Grade 8.2	Low Carbon Martensite 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 1/2	120	150 min 170 max	C33	C38