

## Grade Specification and its Application

S.No.	Grade	Steel Type	Chemical properties and mechanical properties of raw material													Mechanical Properties Finish product in wire			B/Bar	Applications	
			%C	%Mn	%Si	%P	%S	%Cr	%V	%Ni	%Mo	%Ti	%B	%Al	%Pb	UTS(N/mm2)	UTS(N/mm2)	Hardness			
1	SAE1006	Cold Heading Quality Steel	0.08max	0.25-0.40	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	400 max	400 Max	65 Max	-	Wire Drawing & Cold upsetting
2	SAE1008		0.10max	0.50	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	420 max	400 Max	65 Max	-	Automobiles and machines Parts, Like Screw, High Tensile Fasteners, Bush, Spline, Socket, Connecting Rod, Shaft, Gear, Quarter, Nails Rivets, etc.
3	SAE1010		0.08-0.13	0.30-0.50	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	440 max	420 Max	65 Max	-	
4	SAE1012		0.10-0.15	0.30-0.60	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	350-440	420 Max	65 Max	-	
5	SAE1015		0.13-0.18	0.30-0.60	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	350-450	450 Max	70 Max	-	
6	SAE1018		0.15-0.20	0.60-0.90	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	500 max	500 Max	80 Max	90 Min	
7	SAE1020		0.18-0.23	0.30-0.60	0.35mx	0.04max	0.050max	-	-	-	-	-	-	-	0.020-0.040	-	420-530	500 Max	80 Max	90 Min	
8	SAE10B21		0.18-0.23	0.70-1.10	0.30 max	0.04max	0.050max	0.15-0.25	-	-	-	-	0.030-0.045	0.0005-0.003	0.020-0.040	-	550 Max	500 Max	80 Max	-	
9	SAE15B25		0.25-0.28	0.90-1.20	0.30 max	0.04max	0.050max	0.15-0.25	-	-	-	-	0.030-0.045	0.0005-0.003	0.020-0.040	-	600 Max	520 Max	82 Max	-	
10	19MnB4		0.23-0.26	0.95-1.10	0.30 max	0.04max	0.050max	0.30-0.40	-	-	-	-	0.030-0.045	0.0005-0.003	0.020-0.040	-	600 max	520 Max	82 Max	-	
11	SAE15B41		0.36-0.44	1.35-1.65	0.05-0.35	0.04max	0.050max	0.15-0.22	-	-	-	-	0.030-0.045	0.0005-0.003	0.020-0.040	-	720-880	520 Max	88 Max	20-25 Rc	