

PRODUCT SPECIFICATION

Low Carbon Steel Wire Rods – for general engineering applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
SAE1006/CAQ	5.2 - 22	0.04 - 0.08	0.30 - 0.60	0.10 - Max	0.025 - Max	0.015 - Max	290 - 375	70	Cable amour wire, drawing, construction
SWR10 (SAE1008)	52 - 22	0.10 - Max	030 - 0.60	0.10 - Max	0.025 - Max	0.015 - Max	300 - 430	70	Steel Decoration product, Binding wires, nails, U bolt, J Bolt etc.
SWR14 (SAE1010)	5.2 - 22	0.08 - 0.13	0.03 - 0.60	0.10 - 0.30	0.025 - Max	0.015 - Max	320 - 450	70	Wire conductor in transport & telegraphy holding & binding wires
SAE1020/1018	5.2 - 22	0.16 - 0.20	0.60 - 0.90	0.10 - Max	0.025 - Max	0.015 - Max	490 - Max	40	Fencing wire, binding wire, net, nail, small shaped product, wire net, screw, rivet, spoke, mesh etc.
SAE1020	5.2 - 22	0.18 - 0.23	0.30 - 0.60	0.10 -Max	0.025 - Max	0.015 - Max	420 - 530	60	
SAE1025	5.2 - 22	0.22 - 0.28	0.30 - 0.60	0.15 - 0.35	0.025 - Max	0.025 - Max	400 - 520	50	Machine parts like nut, bolt, fasteners by hot & cold forging
C18MMn	5.2 - 22	0.17 - 0.21	0.75 - 0.85	0.15 - 0.30	0.03 - Max	0.03 - Max	460 - 560	55	Nails

Medium Carbon Steel Wirerods - for general engineering applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
SAE1030	5.2 - 22	0.28 - 0.34	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.015 - Max	450 - 500	50	Fasteners, rivets etc.
SAE1038	5.2 - 22	0.35 - 0.42	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.015 - Max	460 - 500	55	Nuts, bolt, axle, connecting rod etc.
SAE1040	5.2 - 22	0.37 - 0.44	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.025 - Max	550 - 680	50	Chain for Cranes to lift weight, binding, suspension ropws, wire for lifts mine cages, cable ways
SAE1541	5.2 - 22	0.36 - 0.44	0.60 - 0.90	0.10 - 0.30	0.025 - Max	0.015 - Max	706 - Max	50	Nut, bolt, fasteners for automobile and bridge industries
EN8D	5.2 - 22	0.40 - 0.45	0.70 - 0.90	0.15 - 0.25	0.025 - Max	0.015 - Max	706 - Max	50	
EN8A	5.2 - 22	0.33 - 0.38	0.70 - 0.90	0.15 - 0.25	0.025 - Max	0.015 - Max	687 - Max	45	High tensile fasteners

High Carbon Steel Wire Rods – for cold drawing applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
C80	5.2 - 16	0.80 - 0.85	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	1175 - 1275	30	wires for concrete reinforcement, springs
HC 36/40	5.2 - 22	0.36 - 0.40	0.50 - 0.60	0.10 - Max	0.025 - Max	0.020 - Max	628 - 706	40	Earth and stay wires
HC 41/45	5.2 - 13	0.41 - 0.45	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	695 - 785	40	Umbrella ribs, cycle spokes
HC 51/55	5.2 - 13	0.51 - 0.55	0.60 - 0.90	0.15 - 0.30	0.025 - Max	0.020 - Max	814 - 903	40	Grade II spring used in machines tools, forming machines, hydraulic machines etc.
HC 56/60	5.2 - 13	0.56 - 0.60	0.60 - 0.80	0.15 - 0.25	0.025 - Max	0.020 - Max	853 - 942	40	Wires for rope and other noncritical and misc. wire application
HC 61/65	5.2 - 13	0.61 - 0.65	0.60 - 0.80	0.15 - 0.25	0.025 - Max	0.020 - Max	922 - 1010	40	Grade II spring used in machines tools, forming machines, hydraulic machines etc.
HC 66/70	5.2 - 13	0.66 - 0.70	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	991 - 1069	40	Wires for tyre bead and spring application
HC 71/75	5.2 - 13	0.71 - 0.75	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	1040 - 1128	36	Rope, binding & holding automoblie tire, conveyor wires, tire cord to reinforced belt, pressure hoses, chisel etc.
HC76/80	5.2 - 13	0.76 - 0.80	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	1099 - 1177	35	Reinforcement for railway sleepers, bridges
HC81/85	5.2 - 13	0.81 - 0.85	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	1138 - 1236	30	Reinforcement for railway sleepers, bridges, needle wire etc. Rope, binding & holding wires, tire cord to
PSC116	5.2 - 13	0.77 - 0.82	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 -Max	1138 - 1236	36	reinforced automobile tire, conveyor belt, pressure hoses, chisel etc.
TB68	5.2 - 13	0.66 - 0.70	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.020 - Max	965 - 1030	40	Wires for tyre bead and spring application

High Carbon Steel Wire Rods – for spring applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
SWRH 52-A	5.2 - 13	0.51 - 0.55	0.30 - 0.60	0.15 - 0.25	0.025 - Max	0.030 - Max	765 - 853	40	Wires for spring application
SWRH 62-A	5.2 - 13	0.60 - 0.65	0.30 - 0.60	0.15 - 0.25	0.03 - Max	0.030 - Max	893 - 981	40	Grade II spring used in machines tools, forming machines, hydraulic machines etc.
SWRH72A	5.5 - 10	0.69 - 0.72	0.30 - 0.60	0.15 - 0.25	0.025 - Max	0.020 - Max	940 - 10.40	40	Spring Application

High Carbon Steel Wire Rods – for spring applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
SWRH 82-A	5.2 - 13	0.80 - 0.85	0.30 - 0.60	0.15 - 0.25	0.03 - Max.	0.030 - Max.	1090 - 1160		Wires for spring application
SWRH82B	5.5 - 15	0.81 - 0.84	0.60 - 0.90	0.15 - 0.25	0.020 - Max.	0.025 - Max.	1285 - Max.	30	Wires for spring application Pre-stresses concrete and Spring Application
SRWH 82-V	5.2 - 15	0.81 - 0.86	0.60 - 0.90	0.15 - 0.25	0.025 - Max.	0.020 - Max.	1175 - 1275	30	Spring Application
SWRH 82BCr	5.2 - 15	0.81 - 0.85	0.60 - 0.90	0.15 - 0.25	0.020 - Max.	0.020 - Max.	1160 -1246	30	
SWRH 82B-Boron	5.2 - 15	0.81 - 0.85	0.60 - 0.90	0.15 - 0.25	0.025 -Max.	0.020 - Max	1187 - 1285	30	Wires for spring appli- ction

Alloy Steel Wire Rods – for heat treating applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
EN18P	5.2 - 22	0.38 - 0.44	0.65 - 0.90	0.15 - 0.25	0.15 - 0.25	0.015 - Max	756 - Max	50	Forging
42CrMo4	5.2 - 22	0.38 - 0.45	0.60 - 0.90	0.15 - 0.25	0.15 - 0.25	0.015 - Max	500 - 600	50	
16MnCr5	5.2 - 22	0.14 - 0.19	1.00 - 1.30	0.15 - 0.35	0.025 - Max	0.015 - Max	500 - 600	50	
20MnCr5	5.2 - 22	0.17 - 0.22	1.10 - 1.40	0.15 - 0.25	0.020 - Max	0.030 - Max	550 - 650	50	
SCM 415H	5.2 - 22	0.13 - 0.18	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.025 - Max	500 - 600	50	Case hardening of automobile & machines
SCM 420H	5.2 - 22	0.18 - 0.23	0.60 - 0.85	0.15 - 0.25	0.025 - Max	0.030 - Max	570 - Max	50	parts like connecting rod
SAE8620	5.2 -22	0.18 - 0.23	0.70 -0.90	0.15 -0.30	0.025 - Max	0.030 -Max	500 -600	50	Case hardening of automobile and machines parts like gear
SAE4135	5.2 - 22	0.33 - 0.38	0.70 - 0.90	0.15 - 0.30	0.03 - Max	0.030 - Max	932 - 1080	50	
SAE4140	5.2 - 22	0.38 - 0.43	0.75 -1.00	0.15 - 0.30	0.03 - Max	0.030 - Max	932 - 1030	40	For high tensile fasteners
SCM 435	5.2 - 22	0.33 - 0.38	0.60 - 0.90	0.15 - 0.25	0.025 - Max	0.015 - Max	932 - 1080	50	

Electrode Steel Wire Rods – for welding applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
EWNr	5.2 - 9	0.10 - Max	0.38 - 0.62	0.03 - Max	0.02 - Max	0.015 - Max	420 - Max	70	Welding electrode
EH10K	5.2 - 9	0.09 - 0.14	1.40 - 1.65	0.07 - 0.23	0.015 - Max	0.07 - 0.23	530 - 650	70	
ER70SG	5.2 - 9	0.07 - Max	0.90 - 140	0.40 - 0.70	0.0.20 - Max	0.020 - Max	480 - Min	50	
EA2	5.2 - 9	0.05 - 0.16	1.00 - 1.30		0.020 - Max	0.020 - Max	490 - 680	50	
JSPL weld (MIG)	5.2 - 9	0.062 - 0.16	1.42 - 1.80	0.80 - 1.15		0.015 - Max	525 - Max	80	Co2 Welding Electrode
JSPL Weld (M) Mod	5.2 - 9	0.06 - 0.08	1.87 - 1.95	0.88 - 0.95		0.015 - Max	525 - Max	80	

Wire Rods for Ball Bearings									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
En31	5.2 - 22	0.95 - 1.05	0.35 - 0.45	0.20 - 0.02	0.020 - Max	0.015 - Max	1079 - 1177	25	For roller and ball bearing applications
SAE52100	5.2 - 22	0.98 - 1.10	0.25 - 0.45	0.15 - 0.30	0.020 - Max	0.015 -Max	1079 - 1177	25	Bearings

Free Cutting Steel Wire Rods – for machining applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
SAE 12L14	5.2 - 22	0.07 - 0.15	0.85 - 1.20	0.05 - Max	0.06 - Max	0.20 - 0.30	350 - 450	60	
EN 1A	5.2 -22	0.07 - 0.15	0.80 - 1.20	0.05 - Max	0.06 - Max	0.20 - 0.30	350 - 450	60	Machined parts like engine shaft, connecting rod, spindles, gears,
EN 8M	5.2 - 22	0.35 - 0.45	1.00 - 1.30	0.25 - Max	0.06 - Max	0.12 - 0.20	569 - Max	50	fateners, hydraulic hose end fittings, etc.
EN 15AM	5.2 - 22	0.30 - 0.40	1.30 - 1.70	0.25 - Max	0.05 - Max	0.12 - 0.20	600 - 750	30	

Cold Heading Quality Grade Wire Rods – for general engineering applications									
Grade	Dimension	Chemical Composition					UTS	%RA	Applications
	Scope (mm)	%C	%Mn	%Si	%P	%S	(Mpa) Max	Min	
SAE1006	5.2 - 22	0.04 - 0.08	0.25 - 040	0.08 - Max	0.025 - Max	0.020 - Max	290 - 400	50	Automobile and Machines Parts, like screw, Fasteners, Bush, Spline, Socket, Connecting Rod, Shaft, Gear, Quarter, Nails, Rivets, etc.
SAE1008	5.2 - 22	0.10 - Max	0.30 - 0.60	0.10 - Max	0.025 - Max	0.020 - Max	300 - 420	50	
SAE1010	5.2 - 22	0.08 - 0.13	0.30 - 0.60	0.10 - Max	0.025 - Max	0.020 - Max	320 - 430	50	
SAE1012	5.2 - 22	0.10 - 0.15	0.30 - 0.60	0.10 - Max	0.025 - Max	0.020 - Max	330 - 440	50	
SAE1015	5.2 - 22	0.13 - 0.18	0.30 - 0.60	0.10 - Max	0.025 - Max	0.020 - Max	340 - 450	50	
SAE1018	5.2 - 22	0.15 - 0.20	0.60 - 0.90	0.10 - Max	0.025 - Max	0.020 - Max	400 - 500	50	
SAE1020	5.2 - 22	0.18 - 0.23	0.60 - 0.90	0.10 - Max	0.025 - Max	0.020 -Max	420 - 530	45	
SAE10B21	5.2 - 22	0.18 - 0.23	0.80 - 1.10	0.10 - Max	0.025 - Max	0.020 - Max	445 - 570		High Tensile Fasteners
SAE15B25	5.2 - 22	0.23 - 0.28	0.90 - 1.20	0.10 - 0.20	0.025 - Max	0.025 - Max	495 - 615		
SAE19MnB4	5.2 - 22	0.20 - 0.25	0.80 - 1.10	0.10 - 0.30	0.025 - Max	0.02 - Max	495 - 620		
SAE10B35	8 - 22	0.32 - 0.38	0.80 - 0.10	0.15 - 0.25	0.02 - Max	0.015 - Max	608 - Max	50	High Tensile Fasteners
SAE10B38	8 - 22	0.35 - 0.45	0.60 - 0.90	0.15 - 0.25	0.02 - Max	0.015 - Max	568 - Max	50	