

Wire Rods

Standard Sizes and Coil Specifications

Regular Rolling Sizes	5.5mm 10.0mm	6.5mm 11.0mm	7.0mm 12.0mm	8.0mm 14.0mm	9.0mm
Coil Weight	Approximately 1500kg - 2000kg per continuous coil				
Inner Diameter	Min 900mm				
Outer Diameter	Max 1250mm				
Note :	Other special sizes can be supplied on request				
	6.0mm	13.0mm	17.0mm	19.0mm	
	20.5mm	23.0mm	27.0mm	30.0mm	

Quality and Specifications of Steel Wire Rods

ASM products comply to most international standards such as JIS, ASTM, DIN, BS and etc.

Low Carbon Steel Wire Rods

Specification : AISI / SAE

Grade No	Chemical Composition (%)			
	C	Mn	P	S
1006	0.08 Max	0.25 - 0.40	0.040 Max	0.050 Max
1008	0.10 Max	0.30 - 0.50	0.040 Max	0.050 Max
1010	0.08 - 0.13	0.30 - 0.60	0.040 Max	0.050 Max
1012	0.10 - 0.15	0.30 - 0.60	0.040 Max	0.050 Max
1015	0.13 - 0.18	0.30 - 0.60	0.040 Max	0.050 Max
1017	0.15 - 0.20	0.30 - 0.60	0.040 Max	0.050 Max
1018	0.15 - 0.20	0.30 - 0.60	0.040 Max	0.050 Max

Specification : JIS G 3505 : 2004

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
SWRM 6R	0.08 Max	TRACE	0.06 Max	0.040 Max	0.040 Max
SWRM 8R	0.10 Max	TRACE	0.06 Max	0.040 Max	0.040 Max
SWRM 10R	0.08 - 0.13	TRACE	0.30 - 0.60	0.040 Max	0.040 Max
SWRM 12R	0.10 - 0.15	TRACE	0.30 - 0.60	0.040 Max	0.040 Max
SWRM 15R	0.13 - 0.18	TRACE	0.30 - 0.60	0.040 Max	0.040 Max

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
SWRM 8K	0.01 Max	0.17 Max	0.60 Max	0.040 Max	0.040 Max
SWRM 10K	0.08 - 0.13	0.17 Max	0.30 - 0.60	0.040 Max	0.040 Max
SWRM 12K	0.10 - 0.15	0.17 Max	0.30 - 0.60	0.040 Max	0.040 Max
SWRM 15K	0.13 - 0.18	0.17 Max	0.30 - 0.60	0.040 Max	0.040 Max

Remark : When killed steel is specified, the letter K shall be suffixed to the end of the symbol of grade

Wire Rods for Core Wire of Welding Electrode

Specification : JIS G 3503 : 2006

Grade No	Chemical Composition (%)					
	C	Si	Mn	P	S	Cu
SWRY 11	0.09 Max	0.03 Max	0.35 - 0.65	0.020 Max	0.023 Max	0.20 Max

(Rimmed Substitute Equivalent to JIS G 3505 SWRY 11)

Grade No	Chemical Composition (%)					
	C	Si	Mn	P	S	Cu
WE 0909	0.09 Max	0.06 Max	0.35 - 0.65	0.020 Max	0.023 Max	0.20 Max

High Carbon Steel Wire Rods

Specification : AISI / SAE

Grade No	Chemical Composition (%)			
	C	Mn	P	S
1030	0.28 - 0.34	0.60 - 0.90	0.040 Max	0.050 Max
1038	0.35 - 0.42	0.60 - 0.90	0.040 Max	0.050 Max
1042	0.40 - 0.47	0.60 - 0.90	0.040 Max	0.050 Max
1045	0.43 - 0.50	0.60 - 0.90	0.040 Max	0.050 Max
1050	0.48 - 0.55	0.60 - 0.90	0.040 Max	0.050 Max
1055	0.50 - 0.60	0.60 - 0.90	0.040 Max	0.050 Max
1065	0.60 - 0.70	0.60 - 0.90	0.040 Max	0.050 Max
1070	0.65 - 0.75	0.60 - 0.90	0.040 Max	0.050 Max
1074	0.70 - 0.80	0.50 - 0.80	0.040 Max	0.050 Max

Specification : JIS G 3506

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
SWRH 42A	0.39 - 0.46	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max
SWRH 47A	0.44 - 0.51	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max
SWRH 52A	0.49 - 0.56	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max
SWRH 57A	0.54 - 0.61	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max
SWRH 62A	0.59 - 0.66	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max
SWRH 67A	0.64 - 0.71	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max
SWRH 72A	0.69 - 0.76	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.030 Max

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
SWRH 42B	0.39 - 0.46	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max
SWRH 47B	0.44 - 0.51	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max
SWRH 52B	0.49 - 0.56	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max
SWRH 57B	0.54 - 0.61	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max
SWRH 62B	0.59 - 0.66	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max
SWRH 67B	0.64 - 0.71	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max
SWRH 72B	0.69 - 0.76	0.15 - 0.35	0.60 - 0.90	0.030 Max	0.030 Max

Carbon Steel Wire Rods for Cold Heading and Cold Forging

Specification : JIS G 3507

Grade No	Chemical Composition (%)					
	C	Si	Mn	P	S	AL
SWRCH 8R	0.10 Max	-	0.60 Max	0.040 Max	0.040 Max	-
SWRCH 6A	0.08 Max	0.10 Max	0.60 Max	0.030 Max	0.035 Max	0.020 Min
SWRCH 8A	0.10 Max	0.10 Max	0.60 Max	0.030 Max	0.035 Max	0.020 Min
SWRCH 18A	0.15 - 0.20	0.10 Max	0.60 - 0.90	0.030 Max	0.035 Max	0.020 Min
SWRCH 22A	0.18 - 0.23	0.10 Max	0.70 - 1.00	0.030 Max	0.035 Max	0.020 Min
SWRCH 35K	0.32 - 0.38	0.10 - 0.35	0.60 - 0.90	0.030 Max	0.035 Max	-
SWRCH 38K	0.35 - 0.41	0.10 - 0.35	0.60 - 0.90	0.030 Max	0.035 Max	-
SWRCH 40K	0.37 - 0.43	0.10 - 0.35	0.60 - 0.90	0.030 Max	0.035 Max	-



Low Carbon Steel Wire Rods for Fine Drawing

(Rimmed Substitute Equivalent to JIS G 3505 8R)

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
FD 0408	0.05 Max	0.06 Max	0.20 - 0.25	0.015 Max	0.015 Max
FD 0609	0.06 Max	0.06 Max	0.23 - 0.32	0.015 Max	0.015 Max

Steel Wire Rods for MAG Welding Solid Wire

Grade No	Chemical Composition (%)					
	C	Si	Mn	P	S	Cu
CO 0608 - S4	0.04 - 0.10	0.65 - 0.85	1.00 - 1.50	0.020 Max	0.020 Max	0.20 Max
CO 0608 - S6	0.04 - 0.10	0.80 - 1.15	1.40 - 1.85	0.020 Max	0.020 Max	0.20 Max

Rolled Wire Rods for Pre-Stressed Concrete Bars

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
UB 30Si	0.29 - 0.33	1.50 - 2.00	0.60 - 0.90	0.020 Max	0.020 Max
UB 35Si	0.34 - 0.38	1.50 - 2.00	0.60 - 0.90	0.020 Max	0.020 Max

Wire Rods for Steel Wool Application

Grade No	Chemical Composition (%)				
	C	Si	Mn	P	S
SW0831	0.06 - 0.11	0.10 Max	0.80 - 1.00	0.040 - 0.080	0.020 Max



Hot Rolled Steel Bars / Wire Rods For Machine Structural Use

Standard	Grade	Chemical Composition (%)				
		C	Si	Mn	P	S
JIS G 4051 : 2005	S10C	0.08 - 0.13	0.15 - 0.35	0.30 - 0.60	0.030 Max	0.035 Max
	S15C	0.13 - 0.18				
	S20C	0.18 - 0.23				
	S25C	0.22 - 0.28				
	S35C	0.32 - 0.38				
	S38C	0.35 - 0.41				
	S40C	0.37 - 0.43				
	S45C	0.42 - 0.48				
	S48C	0.45 - 0.51				
	S50C	0.47 - 0.53				
	S53C	0.50 - 0.56				
S55C	0.52 - 0.58					

Hot Rolled Steel Bars / Wire Rods For Cold Finished Steel Bar

Standard	Grade	Chemical Composition (%)				
		C	Si	Mn	P	S
JIS G 3108 : 2004	SGD 1	0.1 Max	-	0.30 - 0.60	0.045 Max	0.045 Max
	SGD 1K					
	SGD 2K					
	SGD 3KM					
		0.15 - 0.20	0.20	0.60 - 0.90		

Hot Rolled Steel Bars / Wire Rods For General Structure

Standard	Grade	Chemical Composition (%)					Tensile Properties				Bend Testing		
		C	Si	Mn	P	S	Min Yield Strength (N/mm ²)	Min Yield Strength (N/mm ²)	Min Elongation (%)	Bend	Rebend		
JIS G 3101 : 2004	SS400	-	-	0.05 Max	0.05 Max	245 for ≤ Ø16 235 for > Ø16 to 40 215 for > Ø40 to 100	400 - 510	20 min for bar Ø ≤ 25mm 22 min for bar Ø > 25mm	1.5D	180	-	-	
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Weight Table And Sizes For Bars

Normal Diameter (mm)	16	20	22	25	30	32	34	36	38	40	42	45	48	50
Cross-Sectional Area (mm ²)	201.1	314.2	380.1	490.9	706.9	804.2	907.9	1017.9	1134.1	1256.6	1385.4	1590.4	1809.6	1963.5
Mass Per Meter Run (kg/m)	1.579	2.466	2.984	3.854	5.549	6.313	7.127	7.991	8.903	9.864	10.875	12.485	14.205	15.413
Pieces Per Bundle (6m)	108	68	56	44	32	28	24	22	20	18	16	14	12	12
Normal Weight Per Bundle (MT)	1.023	1.006	1.003	1.017	1.065	1.061	1.026	1.055	1.068	1.066	1.044	1.049	1.023	1.110
Deviation Over and Under The Nominal Mass Per Meter Run (%)	±4.0%													
	±3.5%													

Note : The nominal mass per meter run not applicable to JIS G 4051 : 1979