

Hard Drawn Steel Wire

Classification

Classification	Grade	Diameter
Hard Drawn Steel Wire KS D 3510 & JIS G 3521	SW - A	0.20mm ~ 10.0mm
	SW - B	0.20mm ~ 13.0mm
	SW - C	0.20mm ~ 13.0mm

Chemical composition

(Unit : wt %)

Classification	KS D 3510 SW-A/B/C	JIS G 3521 SW-A/B/C	DIN 17223 Pt1		BS 5216 Type NS/HS	EN 10270-1 Type SL/SM/SH	ASTM A227 Class I, II
			0.70 ~ 6.00mm	6.00 ~ 13.0mm			
Carbon(C)	0.24 ~ 0.86	0.24 ~ 0.86	0.40 ~ 0.85	0.55 ~ 0.85	0.40 ~ 0.85	0.35 ~ 1.00	0.45 ~ 0.85
Manganese(Mn)	0.30 ~ 0.90	0.30 ~ 0.90	0.30 ~ 1.00	0.30 ~ 1.00	0.30 ~ 1.00	0.50 ~ 1.20	0.30 - 1.30
Phosphorus(P)	0.035Max	0.035 Max	0.040Max	0.040Max	0.040Max	0.035Max	0.040Max
Sulfur(S)	0.035Max	0.035 Max	0.040Max	0.040Max	0.040Max	0.035Max	0.050Max
Silicon(Si)	0.15 ~ 0.35	0.15 ~ 0.35	0.35 Max	0.35Max	0.35Max	0.10 ~ 0.30	0.15 - 0.35
Copper(Cu)	-	-	-	-	-	0.20Max	-

Torsion

Classification	Diameter	Specification
No. of Turns	0.70mm ~ 2.00mm	≥ 20 times
	2.01mm ~ 3.50mm	≥ 15 times
	3.51mm ~ 6.00mm	≥ 10 times
Fracture Shape	Perpendicular to the longitudinal axis of the test specimen	
Check Criteria	No serious cracks, surface defects and partial torsion	

Wire diameter tolerance and ovality

Diameter(mm)	Tolerance(mm)	Ovality(mm)	Remark
0.20	± 0.008	≤ 0.008	1.Ovality : The difference between maximum and minimum wire diameter to the same test point
0.21 ~ 0.50	± 0.015	≤ 0.015	
0.51 ~ 1.00	± 0.020	≤ 0.020	
1.01 ~ 2.00	± 0.030	≤ 0.030	
2.01 ~ 3.20	± 0.040	≤ 0.040	
3.21 ~ 5.50	± 0.050	≤ 0.050	
5.51 ~ 8.50	± 0.060	≤ 0.060	
8.51 ~ 13.00	± 0.070	≤ 0.070	