

Cold drawn SM/SH

Our SM/SH wire grades are engineered for springs that require consistent performance in medium to high static load environments, offering a spectrum of mechanical resistance to meet rigorous demands.

Cold-drawn wire is a high-strength material produced through a cold-working process, manufactured in accordance with current international standards, including EN 10270-1, ASTM 228, and JIS G3522 . Our standard wire shape is round, with other shapes like square or rectangular wire also available. This wire offers exceptional tensile strength, along with production using state-of-the-art processes suitable for both static and dynamic applications.

Chemical composition

Element	Weight %
C	0.35% - 1.00%
Si	0.10% - 0.30%
Mn	0.40% - 1.20%
P max.	0.035%
S max.	0.035%
Cu max.	0.20%

Mechanical properties

Diameter (mm)	Tolerance (mm)	Tensile strength (N/mm ²)		Torsions (l=300 mm, min. revs)	Reduct of area (min.%)
		SM	SH		
0.50-0.53	±0.008	2180-2450	2460-2720		
0.53-0.56	±0.008	2170-2430	2440-2700		
0.56-0.60	±0.010	2140-2400	2410-2670		
0.60-0.63	±0.010	2130-2380	2390-2650		
0.63-0.65	±0.010	2120-2370	2380-2640		
0.65-0.70	±0.010	2090-2350	2360-2610		
0.70-0.75	±0.010	2070-2320	2330-2580	25	
0.75-0.80	±0.015	2050-2300	2310-2560	25	40
0.80-0.85	±0.015	2030-2280	2290-2530	25	40
0.85-0.90	±0.015	2010-2260	2270-2510	25	40
0.90-0.95	±0.015	2000-2240	2250-2490	25	40
0.95-1.00	±0.015	1980-2220	2230-2470	25	40
1.00-1.05	±0.020	1960-2200	2210-2450	25	40

1.05-1.10	±0.020	1950-2190	2200-2430	25	40
1.10-1.20	±0.020	1920-2160	2170-2400	25	40
1.20-1.25	±0.020	1910-2140	2150-2380	25	40
1.25-1.30	±0.020	1900-2130	2140-2370	25	40
1.30-1.40	±0.020	1870-2100	2110-2340	25	40
1.40-1.50	±0.020	1850-2080	2090-2310	22	40
1.50-1.60	±0.020	1830-2050	2060-2290	22	40
1.60-1.70	±0.020	1810-2030	2040-2260	22	40
1.70-1.80	±0.025	1790-2010	2020-2240	22	40
1.80-1.90	±0.025	1770-1990	2000-2220	22	40
1.90-2.00	±0.025	1760-1970	1980-2200	22	40
2.00-2.10	±0.025	1740-1960	1970-2180	22	40
2.10-2.25	±0.025	1720-1930	1940-2150	22	40
2.25-2.40	±0.025	1700-1910	1920-2130	22	40
2.40-2.50	±0.025	1690-1890	1900-2110	22	40
2.50-2.60	±0.025	1670-1880	1890-2100	22	40
2.60-2.80	±0.030	1650-1850	1860-2070	22	40
2.80-3.00	±0.030	1630-1830	1840-2040	22	40

3.00-3.20	±0.030	1610-1810	1820-2020	22	40
3.20-3.40	±0.030	1590-1780	1790-1990	16	40
3.40-3.60	±0.030	1570-1760	1770-1970	16	40
3.60-3.80	±0.030	1550-1740	1750-1950	16	40
3.80-4.00	±0.030	1530-1730	1740-1930	16	35
4.00-4.25	±0.035	1510-1700	1710-1900	16	35
4.25-4.50	±0.035	1500-1680	1690-1880	12	35
4.50-4.75	±0.035	1480-1670	1680-1860	12	35
4.75-5.00	±0.035	1460-1650	1660-1840	12	35
5.00-5.30	±0.035	1440-1630	1640-1820	11	35
5.30-5.60	±0.040	1430-1610	1620-1800	11	35
5.60-6.00	±0.040	1400-1580	1590-1770	10	35
6.00-6.30	±0.040	1390-1560	1570-1750	9	35
6.30-6.50	±0.040	1380-1550	1560-1740	9	35
6.50-7.00	±0.040	1350-1530	1540-1710		35
7.00-7.50	±0.045	1330-1500	1510-1680		30
7.50-8.00	±0.045	1310-1480	1490-1660		30

8.00-8.50	±0.045	1290-1460	1470-1630		30
8.50-9.00	±0.045	1270-1440	1450-1610		30
9.00-9.50	±0.050	1260-1420	1430-1590		30
9.50-10.00	±0.050	1240-1400	1410-1570		30
10.00-10.50	±0.070	1220-1380	1390-1550		30
10.50-11.00	±0.070	1210-1370	1380-1530		30
11.00-12.00	±0.080	1180-1340	1350-1500		30
12.00-12.50	±0.080	1170-1320	1330-1480		28
12.50-13.00	±0.080	1160-1310	1320-1470		28

Technical specification

Property	Value
E modulus of elasticity	206 kN/mm ²
G modulus of shear	79.5 kN/mm ²

Steel grades and product standards

Nearest equivalent product standards	EN 10270-1	ASTM A228	JIS G3522 SWP-A	JIS G3522 SWP-B
Nearest equivalent steel grades	EN 10270-1 SM/SH			