

ACCIFILO Spring Wire



ACCIFILO Spring Wire which can be fabricated as compression spring, tension spring, torsion spring and other special springs. For corrosive working environments, Nickel-coated stainless steel spring wire, Nickel-coated High Carbon Steel wire are available. Also, we can custom make as to your special requirements.

Hard drawn steel wire, Piano spring wire & Ni-co SWC

Type	Standard	Surface Coating	Feature
SWC	JIS G3521	Non-Coating (Bright)	Hard drawn steel wire is made by the special heat treatment and cold drawing process by using high quality high carbon steel wire rods. The usage of the hard drawn steel wire is mainly for the spring of wide general purpose.
SWP-A/B	JIS G3522	Non-Coating (Bright)	Piano spring wire using special high quality high carbon steel wire rods and higher strength than hard drawn steel wire. The manufacture is more politely, and under severer quality control.
Ni-CO SWC	-	Ni-Coating (NI-CO)	Nickel-coating high carbon steel wire is specially treated and suitable for various types of battery springs. Excellent characteristics suitable for replacing stainless steel materials.

Tensile Strength of Piano spring wire and High Carbon Steel wire

Wire Diameter (mm)	Piano Spring Wire			High Carbon Steel wire				
	Tolerance (mm)	Tensile Strength N/mm ²		Tolerance (mm)	Tensile Strength N/mm ²			
		SWP-A	SWP-B		SW-B	SW-C		
0.20	±0.008	2600-2840	2840-3090	±0.015	2210-2500	2500-2790		
0.23		2550-2790	2790-3040		2160-2450	2450-2750		
0.26		2500-2750	2750-2990		2110-2400	2400-2700		
0.29		2450-2700	2700-2940		2060-2350	2350-2650		
0.32		2400-2650	2650-2890		2010-2300	2300-2600		
0.35		2400-2650	2650-2890		2010-2300	2300-2600		
0.40		2350-2600	2600-2840		1960-2260	2260-2550		
0.45		2300-2550	2550-2790		1910-2210	2210-2500		
0.50		2300-2550	2550-2790		1910-2210	2210-2500		
0.55		2260-2500	2500-2750		1860-2160	2160-2450		
0.60	±0.010	2210-2450	2450-2700	±0.020	1810-2110	2110-2400		
0.65		2210-2450	2450-2700		1810-2110	2110-2400		
0.70		2160-2400	2400-2650		1770-2060	2060-2350		
0.80		2110-2350	2350-2600		1770-2010	2010-2300		
0.90		2110-2300	2300-2500		1770-2010	2010-2260		
1.00		2060-2260	2260-2450		1720-1960	1960-2210		
1.20		±0.015	2010-2210		2210-2400	±0.030	1670-1910	1910-2160
1.40			1960-2160		2160-2350		1620-1860	1860-2110
1.60	1910-2110		2110-2300	1570-1810	1810-2060			

STAINLESS STEEL SPRING WIRE

Stainless Steel Spring Wire

Type	Standard	Surface Coating	Feature
SUS 304	JIS G4314	Soap Coating (S-CO) Non-Coating (Bright) Ni-Coating (NI-CO) Ni-Bright (NI-BR)	The most common stainless steel grade. Strength can be increased by processing and it can be used for various applications.
SUS 302			As same as 304 can be used for springs, needles ,etc..
SUS 316			Corrosion resistance is greatly improved by adding Mo to 304. Lower strength than 304 and almost nonmagnetic.
AISI 302	ASTM A313		AISI 302 is just the ASTM International name for 302 grade stainless steel.
1.4310	EN 10270-3		EN standard specification for stainless steel spring wire.
SUS 631J1	JIS G4314		Strength is substantially increased by heat treatment after cold working. For heat-resistant springs.
201	GB/T 20878		Ni saving steel grade. Can be magnetized by cold working.
130	-	Soap Coating (S-CO) Non-Coating (Bright)	130 is a nonmagnetic stainless steel wire with magnetic permeability
430F	1Cr17		Machinability is obtained by increasing S in 430. For shafts and cut bolts.
SUPER DOLCE	-		This is a high strength stainless steel wire with tensile strength and high temperature applicability equivalent to SUS631WPC through tempering at 500°C for 20 minutes. It also delivers corrosion resistance equal to or higher than SUS316 standards.

Tensile Strength of spring stainless steel wire

Surface	Wire Diameter (mm)	Tolerance (mm)	SUS 304/302-WPA	SUS 304/302-WPB	SUS 631J1
			Tensile Strength N/mm ²	Tensile Strength N/mm ²	Tensile Strength N/mm ²
BRIGHT NI-CO S-CO	0.18	±0.005	1650~1900	2150~2400	1950~2200
	0.20				
	0.23				
	0.25	±0.008	1600~1850	2050~2300	1930~2180
	0.26				
	0.29				
	0.32				
	0.35				
	0.40	±0.010	1530~1780	1850~2100	1800~2050
	0.45				
	0.50				
	0.55				
	0.60				
	0.65				
	0.70				
	0.80	±0.015	1450~1700	1750~2000	1700~1950
	0.90				
	1.00				
	1.20				
	1.40	±0.020	1400~1650	1650~1900	1600~1850
1.60					
1.80					
2.00					
2.30					
2.60	±0.020	1320~1570	1550~1800	1500~1750	
2.90					
3.00					
			1230~1480	1450~1700	1400~1650

* For an intermediate diameter, the T/S value specified for the next larger diameter shall be applied.