High-strength stainless steel wire for springs

CRYO-S

<Features>

- Has even higher tensile strength and greater toughness than SUS304-WPB, a typical stainless steel wire for springs. Realized extremely high strength in the larger wire diameter range (2 mm and above) in particular.
- Because of a non-heat treated strengthening mechanism, and thus, can be used in high temperature ranges comparable to those of SUS631J1-WPC, a typical heat-resistant stainless steel wire for springs.
- The chemical composition of the wire meets JIS standards for SUS304 and SUS302, and the wire has equivalent corrosion resistance as well. Thus, it can safely be used in applications requiring the specifications of these JIS wire types.

<Types, size range, and common specifications>

1) Types and size range

Base steel grade	Product symbol	Surface coating	Size range
SUS304	SUS304–CYRO-S	Nickel-plated or soap coat	0.80 mm to 4.20 mm
SUS302	SUS302–CYRO-S		

2) Common specifications (Same for SUS304 type, SUS302 type)

Wire diameter (mm)	Tolerance	Ovality	Tensile strength (N/mm^2)	Packaging	
					Coil diameter (in)
0.80 to 1.59	±0.015	0.015 max	1960 to 2210	Coil or carrier	16
1.60 to 1.80					24
1.81 to 3.20	±0.020	0.020 max			
3.21 to 4.20	±0.030	0.030 max			

* Each of these meets JIS G 4314 standards for SUS304 and SUS302.

<Reference data>

①Chemical compositions

Unit: %

	C	Si	Mn	P	S	Ni	Cr
SUS304	≦0.08	≦1.00	≦2.00	≦0.045	≦0.030	8.00 to 10.50	18.00 to 20.00
SUS302	≦0.15	≦1.00	≦2.00	≦0.045	≦0.030	8.00 to 10.00	17.00 to 19.00

②Mechanical properties

FIG. 1
Tensile properties
(After heat treatment)

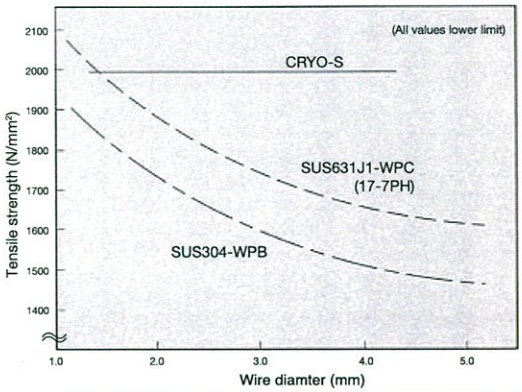
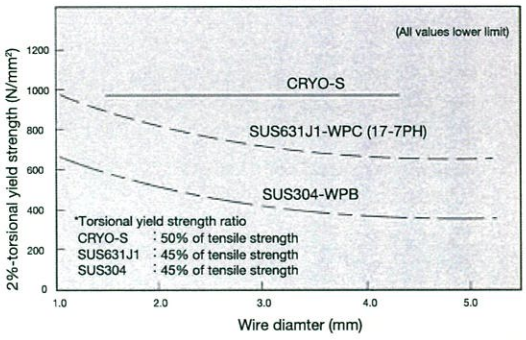
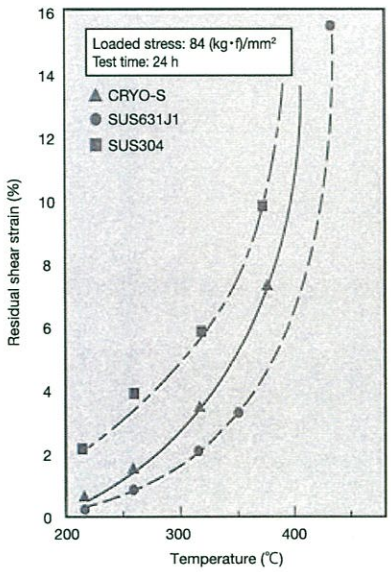


FIG. 2
Torsional properties
(After heat treatment)



③High-temperature properties

FIG. 3 Sag resistance in high temperature



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