

## NI SPAN C-902<sup>®</sup>

### Key Features

Outstanding controllable thermoelastic coefficient characteristics

Can be processed to have constant modulus of elasticity from -45 to +65 °C (-50 to +150 °F)

Good for springs in watches and weighing equipment

Age hardenable

### IMPORTANT

We will manufacture to your required mechanical properties.

## key advantages to you, *our customer*



0.025mm to 21mm  
(.001" to .827")



Order 3m to 3t  
(10 ft to 6000 Lbs)



Delivery:  
within 3 weeks



Wire to your spec



E.M.S available



Technical support

### NI SPAN C-902<sup>®</sup> available in:-

- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

### Packaging

- Coils
- Spools
- Bars or lengths



Chemical Composition			Specifications	Key Features	Typical Applications
Element	Min %	Max %	AMS 5225 AMS 5221 HS 261	Outstanding controllable thermoelastic coefficient characteristics Can be processed to have constant modulus of elasticity from -45 to +65 °C (-50 to +150 °F)	Springs in precise applications, such as watches and weighing machines Measuring instruments
C	-	0.06			
Mn	-	0.80	<b>Designations</b> W.Nr. N09902 AWS 080	Good for springs in watches and weighing equipment Age hardenable	
Si	-	1.00			
P	-	0.04			
S	-	0.04			
Cr	4.90	5.75			
Ni+Co	41.00	43.50			
Ti	2.20	2.75			
Al	0.30	0.80			
Cr+ (Ti-4xC)	7.10	8.10			
Co	-	1.00			
Fe	BAL				

<b>Density</b>	8.05 g/cm <sup>3</sup>	0.291 lb/in <sup>3</sup>
<b>Melting Point</b>	1480 °C	2700 °F
<b>Coefficient of Expansion</b>	7.6 µm/m °C (20 – 100 °C)	4.2 x 10 <sup>-6</sup> in/in °F (70 – 212 °F)
<b>Modulus of Rigidity</b>	62 – 69 kN/mm <sup>2</sup>	8993 – 10008 ksi
<b>Modulus of Elasticity</b>	165 – 200 kN/mm <sup>2</sup>	23932 – 29008 ksi

Heat Treatment of Finished Parts					
Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Spring Temper - for good all round properties	Age Harden	650	1200	2	Air
Spring Temper - for max stability	Stress equalise Age Harden	400	750	2	Air
		650	1200	2	Air
Spring Temper - for minimum hysteresis & low thermoelastic coefficient	Stress equalise	400	750	2	Air

Properties				
Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm <sup>2</sup>	ksi	°C	°F
Annealed	600 – 800	87 – 116	-45 to +65	-50 to +150
(for constant modulus applications)				
Spring Temper	900 – 1100	131 – 159	-45 to +65	-50 to +150
(for constant modulus applications)				
Spring Temper + Aged	1300 – 1500	189 – 218	-45 to +65	-50 to +150
(for constant modulus applications)				

The above tensile strength ranges are typical. If you require different please ask.