

Nickel Silver 18%

C752

Alloy C752 is an 18% nickel silver alloy combining corrosion resistance with strength and a lustrous silver color. Applications include optical frames and parts, springs, surgical instruments, jewelry, resistors and contacts.

Mechanical Properties

ROUND & SQUARE WIRE...as drawn			
Temper	Tensile Strength PSI	Nominal Elongation %.	
Annealed	53-63,000	40	
1/4 Hard	68-84,000	16	
1/2 Hard	83-97,000	7	
Hard	99-111,000	3	
Spring	105,000 Min.	1	

ROLLED FLAT WIRE...wire other than square			
Temper	Tensile Strength PSI	Nominal Yield Strength PSI	Nominal Elongation %
Annealed	53-63,000	25,000	35
Quarter Hard	58-72,000	45,000	24
Half Hard	66-80,000	63,000	14
3/4 Hard	74-86,000	75,000	8
Hard	78-91,000	82,000	5
Extra Hard	86-98,000	91,000	3
Spring	90-101,000	93,000	1

Note: Flat wire sections having a 3:1 width to thickness ratio or less are by commercial convention processed to the same tensile strength values as round or square wire.

Physical Properties

Physical Properties	English Units	Metric Units
Melting Point (Liquidus)	2030°F	1110°C
Melting Point (Solidus)	1960°F	1170°C
Density	.316 lbs/cu in	8.73 gm/cu cm
Thermal Conductivity (Annealed)	19 Btu ft/sq ft hr °F @ 68°F	.0348 cal cm/sq cm sec °C @ 20°C
Coefficient of Thermal Expansion	.0000083°F (68-572°F)	.000015°C (20-300°C)
Electrical Resistivity (Annealed)	173 ohm (cir mil/ft) @ 68°F	29.7 microhm-cm @ 20°C
Electrical Conductivity (Annealed)	6% IACS* @ 68°F	.0348 megmho/cm @ 20°C
Modulus of Elasticity	18,000,000 psi	12,700 kg/sq mm

*International Annealed Copper Standard

Conversion Factors Metric Tensile Strengths

$$\text{kg/mm}^2 = \text{KSI} \times .7031$$

$$\text{Newtons/mm}^2 = \text{KSI} \times 6.895$$

or
MPa



Chemical Composition

Nominal	
Copper	Remainder
Nickel	18.0%
Zinc	17.0%
Composition Limits	
Copper	63.5 - 66.5%
Nickel	16.5 - 19.5%
Zinc	Remainder%
Iron	0.25% Max.
Manganese	0.50% Max.
Lead	0.05% Max.

Specifications

ASTM B122
ASTM B206
ASTM B250

Mill Limits

Round	.0010 - .1285 inch .0251 - 3.264 mm
Square and Rectangular	.0100 - .0808 inch .2540 - 1.905 mm Corner Radius as Specified
Flat	Thickness: .0100 - .0500 inch .2540 - 1.270 mm Width: .0150 - .2500 inch .3810 - 6.350 mm Edge Condition as Specified
Shapes	Special Shapes and Sizes Produced to Order

The information provided on this page is for reference purposes only.
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