

Elgiloy® Co-Cr-Ni Alloy, Strip

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

Material Notes:

General Elgiloy® information: High strength, ductility, fatigue life, and good mechanical properties. Corrosion resistant in numerous environments. Available in strip (currently 0.0015" to 0.075" thickness and 0.023" to 9.00 " width), round wire (0.006" to 0.625" diameter), sheet, cable, ribbon, bar, rod, and some fabricated parts. General Forming Notes: Forming should be done prior to heat treatment since heat treatment strengthens the material and makes it more difficult to form. Bending of strip should take place perpendicular to the rolling direction so that it will be across the elongated grain structure rather than parallel to it. In bending strip, a 90° bend should be at least 8 times the material thickness; in a 360° bend, a diameter of 18 to 25 times the material thickness is usually acceptable. Wire should not be formed beyond a mean diameter of 4 times the wire size. General Joining Notes: Mechanical joining methods are best. Excellent spot welding results have been obtained. When soldering or brazings, a very active flux should be employed and be allowed to remain on the material for a minute or two. When brazing, caution should be exercised to keep temperatures below 593-760°C. Because of this, furnace brazing should be employed whenever possible.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Elgiloy-Co-Cr-Ni-Alloy-Strip.php

Physical Properties	Metric	English	Comments
Density	8.30 g/cc	0.300 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	192	192	Estimated from Rockwell C
Hardness, Knoop	223	223	Estimated from Rockwell C
Hardness, Rockwell A	56	56	Estimated from Rockwell C
Hardness, Rockwell B	91	91	Estimated from Rockwell C
Hardness, Rockwell C	11	11	
Hardness, Vickers	196	196	Estimated from Rockwell C
Tensile Strength, Ultimate	860 MPa	125000 psi	
Tensile Strength, Yield	520 MPa	75400 psi	
Elongation at Break	38 %	38 %	
Modulus of Elasticity	189.6 GPa	27500 ksi	
Poissons Ratio	0.226	0.226	
Shear Modulus	77.4 GPa	11200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	15.17 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 0.000 - 500 $^{\circ}\text{C}$	8.428 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 32.0 - 932 $^{\circ}\text{F}$	
Specific Heat Capacity	0.430 J/g- $^{\circ}\text{C}$	0.103 BTU/lb- $^{\circ}\text{F}$	
Thermal Conductivity	12.5 W/m-K	86.8 BTU-in/hr-ft 2 - $^{\circ}\text{F}$	
Melting Point	1427 $^{\circ}\text{C}$	2601 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Beryllium, Be	$\leq 0.10\%$	$\leq 0.10\%$	
Carbon, C	$\leq 0.15\%$	$\leq 0.15\%$	
Chromium, Cr	19 - 21 %	19 - 21 %	
Cobalt, Co	39 - 41 %	39 - 41 %	
Iron, Fe	11.3 - 20.5 %	11.3 - 20.5 %	As remainder
Manganese, Mn	1.5 - 2.5 %	1.5 - 2.5 %	
Molybdenum, Mo	6.0 - 8.0 %	6.0 - 8.0 %	
Nickel, Ni	14 - 16 %	14 - 16 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000996 ohm-cm	0.0000996 ohm-cm	
Magnetic Permeability	1.0004	1.0004	For all practical purposes, Elgiloy® is nonmagnetic through all temperature ranges.

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China