

## Elgiloy® Co-Cr-Ni Alloy, Strip, 65% Cold Reduction, Heat Treated

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

### Material Notes:

Heat Treatment 5 hours at 482°C. The strength, elongation, and hardness values are specific to this heat treatment; other values below are typical of Elgiloy®. 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.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Elgiloy-Co-Cr-Ni-Alloy-Strip-65-Cold-Reduction-Heat-Treated.php](http://www.lookpolymers.com/polymer_Elgiloy-Co-Cr-Ni-Alloy-Strip-65-Cold-Reduction-Heat-Treated.php)

| Physical Properties | Metric    | English                  | Comments |
|---------------------|-----------|--------------------------|----------|
| Density             | 8.30 g/cc | 0.300 lb/in <sup>3</sup> |          |

| Mechanical Properties      | Metric    | English    | Comments                  |
|----------------------------|-----------|------------|---------------------------|
| Hardness, Rockwell A       | 80        | 80         | Estimated from Rockwell C |
| Hardness, Rockwell C       | 59        | 59         |                           |
| Tensile Strength, Ultimate | 2190 MPa  | 318000 psi |                           |
| Tensile Strength, Yield    | 1960 MPa  | 284000 psi |                           |
| Elongation at Break        | 1.0 %     | 1.0 %      |                           |
| 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 µm/m-°C               | 8.428 µin/in-°F                    |          |
|                        | @Temperature 0.000 - 500 °C | @Temperature 32.0 - 932 °F         |          |
| Specific Heat Capacity | 0.430 J/g-°C                | 0.103 BTU/lb-°F                    |          |
| Thermal Conductivity   | 12.5 W/m-K                  | 86.8 BTU-in/hr-ft <sup>2</sup> -°F |          |
| Melting Point          | 1427 °C                     | 2601 °F                            |          |

| Thermal Properties            | Metric         | English        | Comments     |
|-------------------------------|----------------|----------------|--------------|
| Component Elements Properties | Metric         | English        | Comments     |
| Beryllium, Be                 | <= 0.10 %      | <= 0.10 %      |              |
| Carbon, C                     | <= 0.15 %      | <= 0.15 %      |              |
| Chromium, Cr                  | 19 - 21 %      | 19 - 21 %      |              |
| Cobalt, Co                    | 39 - 41 %      | 39 - 41 %      |              |
| Iron, Fe                      | 11.25 - 20.5 % | 11.25 - 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.

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