

40Cobalt-20Chromium-16Iron 15Nickel-7Molybdenum Alloy

Elgiloy Alloy



INTRODUCTION

XI'AN GANGYAN SPECIAL ALLOY CORPORATION (XAGY) specialized in manufacturing high-quantity alloys for 25+Years.with a company mission to provide a high quality, reliable source for precision alloys, high temperature alloys and stainless steels in both pilot processing and mass production.we are specialize in manufacturing materials with unique features, which are then used in aerospace, military, electronics, marine, petroleum and petrochemical industries.Now our company has formally marketed in China's new stock market, stock No. 836660.

In particular, our soft magnetic alloys, sealing alloys and Elastic alloys strip are used by most of us in our everyday lives. Our motivated team uses its experience to continually develop the technical capabilities of XAGY Inc to become your supplier of choice of special alloys.

| Material | Composition % by weight | YB/T5253-1993 | ASTM F 1058 |
|----------------------|-----------------------------------|----------------------|--------------------|
| | Nominal Composition | | |
| Elgiloy alloy | Co 40 Cr20 Ni15 Mo7 Fe 16 | YB/T5253-1993 | UNS R30003 |

Equivalent to AMS 5833; AMS 5834; ASTM F1058; AMS 5875; AMS 5876; NACE MR0175; NOL-WS 13822; W.Nr 2.4711

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key feature

Combination of high strength, ductility and good mechanical properties at ambient temperatures

Excellent fatigue life

Excellent corrosion resistance in numerous environments

Non magnetic

Age hardenable (Spring Temper only)

Good for sea water applications

Table 2 Physical Properties

| | |
|--|------------------|
| Density,g/cm ³ | 8.4 |
| Shear Modulus,G/Mpa | 73500 to 83300 |
| Magnetic Rate/10 ⁶ | 50 to 1000 |
| Mean Coefficient of Linear Expansion 20-100°C/(10 ⁻⁶ K) | 14.0 |
| Modulus of elasticity,Mpa | 196000 to 215600 |
| Resistivity,p/(μΩ•m) | 0.92 |

Table 3 Mechanical Property

| Forms | Thickness&Diameter (mm) | Property&Classify | Tensile Strength (Rm/Mpa) | Elongation A, (%)≥ |
|--------------------|-------------------------|-------------------|---------------------------|--------------------|
| Cold Rolling Strip | 0.2 to 2.50 | A | 1175 to 1470 | 5 |
| | | B | 1470 to 1765 | 3 |
| Cold Draw Wire | 0.20 to 5.00 | A | 1275 to 1570 | ... |
| | | B | 1570 to 1865 | ... |

TABLE 4 APPLICATION EXAMPLES

| Material | Application Examples |
|----------|--|
| Elgiloy | Springs Seal components Medical devices Components for watches Aerospace applications Petro-chemical applications Marine engineering |



Examples of Parts made from Iron-Cobalt-Chromium Alloy .springs, components for watches, Aerospace applications and etc.

Forms Of Supply

The Elgiloy (Phynox, Havar alloy) material are available in many shapes and dimensions, supplying semi-finished products in forms of Strip, wire, plate & Rods.

The following table provides an overview of the availability of our material in the various forms of supply.

| Material | Rods | Strip | Plate | Wire |
|----------|-------------------|--------------------------|--------------------------|-------------------|
| Elgiloy | V | V | V | V |
| | Dia.20 to 120(mm) | T hickness0.1 to 2.5(mm) | Thickness2.5 to 40.0(mm) | Dai.01 to 7.0(mm) |

V=available

Delivery state "Annealed " possible for strip

Strip forming delivery state in "Cold rolling" without Aged"

Elgiloy alloy with 40% of cobalt ,are available in Hard or cold-rolled condition for strip. Rod in hot rolling or forging condition,plate in cold rolled or hot rolled or forging condition,wire in cold draw condition.

Chemical composition,Physical and Mechanical properties will be engineered according to specific customer requirements.Therefore chemical composition,physical and mechanical properties might be different to values listed in this document.

Information about product characteristics or applicability of materials are shown only for informative purposes.

If you still have questions about the material , do not hesitate to contact us at

Supportsales@xagy.cn with any specific questions.