

ENGINEERING STEELS - MARTENSITIC PRECIPITATION HARDENING (MARAGING) STEELS

Application Segments

Aerospace

Available Product Variants

Long Products

Product Description

BÖHLER V250 is a premium aircraft-quality, maraging alloy steel in the form of bars, forgings and stock for forging.

In contrast to heat treatable steels its outstanding tensile properties are not due to a hardened structure with relatively high carbon content, but to precipitation of intermetallic phases from a ductile nickel bearing matrix containing almost no carbon.

These products have been used typically for parts requiring through hardening, without quenching, to a minimum yield strength of 247 ksi (1700 MPa) and where such parts may require welding during fabrication, but usage is not limited to such applications. E.g highly stressed components for the aircraft and rocket industries.

Process Melting

VIM + VAR

Applications

> Structural parts (Aerospace)

> Other Aerospace Components

> Aerospace

Technical data

| Material designation | | Standards | |
|----------------------|--------------|-----------|----|
| Maraging 250 | Market grade | S162 | BS |
| 1.6359 | SEL | | |
| X2NiCoMo18-8-5 | EN | | |

Chemical composition (wt. %)

| C | Si | Mn | P | S | Cr | Mo | Ni | Co | Ti | Al | B | Fe | Ca | Zr |
|---------------|--------------|--------------|---------------|---------------|--------------|---------------|-----------------|---------------|-----------------|-----------------|---------------|-----|--------------|--------------|
| max. 0.010 | max. 0.10 | max. 0.10 | max. 0.010 | max. 0.010 | max. 0.25 | 4.6 to 5.2 | 17.0 to 19.0 | 7.0 to 8.5 | 0.30 to 0.60 | 0.05 to 0.15 | max. 0.005 | REM | max. 0.05 | max. 0.02 |

Related to BS S 162

Delivery condition

Solution annealed

| | |
|---------------|---|
| Hardness (HB) | max. 321 S162B, Bars forged or rolled |
|---------------|---|

Round Bars and Wire Rod (if any)

| Diameter mm | | | MOQ ex mill kg | Length m | | | Tolerance |
|----------------|---|--------|-------------------|-------------|---|------|-----------|
| ROLLED | | | | | | | |
| 5.01 | - | 12.49 | 1,100 | 3.00 | - | 4.00 | IT h/k 11 |
| 12.50 | - | 55.00 | 1,300 | 3.00 | - | 4.00 | IT h/k 11 |
| 55.01 | - | 120.00 | 2,500 | 3.00 | - | 4.00 | IT h/k 11 |
| 120.01 | - | 140.00 | 2,500 | 3.00 | - | 5.00 | IT h/k 14 |
| FORGED | | | | | | | |
| 140.01 | - | 203.20 | 2,200 | 3.00 | - | 5.00 | IT h/k 14 |

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.