

CORROSION RESISTANT STEELS - MARTENSITIC, SEMI-MARTENSITIC AND FERRITIC STEELS

Application Segments

Aerospace

Available Product Variants

Long Products

Product Description

BÖHLER N352 is a martensitic chromium steel with nickel addition. Heat treatable grade, capable of taking a mirror finish. Higher corrosion resistance compared to 13% chromium steel. Resistant to the effects of seawater, weak acids and alkaline solutions, as well as to acids having a strong, oxidizing effect such as nitric acid. Surface finish for optimum corrosion resistance: fine ground or polished. For components subject to high mechanical and corrosive stress, e.g. screws and shafts, at operating temperatures up to approx. 752° F.

Process Melting

Airmelted

Applications

- > Structural parts (Aerospace)
- > Aerospace
- > Other Aerospace Components

Technical data

| Material designation | | Standards | |
|----------------------|--------------|------------------|--------|
| 431 | Market grade | 1.4044 | WL |
| | AISI | AFNOR Z15CN16-02 | Others |
| 1.4044 | SEL | | |
| X15CrNi17-3 | EN | | |
| S43100 | UNS | | |
| SUS431 | JIS | | |

Chemical composition (wt. %)

| C | Si | Mn | P | S | Cr | Ni |
|--------------|----------|----------|------------|------------|--------------|--------------|
| 0.12 to 0.20 | max. 1.0 | max. 1.0 | max. 0.035 | max. 0.025 | 15.0 to 18.0 | 2.00 to 3.00 |

Related to WL 1.4044

Delivery condition

Annealed

| | |
|---------------|--|
| Hardness (HB) | max. 248 1.4044.2, bars from 6 up to 160 mm diameter |
|---------------|--|

Hardened and Tempered

| | |
|------------------------|---|
| Tensile Strength (MPa) | 800 to 950 1.4044.5, bars from 6 mm up to 160 mm diameter |
| Yield Strength (MPa) | min. 600 |

Hardened and Tempered

| | |
|------------------------|---|
| Tensile Strength (MPa) | 900 to 1,100 1.4044.6, bars from 6 mm up to 100 mm diameter |
| Yield Strength (MPa) | min. 700 |

Round Bars and Wire Rod (if any)

| Diameter mm | | | MOQ ex mill kg | | | Length m | | | Tolerance | | |
|----------------|---|--------|-------------------|--|--|-------------|---|------|-----------|--|--|
| ROLLED | | | | | | | | | | | |
| 5.01 | - | 12.49 | 700 | | | 3.00 | - | 4.00 | IT h/k 11 | | |
| 12.50 | - | 54.00 | 800 | | | 3.00 | - | 4.00 | IT h/k 11 | | |
| 55.01 | - | 69.00 | 1,100 | | | 3.00 | - | 4.00 | IT h/k 11 | | |
| 69.01 | - | 115.00 | 950 | | | 3.00 | - | 4.00 | IT h/k 11 | | |

Flat Bars

| Width mm | | | Thickness mm | | | MOQ ex mill kg | | | Length m | | | Tolerance | | |
|---------------|---|--------|-----------------|---|--------|-------------------|--|--|-------------|---|------|-----------|--|--|
| ROLLED | | | | | | | | | | | | | | |
| 15.00 | - | 121.00 | 10.00 | - | 85.00 | 880 | | | 3.00 | - | 4.00 | LN 1017 | | |
| 120.00 | - | 150.00 | 25.00 | - | 102.00 | 880 | | | 3.00 | - | 4.00 | LN 1017 | | |
| 150.00 | - | 175.00 | 18.00 | - | 102.00 | 880 | | | 3.00 | - | 4.00 | LN 1017 | | |

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.

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