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

## Application Segments

Engineering

## Available Product Variants

Long Products* | Plates

* Presented data refer exclusively to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

## Product Description

BÖHLER N685 is a corrosion-resistant steel with molybdenium and vanadium additions in the form of bars, wire, forgings, and forging stock. These products have been used typically for parts in engineering and medical applications requiring hardness up to 58 HRC and resistance to wear, corrosion, and oxidation, but usage is not limited to such applications.

## Process Melting

Airmelted

## Applications

- Tubular Products, Flanges, Fittings
- Mechanical Engineering
- Wear parts
- Shafts for Mechanical Engineering
- Civil and mechanical engineering
- Pumps and High Pressure Components
- Surgery
- Fasteners, Bolts, Nuts
- Shafts
- Electronic industry

## Technical data

| Material designation | |
|---|---|
| 1.4112 | SEL |
| X90CrMoV18 | EN |

| Standards | |
|---|---|
| 10088-3 | EN ISO |

## Chemical composition (wt. %)

| C | Si | Mn | P | S | Cr | Mo | V |
|---|---|---|---|---|---|---|---|
| 0.85 to 0.95 | max. 1.00 | max. 1.00 | max. 0.040 | max. 0.030 | 17.0 to 19.0 | 0.90 to 1.30 | 0.07 to 0.12 |

Related to SEL 1.4112.

## Delivery condition

### Annealed

| | |
|---|---|
| Hardness (HB) | max. 265 |

### Round Bars and Wire Rod (if any)

| Diameter* mm | | |
|---|---|---|
| **ROLLED** | | |
| 5.00 | - | 13.50 |
| 12.50 | - | 130.00 |
| **FORGED** | | |
| 130.10 | - | 203.20 |

* Diameter 5.00 - 13.50 mm available as Wire Rod.

Diameter 12.5 - 130 mm round bars.

More information regarding MOQ, tolerances and bar lengths upon request. Flat bars on request.

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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ONE STEP AHEAD.