

# NI-BASE ALLOYS

## Application Segments

Oil & Gas / CPI

## Available Product Variants

Long Products\*

Semi-Finished Products / Billet

Plates

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

## Product Description

BÖHLER L825 (UNS N08825) is an austenitic nickel-iron-chromium alloy with additions of molybdenum, copper and titanium with exceptional resistance to many corrosive environments. The nickel content of BÖHLER L825 promotes resistance to chloride stress corrosion and, in combination with molybdenum and copper, offers significantly better corrosion resistance in reducing environments than conventional austenitic stainless steels. The chromium and molybdenum content provides resistance to pitting by chlorides as well as resistance to a wide range of oxidising atmospheres. The addition of titanium prevents sensitisation in the welded state and increases resistance to intergranular corrosion.

The material can be used in a variety of process environments, including sulphuric, sulphuric, phosphoric, nitric, hydrofluoric and organic acids and alkalis such as sodium or potassium hydroxide and acidic chloride solutions.

BÖHLER L825 can be easily formed and welded using a variety of techniques. BÖHLER L825 exhibits good toughness in continuous operation up to temperatures of around 550 °C and is suitable for pressure vessels with wall temperatures of up to 538 °C.

## Process Melting

Airmelted

## Applications

- > Components for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
  - > CPI (incl. LNG, Urea)
  - > Well Logging Tools
  - > Components for underground construction (drilling, shafts, etc.)

- > Other Oil and Gas + CPI components
  - > Oil & Gas / CPI
  - > Wellhead, X-mas trees and Manifolds (incl. Tubing hangers), BOPs

- > Tubular Products, Flanges, Fittings
  - > Well Completion Tools
  - > Drilling tools and components

## Technical data

| Material designation |              | Standards                                          |        |
|----------------------|--------------|----------------------------------------------------|--------|
| Alloy 825            | Market grade | B425                                               | ASTM   |
| 2.4858               | SEL          | NACE MR0103 / ISO 17945<br>NACE MR0175 / ISO 15156 | Others |
| NiCr21Mo             | EN           |                                                    |        |
| N08825               | UNS          |                                                    |        |

## Chemical composition (wt. %)

| C         | Si       | Mn       | S         | Cr           | Mo         | Ni           | Cu         | Ti         | Al       | Fe        |
|-----------|----------|----------|-----------|--------------|------------|--------------|------------|------------|----------|-----------|
| max. 0.05 | max. 0.5 | max. 1.0 | max. 0.03 | 19.5 to 23.5 | 2.5 to 3.5 | 38.0 to 46.0 | 1.5 to 3.0 | 0.6 to 1.2 | max. 0.2 | min. 22.0 |

Refers to ASTM B 425 UNS N08825

## Delivery condition

### Solution Annealed + Quenched

|                        |          |
|------------------------|----------|
| Tensile Strength (MPa) | min. 586 |
| Yield Strength (MPa)   | min. 241 |

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

| Diameter*<br>mm |          |
|-----------------|----------|
| <b>ROLLED</b>   |          |
| 5.00            | - 13.50  |
| 12.50           | - 101.60 |
| <b>FORGED</b>   |          |
| 101.70          | - 355.60 |

\* Diameter 5.00 - 13.50 mm available as Wire Rod.

Diameter 5.00 - 101.6 mm round bars.

More information regarding MOQ, lengths and tolerances 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.