

NI-BASE ALLOYS

Application Segments

| |
|---------------|
| Oil & Gas/CPI |
|---------------|

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 L022 belongs to the group of highly corrosion-resistant nickel-chromium-molybdenum-tungsten alloys with extremely low carbon and silicon contents. The material is characterised by excellent resistance in oxidising and reducing media, even at elevated temperatures. The alloy offers good resistance to wet media, e.g. sulphuric acid, phosphoric acid, nitric acid, chlorine gas, acid mixtures of sulphuric acid and oxidising acids with chloride ions. Recommended for use in the presence of strong oxidising agents such as iron(III) and copper(II) chlorides, chlorine, formic acid, acetic acid, seawater and other salt solutions. A special feature is the high resistance to crevice, pitting and stress corrosion cracking at elevated temperatures under oxidising and reducing conditions. Due to its good thermal stability, BÖHLER L022 can usually be used in the welded condition without subsequent heat treatment. Application in environmental technology, e.g. agitators, heat exchangers, blowers, linings and pipelines as well as spray systems, in flue gas cleaning systems for waste incineration plants and power stations, e.g. flaps, slide valves and measuring probes. Use in waste water treatment systems, e.g. pipelines, evaporation plants and in chemical engineering for plants for chlorine gas and hydrogen chloride production, e.g. shut-off valves, slide valves, pipelines and centrifuges. Chlorine bleaching plants, e.g. pipelines, measuring systems. Suitable for pressure vessels with wall temperatures from -196°C up to 400°C.

Process Melting

| |
|------------------------------|
| VIM + ESR or Airmelted + ESR |
|------------------------------|

Applications

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> > Comp. for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.) > CPI (incl. LNG, Urea) > Other Oil and Gas + CPI comps. > Heat Exchanger | <ul style="list-style-type: none"> > Components for Recycling Industry > Oil & Gas > Tubular Products, Flanges, Fittings > Paper and Pulp Industry / Printing | <ul style="list-style-type: none"> > Comps. for Food processing and Animal Feed > Other Components > Valves and Actuators > Storage technology |
|---|---|--|

Technical data

| Material designation | | Standards | |
|----------------------|--------------|-------------------------|--------|
| Alloy C22 | Market grade | B564 | ASTM |
| 2.4602 | SEL | B574 | |
| NiCr21Mo14W | EN | VdTÜV WB479 | Others |
| N06022 | UNS | NACE MR0103 / ISO 17945 | |
| | | NACE MR0175 / ISO 15156 | |

Chemical composition (wt. %)

| C | Si | Mn | P | S | Cr | Mo | Ni | V | W | Co | Fe |
|------------|-----------|----------|------------|------------|--------------|--------------|-----|-----------|------------|----------|------------|
| max. 0.010 | max. 0.08 | max. 0.5 | max. 0.025 | max. 0.010 | 20.0 to 22.5 | 12.5 to 14.5 | REM | max. 0.35 | 2.5 to 3.5 | max. 2.5 | 2.0 to 6.0 |

Refers to VdTÜV WB 479

Delivery condition

Solution Annealed + Quenched

| | |
|------------------------------|-------------------------|
| Tensile Strength (MPa ksi) | 690 to 950 101 to 138 |
| Yield Strength (MPa ksi) | min. 310 45 |

Round Bars and Wire Rod (if any)

| Diameter* | | | | | |
|-----------|---|--------|-------|---|--------|
| mm | | | inch | | |
| ROLLED | | | | | |
| 5.00 | - | 13.50 | 0.197 | - | 0.531 |
| 5.00 | - | 101.60 | 0.197 | - | 4.000 |
| FORGED | | | | | |
| 101.70 | - | 355.60 | 4.004 | - | 14.000 |

* Diameter 5.00 - 13.50 mm available as Wire Rod.

Diameter 5.00 - 101.6 mm round bars.

Diameter from 5.0 to 13.5 mm available as Wire Rod. More information regarding MOQ, lengths and tolerances upon request.

Long Products: For additional specifications, technical requirements, and other dimensions, please contact our regional voestalpine BÖHLER sales companies.

Sheet & Plates: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact voestalpine BÖHLER Bleche GmbH & Co KG.

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.

voestalpine BÖHLER Edelstahl GmbH & Co KG
 Mariazeller Straße 25
 8605 Kapfenberg, AT
 T. +43/50304/20-0
 E. info@bohler-edelstahl.at
<https://www.voestalpine.com/bohler-edelstahl/de/>

voestalpine
 ONE STEP AHEAD.