

# NI-BASE ALLOYS

## Application Segments

Oil & Gas/CPI
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## Available Product Variants

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

## Product Description

BÖHLER L004 belongs to the group of highly corrosion-resistant nickel-chromium-molybdenum alloys with very low carbon, iron and silicon content and has good corrosion resistance, even at elevated temperatures. The combination of chromium with a high molybdenum content gives BÖHLER L004 exceptional resistance to a wide range of chemical media: e.g. contaminated, reducing mineral acids and good resistance under reducing and oxidising conditions, e.g. hot, contaminated media such as sulphuric acid, nitric acid, dry chlorine, formic acid, acetic acid, solvents, chlorine and chloride-containing media. Due to its composition, BÖHLER L004 shows a significantly reduced tendency to form precipitates in the temperature range between 650 and 1,040 °C. This improves the resistance to intergranular corrosion. Due to the high nickel content, the material is practically insensitive to chloride-induced stress corrosion cracking even in hot chloride solutions. Due to its excellent thermal stability, the alloy is easily weldable and is usually used in the welded condition. Suitable for pressure vessels with wall temperatures from -196°C to 400°C.

## Process Melting

VIM + ESR or Airmelted + ESR
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## Applications

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

## Technical data

Material designation		Standards	
Alloy C4	Market grade	17744	DIN
2.4610	SEL	17752	
NiMo16Cr16Ti	EN	B574	ASTM
N06455	UNS	NACE MR0175 / ISO 15156 VdTÜV WB424	Others

## Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Mo	Ni	Co	Ti
max. 0.009	max. 0.050	max. 1.00	max. 0.020	max. 0.010	14.50 to 17.50	14.00 to 17.00	REM	max. 2.00	max. 0.70

Refers to VdTÜV WB424

## Delivery condition

### Solution Annealed + Quenched

Tensile Strength (MPa   ksi)	700 to 900   102 to 131
Yield Strength (MPa   ksi)	min. 280   41

### 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.

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.*

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