

# 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 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 oxidizing conditions, e.g. hot, contaminated media such as sulphuric acid, nitric acid, dry chlorine, formic acid, acetic acid, solvents, chlorine and chloride-containing media. BÖHLER L004 exhibits a significantly reduced tendency to form precipitates in the temperature range between 650 and 1,040 °C due to the alloy composition. This improves 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 can be welded without any problems and is generally 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

## Applications

- > Components for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Components for the recycling industry
- > Components for food processing and animal feed
- > CPI (incl. LNG, Urea)
- > Other Oil and Gas + CPI components
- > Tubular Products, Flanges, Fittings
- > Valves and Actuators
- > Heat Exchanger
- > Paper and Pulp Industry / Printing

## 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	Fe
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	max. 3.00

Refers to VdTÜV WB424

Delivery condition

Solution Annealed + Quenched	
Tensile Strength (MPa)	700 to 900
Yield Strength (MPa)	min. 280

Round Bars and Wire Rod (if any)

Diameter*		mm	
<b>ROLLED</b>			
5.00	-	13.50	
5.00	-	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.

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.