

NI-BASE ALLOYS

Application Segments

Oil & Gas/CPI

Available Product Variants

Long Products*	Semi-Finished Products / Billet	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 L825 (UNS N08825) is an austenitic nickel-iron-chromium alloy with additions of molybdenum, copper and titanium. It was developed to provide exceptional resistance to numerous corrosive environments, both oxidizing and reducing. The nickel content of BÖHLER L825 makes it resistant to chloride stress-corrosion cracking, and combined with molybdenum and copper, provides substantially improved corrosion resistance in reducing environments when compared to conventional austenitic stainless steels. The chromium and molybdenum content provide resistance to chloride pitting, as well as resistance to a variety of oxidizing atmospheres. The addition of titanium stabilizes the alloy against sensitization in the as-welded condition. This stabilization makes the alloy resistant to intergranular attack after exposure in the temperature range which would typically sensitize un-stabilized stainless steels. The material is resistant to corrosion in a wide variety of process environments including sulfuric, sulfurous, phosphoric, nitric, hydrofluoric and organic acids and alkalis such as sodium or potassium hydroxide, and acidic chloride solutions. The fabrication of BÖHLER L825 is typical of nickel-base alloys, with material readily formable and weldable by a variety of techniques BÖHLER L825 shows good toughness, even under continuous operation, at both room and elevated temperatures, up to approximately 550 °C (1.020 °F) and is suitable for pressure vessels with wall temperatures up to 538 °C (1,000 °F).

Process Melting

Airmelted

Applications

- > Comp. for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > CPI (incl. LNG, Urea)
- > Paper and Pulp Industry / Printing
- > Other Oil and Gas + CPI comps.
- > Heat Exchanger
- > Food processing Industry
- > Tubular Products, Flanges, Fittings
- > Oil & Gas / CPI

Technical data

Material designation		Standards	
Alloy 825	Market grade	B425	ASTM
2.4858	SEL	NACE MR0103 / ISO 17945 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 ksi)	min. 586 85
Yield Strength (MPa ksi)	min. 241 35

Round Bars and Wire Rod (if any)

		Diameter*			
		mm		inch	
ROLLED					
5.00	-	13.50		0.197	-
12.50	-	101.60		0.492	-
FORGED					
101.70	-	355.60		4.004	-

* 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.

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

Semi-Finished Products: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact the business unit Semi Finished Products of voestalpine BÖHLER Edelstahl GmbH & Co KG.

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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