

# CORROSIONS-RESISTANT STEELS -AUSTENITIC STEELS AND NON MAGNETIC STEELS

## **Application Segments**

Oil & Gas / CPI

#### **Available Product Variants**

Long Products\*

Semi-Finished Products / Billet

## **Product Description**

BÖHLER A959 (Alloy 28, UNS N08028, W. Nr. 1.4563) is a nickel-iron-chromium alloy with additions of molybdenum and copper. It has excellent resistance to both reducing and oxidizing acids, to stress-corrosion cracking, and to localized attack such as pitting and crevice corrosion. The alloy is especially resistant to sulphuric and phosphoric acid. Equipment used for chemical processing, pollution control equipment, oil and gas well piping ,natural gas and oil transportation, nuclear fuel reprocessing and transportation, acid production and pickling equipment and transportation

The alloy was originally developed for use in the manufacture of phosphoric acid, especially for heat exchangers in the concentration unit, where corrosive conditions are at their worst.

## **Process Melting**

Airmelted

### **Applications**

- > Chemical industry general
- > Paper and Pulp Industry / Printing
- Wellhead, X-mas trees and Manifolds (incl. Tubing hangers), BOPs
- Components for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Oil & Gas / CPI
- > Well Completion Tools
- > Oil & Gas, CPI & Renewables

- > CPI (incl. LNG, Urea)
- Other Oil and Gas + CPI components
- > Well Logging Tools

#### Technical data

> Heat Exchanger

Material designation		Standards		
Alloy 28	Market grade	10	0088-3	EN ISO
1.4563	SEL			
X1NiCrMoCu31-27-4	EN			
N08028	UNS			



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



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## Chemical composition (wt. %)

С	Si	Mn	P	S	Cr	Мо	Ni	Cu	N
max. 0.020	max. 0.70	max. 2.00	max. 0.030	max. 0.010	26.0 to 28.0	3.0 to 4.0	30.0 to 32.0	0.70 to 1.50	max. 0.10

Refers to DIN EN 10088-3 1.4563.

## **Delivery condition**

Solution Annealed + Quenched				
Hardness (HB)	max. 230			
Tensile Strength (MPa)	500 to 750			
Yield Strength (MPa)	min. 220			

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

Diameter				
mm				
ROLLED				
12.50	-	130.00		
FORGED				
130.10	-	203.20		

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.

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