

Corrosion resistant alloys

BÖHLER A913

PROPERTIES

Ferritic-Austenitic stainless steel.

Excellent corrosion resistance against general corrosion, stress corrosion cracking, corrosion fatigue, pitting, crevice and erosion corrosion and possessing very high mechanical strength properties.

Good weldability, post weld heat treatment not necessary.

Max. Temperature for long periods of service: 280°C (536°F) / (300°C/572°F possible for short periods).

Surface condition for optimum corrosion resistance: pickled or machined.

APPLICATION

Components in offshore, waste water, sea water desalination and chemical plants with aggressive chloride-containing media e.g. heat exchangers, compressor and pump components.

CHEMICAL COMPOSITION

(Average %)

C	Si	Mn	Cr	Mo
0.020	0.25	0.55	25.80	3.40
Ni	Cu	N		PREN
7.00	max. 0.50	0.30		Min. 40

STANDARDS

UNS

S32750

HOT FORMING

Forging:

1150 to 1000°C (2102 to 1832°F)

Air cooling

HEAT TREATMENT

Solution annealing / quenching:

1100°C (2012°F)

Water, air (thickness below 2 mm)

Structure as quenched:

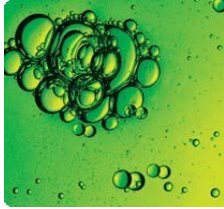
Ferrite + Austenite

WELDING

Weld ability of BÖHLER A913 is good.

The welding procedures are similar to those applied for conventional Duplex grades.

Welding consumables for different welding Methods are available.



MECHANICAL PROPERTIES AT ROOM TEMPERATURE

Condition: solution annealed / quenched

Product	Size mm	0.2% proof strength N/mm ² Min.	Tensile strength N/mm ² Min.	Elongation A ₅			Impact strength (ISO-V) J min.		
				L	Q	T	L	Q	T
St, Sch	≤ 160	550	795	25			100		
P	≤ 75			20 ¹⁾	20 ¹⁾		100	60	

St = Bar, Sch = Forging, P = Sheet or plate
 L = Longitudinal, Q = Transverse, T = Tangential
¹⁾ < 3 mm = A80 mm specimen

The values for other products and dimensions shall be established by agreement.

HIGH – TEMPERATURE PROPERTIES

Condition: solution annealed / quenched

Temperature	100°C (212°F)	150°C (302°F)	200°C (392°F)	250°C (482°F)
0.2% yield strength N/mm ² min.	450	420	400	380

PHYSICAL PROPERTIES

Density at20°C (68°F)7.80kg/dm³
 Thermal conductivity at.....20°C (68°F)15.00W/(m.K)
 Specific heat at20°C (68°F)500J/(kg.K)
 Electric resistivity at20°C (68°F)0.80Ohm.mm²/m
 Modulus of elasticity at20°C (68°F)200 x 10³N/mm²
 Magnetic propertiesmagnetic

BÖHLER Bleche GmbH / 11.2006

The data contained in this brochure shall not be binding and shall, in case of a contract conclusion, not be regarded as warranted. These data shall merely constitute average values that become binding only if explicitly specified in a contract concluded with us. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.