

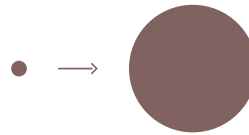
First Class Material for Off Shore and Industry

Information about 1.4547 | S31254 | X1 CrNiMoCuN 20-18-7

The material 1.4547 is an **austenitic, corrosion resistant stainless steel**. Due to its high molybdenum content and the addition of nitrogen the material has good mechanical properties and **very good resistance** to punching, splitting and surface corrosion and has a PRE-value of > 42.

The standard condition of heat treatment of the material 1.4547 is **solution annealed**. In this condition the material is non-magnetic. For cold-worked bars and wires it can come to a low magnetization due to synthesis of deformation martensite. The increase of stability is only achievable by a cold rolled deformation.

The material is suitable for applications in which **chlorides** or **dilute sulfur or phosphoric acid** are used. It is also resistant against **sea water**.



AVAILABLE DIMENSIONS

20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140 und 150 mm



SCOPE OF APPLICATION

- Offshore and shipbuilding
- plants of the chemical industry
- Parts for flue gas desulphurisation plants
- Parts for bleaching plants of the pulp/paper industry
- Seawater desalination plants
- Water treatment plants

WELDING

Due to the low carbon content the material 1.4547 is weldable with all common welding methods.

CHIPPING / CUTTING

Due to the high alloying elements, the material is difficult to work. Because of his inclination to cold work hardening a low cutting speed should be selected. If possible, the cutting tool should constantly be kept in touch.

MECHANICAL CHARACTERISTICS AT INCREASED TEMPERATURES

Strength characteristic	delivery condition	Temperature °C				
		100	200	300	400	500
Rp0,2	solution heat	230	190	170	160	148

MECHANICAL CHARACTERISTICS AT ROOM TEMPERATURES

Stated values apply to steel bars up to max. 160 mm
(EN 10088-3)

Yield strength Rp0,2 (N/mm²): minute 300	Elongation at break (%): minute 35
Yield point Rp1,0 (N/mm²): minute 340	Impact Work (ISO-V) J: minute 100
Tensile strength Rm (N/mm²): 650 - 850	

HEAT TREATMENT

Melting range: 1325 - 1400 °C	Stress relief: 500 °C
Solution annealing: 1140 - 1200 °C	Cooling: air
Hot forming: 1200 - 1000 °C	

CHEMICAL ANALYSIS

chemical element	EN 10088-1	
	min.	max.
C	0	0,020
Si	0	0,70
Mn	0	1,00
P	0	0,030
S	0	0,010
Cr	19,5	20,50
Mo	6,00	7,00
Ni	17,5	18,5
N	0,18	0,25
Cu	0,50	1,00

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