Breitenfeld Edelstahl

Breitenfeldstraße 22 | 8662 St. Barbara-Mitterdorf
+43 3858 6161-0 • info@breitenfeld.at
Austria | www.breitenfeld.at

AS-548

Material no. **1.4548**
DIN: **X5CrNiCuNb17-4-4**

Comparison of standards: 17-4PH UNS S17400

Chemical composition: (Approximate values in %)

C	Si	Mn	Cu	Cr	Ni	Nb	N
0,04	0,30	0,60	3,30	15,00	5,00	0,25	0,0300

Description and applications:

AS-548 is a martensitic precipitation hardening steel that offers good toughness and strength even at large dimensions with excellent corrosion resistance. The workability is good and the different strength levels can be adjusted by simple heat treatment at low temperatures.

Application: Aerospace, mechanical engineering, energy technology, high-pressure parts, etc.

Heat treatment:

Forging or rolling	1150 – 900 °C	Air cooling
Solution annealing	1030 – 1060 °C	Air or oil cooling < 32 °C
Condition H900	480 °C / 1h / Air	
Condition H925	495 / 4h / Air	
Condition H1025	550 °C / 4h / Air	
Condition H1075	580 °C / 4h / Air	
Condition H1100	595 °C / 4h / Air	
Condition H1150	620 °C / 4h / Air	
Condition H1150-M	760 °C / 2h / Air + 620 °C / 4h / Air	
Microstructure: solution annealed	Martensite + Austenite + Ferrite	
Microstructure: hardened	Martensite + Austenite + Ferrite + intermetallic phase	

Welding: Electric arc welding and TIG are applicable. Welding should only be carried out in a solution-annealed condition. The heat input should be kept as low as possible. Preheating to 100-200 °C is only recommended for thicknesses over 25 mm

Heat treatment after welding:
Solution annealing, age hardening or solution annealing and age hardening

Physical properties:

Density at 20 °C:	7,80 kg/dm³
Thermal conductivity at 20 °C:	16,0 W/(m.K)
Magnetizability:	available