

SPECIFICATIONS

European Standards:

- X6CrNiTi18-10, X8CrNiTi18-10
- Numerical designation: 1.4541, 1.4878

AIR : Z 10 CNT 18-11
WL : 1.4511
BS : S 129
UNS : S32100

TYPICAL MECHANICAL PROPERTIES

- In the solution treated condition:
 - UTS: 600 N/mm²
 - 0.2 % Yield strength: 220 N/mm²
 - Elongation (5d): 50 %
 - Impact strength KCU: 190 J/cm²

COMPOSITION

Carbon.....	<0.08
Chromium.....	18.00
Nickel.....	11.00
Titanium.....	>5xC

APPLICATIONS

- Industries: aerospace, chemical, electrical, marine, nuclear, oil industries.
- Various mechanical parts.

CHARACTERISTICS

- Titanium stabilised austenitic stainless steel.
- Good resistance to intercrystalline corrosion.
- Good resistance to high temperature oxidation up to 800°C.
- Good weldability.

HEAT TREATMENT

- Solution treatment:
 - Heat to 1050 / 1150°C.
 - Water cool.

PHYSICAL PROPERTIES

- Density:
 - at 20°C: 7.9
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 200°C: 17.3×10^{-6}
 - between 20°C and 400°C: 18.1×10^{-6}
 - between 20°C and 600°C: 18.9×10^{-6}
- Modulus of elasticity in N/mm²:
 - at 20°C: 198×10^3
- Thermal conductivity in W.m/m².°C:
 - at 100°C: 16
 - at 400°C: 20
 - at 800°C: 25
- Specific heat in J/g.°C: 0.50
- Melting point: 1425°C approx.
- Electrical resistivity in $\mu\Omega.cm^2/cm$:
 - at 20°C: 72
 - at 400°C: 99
 - at 800°C: 120
- Absolute magnetic permeability in H/m: 1.26×10^{-6}

FORGING

- 1150/950°C

Contact:

www.aubertduval.com

The data provided in this document represent typical or average values rather than maximum or minimum guaranteed values. The applications indicated for the grades described are given as guidance only in order to help the reader in his personal assessment. Please note that these do not constitute a guarantee whether implicit or explicit as to whether the grade selected is suited to specific requirements. Aubert & Duval's liability shall not under any circumstances extend to product selection or to the consequences of that selection.