



SPECIFICATIONS

European standards:

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

AECMA:

- Designation: FE-PA13

AIR : Z 10 CNT 18-11

WL : 1.4544

BS : S 129

UNS : S32100

MECCHANICAL 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.....	> 5 x C

APPPLICATIONS

- 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: 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: 198×10^9
- 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 $\mu\Omega\text{cm}^2/\text{cm}$:
 - 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

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