

Variant:

X13VDW : Consumable electrode remelted grade

SPECIFICATIONS

AECMA:

- Designation: FE-PM37

AIR : Z 12 CNDV 12

WL : 1.4933

BS : S 151, S 538, S 159

UNS : S64152

For remelted grade:

WL : 1.4939

UNS : S64152

AMS : 5719

COMPOSITION

Carbon.....	0.12
Chromium.....	11.50
Nickel.....	2.50
Molybdenum.....	1.60
Vanadium.....	0.30

MECHANICAL PROPERTIES

- Annealed condition: heat to 680°C followed by slow cooling.

- Brinell Hardness: 255

- Air cool from 1050°C. Temper at 250°C.

- UTS: 1350 N/mm²
 - 0.2 % Yield strength: 1000 N/mm²
 - Elongation (5d): 17 %
 - Impact strength KCU: 110 J/cm²

- Air cool from 1050°C. Temper at 650°C.

- UTS: 1050 N/mm²
 - 0.2 % Yield strength: 700 N/mm²
 - Elongation (5d): 15 %
 - Impact strength KCU: 120 J/cm²

- Creep:

Temperature In °C	Average load in N/mm ² causing creep fracture in:		Average load in N/mm ² causing 1 % elongation in:	
	100 hrs	1000 hrs	100 hrs	1000 hrs
500	500	420	430	370

APPLICATIONS

- Aerospace industry: various mechanical parts.
- Turbine blades and discs.

CHARACTERISTICS

- Good resistance to various corrosive agents.
- Good weldability and suitable for brazing.

HEAT TREATMENT

- Hardening:
Heat to 1050°C.
Air cool or oil quench.
- Temper:
Depending on properties required.

PHYSICAL PROPERTIES

- Density: 7.8
- Thermal conductivity in W.m/m².°C:
 - at 20°C: 21
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 100°C: 9.7×10^{-6}
 - between 20°C and 300°C: 10.4×10^{-6}
 - between 20°C and 500°C: 11.2×10^{-6}
- Modulus of elasticity in N/mm²:
 - at 20°C: 211×10^3

FORGING

- 1000/900°C

Contact:

www.aubertduval.com