



Variants:

FADSW: Consumable electrode remelted grade

FADSYW: Vacuum induction melted and consumable electrode remelted grade

SPECIFICATIONS

European standards:

- 16NiCrMo16-5

AECMA:

- Designation: FE-PL79

AIR : 16 NCD 17

WL : 1.6723

BS : S 82

MECHANICAL PROPERTIES

- Annealed condition: heat to 825°C followed by slow cooling.

- Brinell hardness: 217

- Oil quench from 825°C. Sub-zero treatment.

Temper at 150°C.

- UTS: 1450 N/mm²

- 0.2 % Yield strength: 1150 N/mm²

- Elongation (5d): 12 %

- Impact strength KCU: 90 J/cm²

COMPOSITION

Carbon0.16

Nickel4.25

Chromium1.20

Molybdenum.....0.20

APPLICATIONS

- Various carburised and non carburised mechanical parts subjected to high stresses.
- Parts for the aerospace industry.

CHARACTERISTICS

- Good hardenability.
- After carburising and quenching, sub zero treatment and tempering, the surface hardness is approx. 730 HV.
- Good mechanical properties.

HEAT TREATMENT

- Carburising:
 - 900°C approx.
- Harden:
 - Heat to 825/850°C.
 - Sub-zero treatment.
 - Oil quench.
- Temper:
 - After carburising, quenching and sub zero treatment, the steel is used after tempering between 140°C and 200°C as required.
 - For use in the non carburised condition, temper in accordance with properties required.

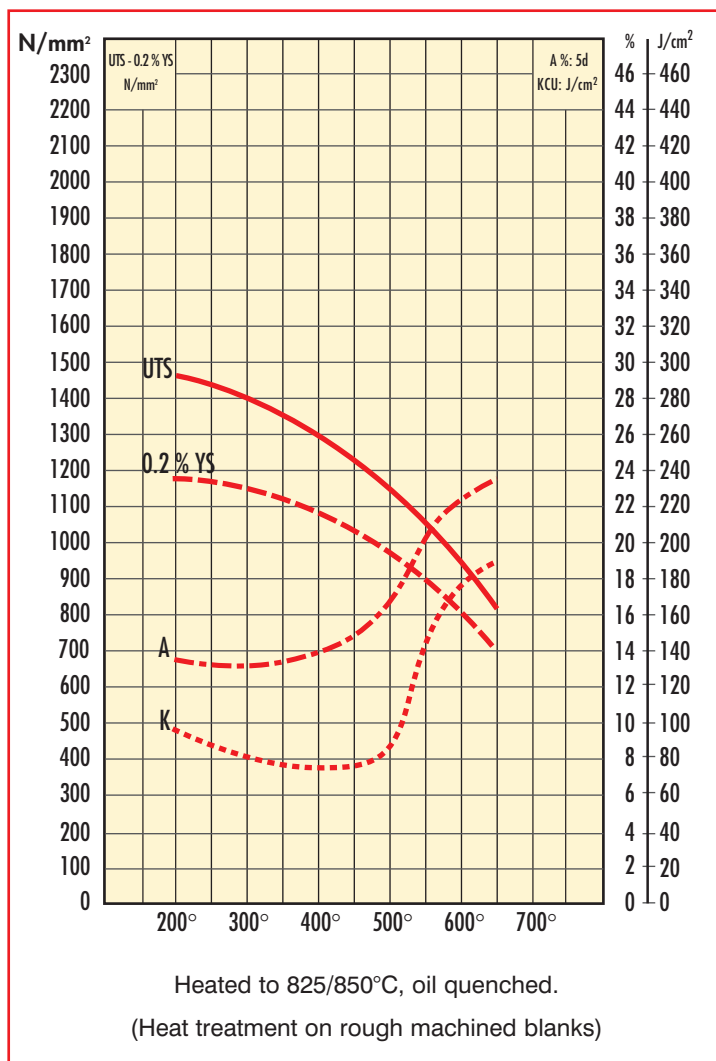
PHYSICAL PROPERTIES

- Density: 7.8
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 200°C: 11.5×10^{-6}
 - between 20°C and 400°C: 12.4×10^{-6}
 - between 20°C and 600°C: 13.5×10^{-6}
- Critical points:
 - Ac 1: 660°C
 - Ac 3: 800°C

FORGING

- 1100/900°C

TEMPERING CURVE



AUBERT & DUVAL

Tour Maine Montparnasse
33, avenue du Maine • 75755 Cedex 15
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.