

Variants:

GKHW: Consumable electrode remelted grade

GKHYW: Vacuum induction melted and consumable electrode remelted grade

SPECIFICATIONS

AECMA :

- Designation: FE-PL1504
- 33CrMoV12

AIR : 32 CDV 13

UNS : K24340

For the vacuum melted and remelted grade:

UNS : K24340

AMS : 6481

MECHANICAL PROPERTIES

- Annealed condition: heat to 850°C followed by slow cooling.
 - Brinell hardness: 210
- Oil quench from 900/925°C. Temper at 600°C.
 - UTS: 1250 N/mm²
 - 0.2 % Yield strength: 1060 N/mm²
 - Elongation (5d): 15 %
 - Impact strength KV: 130 J
- Oil quench from 900/925°C. Temper at 640°C.
 - UTS: 1080 N/mm²
 - 0.2 % Yield strength: 900 N/mm²
 - Elongation (5d): 19 %
 - Impact strength KV: 170 J

COMPOSITION

Carbon.....	0.30
Chromium.....	3.00
Molybdenum.....	1.00
Vanadium.....	0.20

APPLICATIONS

- GKH is used to produce nitrided parts which need to be extremely stable after hardening and tempering. It is particularly suitable for producing parts that undergo special nitriding.
- Gears, spindles, machine-tool fittings, crankshafts, precision parts, aircraft parts.
- Thrust rings, bearing races working up to 400°C.

CHARACTERISTICS

- Nitriding steel with an excellent level of hardenability and particularly high mechanical properties, impact strength and fatigue limit (GKHW and GKHYW grades).
- It may be nitrided in the heat treated condition to obtain a strength from 900 N/mm² to 1350 N/mm². The nitrided layer is ductile.

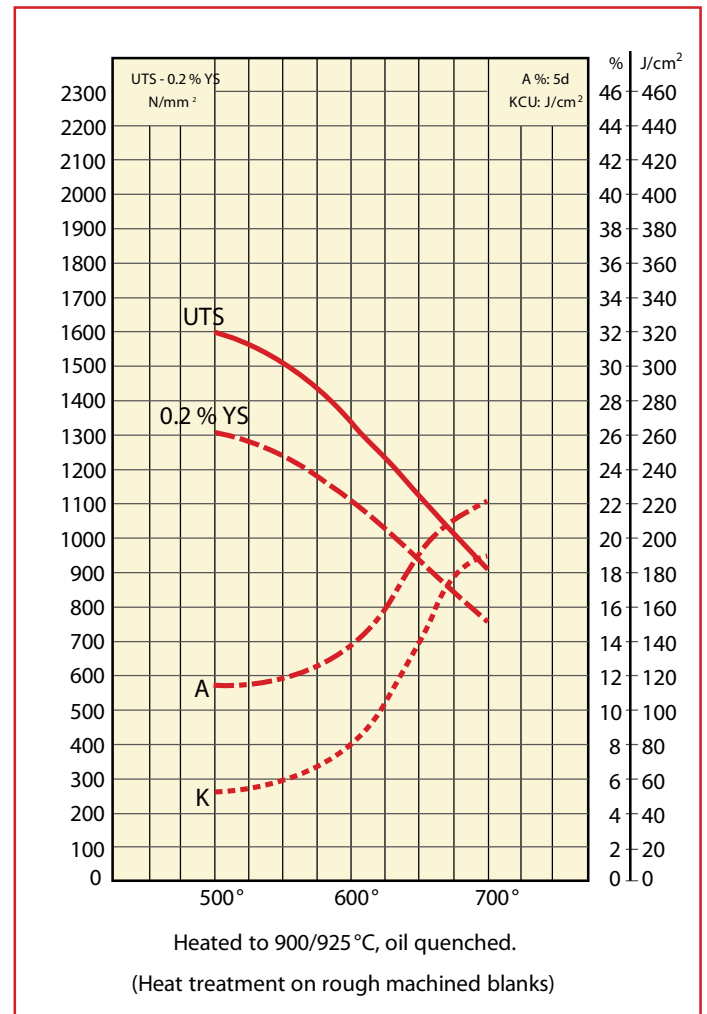
HEAT TREATMENT

- Harden:
 - Heat to 900/925°C.
 - Oil quench.
- Temper:
 - Above 525°C
 - depending on properties required.
- Nitriding:
 - Surface hardness: approx. 850 Vickers.

PHYSICAL PROPERTIES

- Density: 7.8
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 100°C: 11.8×10^{-6}
 - between 20°C and 500°C: 13.6×10^{-6}
- Critical points:
 - Ac 1: 800°C
 - Ac 3: 845°C

TEMPERING CURVE



FORGING

- 1150/1000°C

Contact:

www.aubertduval.com