

Variant:

GKPYW: Vacuum induction melted and consumable electrode remelted grade

SPECIFICATIONS

32CrMoNiV5

UNS : K23280

AMS : 6497

For the vacuum melted and remelted grade :

AMS : 6498

MECHANICAL PROPERTIES

- Annealed condition: Heat to 875°C followed by slow cooling:
 - Brinell Hardness: 240
- Oil quench from 910/950°C. Temper at 600°C:
 - UTS: 1430 N/mm²
 - 0.2 % Yield strength: 1280 N/mm²
 - Elongation (5d): 14 %
 - Impact strength KV: 50 J
- Oil quench from 910/950°C. Temper at 640°C:
 - UTS: 1250 N/mm²
 - 0.2 % Yield strength: 1075 N/mm²
 - Elongation (5d): 16 %
 - Impact strength KV: 80 J

COMPOSITION

Carbon	0.30
Chromium.....	1.40
Molybdenum.....	1.20
Nickel.....	0.80
Vanadium	0.30

APPLICATIONS

- GKPW is used to produce nitrided parts which need to be extremely stable after hardening and tempering treatment.
- It is particularly suitable for producing parts that undergo special nitriding.
- Gears, spindles, machine tool fittings, crankshafts, precision parts, aircraft parts.

CHARACTERISTICS

- Nitriding steel produced by consumable electrode remelting, with an excellent level of hardenability and particularly high mechanical properties, impact strength and fatigue limit.
- It may be nitrided in the heat treated condition with a core strength of 900 N/mm² to 1450 N/mm². The nitrided layer is not brittle.
- In comparison with other nitriding steels, GKP allows the nitriding process time to be reduced by up to 40 % for the same nitrided layer depth.
- With the same nitriding process time, GKP results in a depth gain of up to 0.2 mm. GKP makes it possible to obtain nitrided layers with a depth of 0.9 mm.

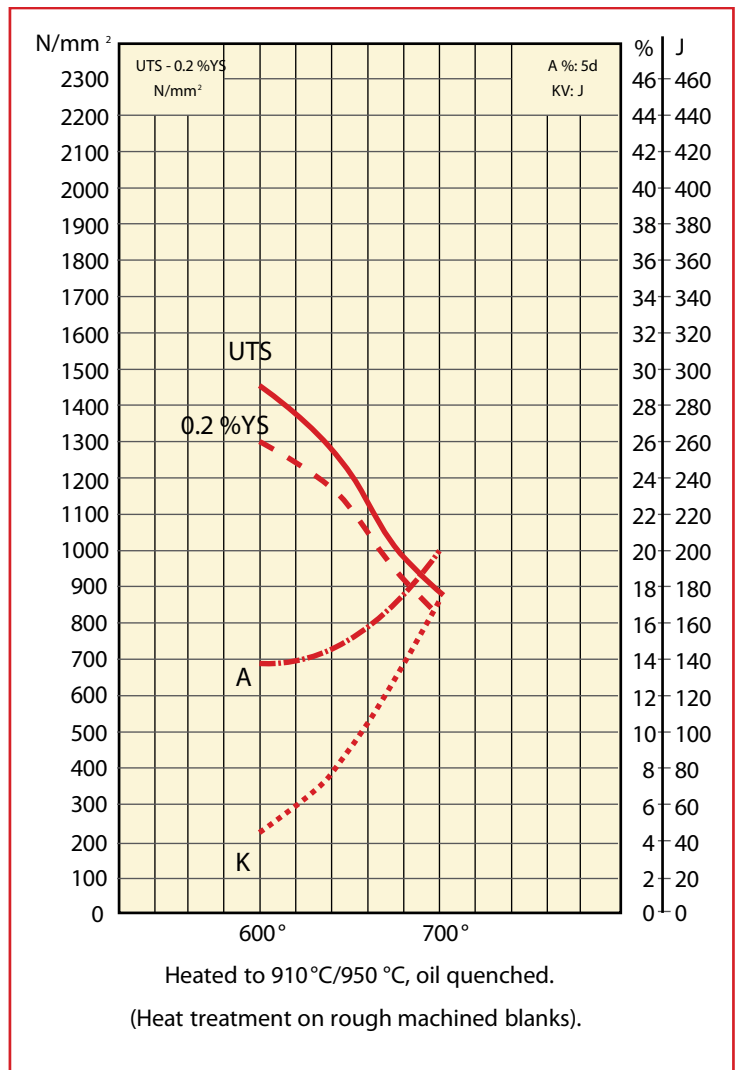
HEAT TREATMENT

- Harden:
 - Heat to 910/950°C
 - Oil quench.
- Temper:
 - Above 600°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: 760°C
 - Ac 3: 850°C

TEMPERING CURVE



FORGING

- 1150/1000°C

Contact:

www.aubertduval.com