

SPECIFICATIONS

European standards:

- X30Cr13
- Numerical designation: 1.4028

AIR : Z 30 C 13

UNS : S42000

TYPICAL MECHANICAL PROPERTIES

- Annealed condition: heat to 850°C followed by slow cooling:
 - Brinell Hardness: 195
- Oil quench from 980°C. Temper at 250°C:
 - UTS: 1700 N/mm²
 - 0.2 % Yield strength: 1500 N/mm²
 - Elongation (5d): 9.5 %
 - Impact strength KCU: 30 J/cm²

HEAT TREATMENT REFERENCE

- Oil quench from 980 °C. Temper at 600 °C.
 - UTS: 1000 N/mm²
 - 0.2 % Yield strength: 850 N/mm²
 - Elongation (5d): 14 %
 - Impact strength KCU: 40 J/cm²

COMPOSITION

Carbon.....	0.30
Chromium.....	13.00
Moybdenum	0.30

APPLICATIONS

- Measuring instruments.
- Compressor valves.
- Pump plungers.
- Various mechanical parts.
- Glassmaking tools.
- Furnace components.

CHARACTERISTICS

- Martensitic stainless steel.
- Good resistance to the corrosive effect of soft water, weather and various corrosion agents.
- Good resistance to high temperature oxidation up to approximately 550°C.
- Fairly good resistance to sulphur vapours.

HEAT TREATMENT

- Hardening:
 - Heat to 980°C.
 - Oil quench.

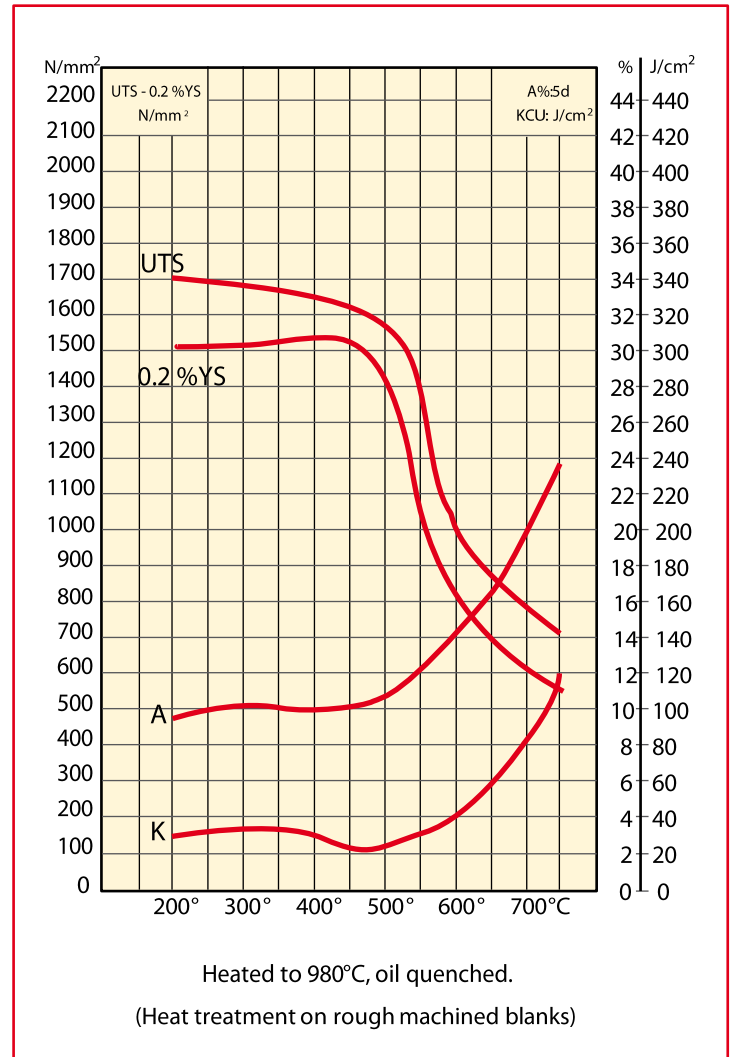
For small section parts, oil quench can be replaced with gas pressure quench.
It is recommended that heating should take place in an inert atmosphere.

- Temper:
 - According to properties required.

PHYSICAL PROPERTIES

- Density: 7.7
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 100°C: 10.8×10^{-6}
 - between 20°C and 300°C: 11.4×10^{-6}
 - between 20°C and 500°C: 12.0×10^{-6}
- Critical points:
 - Ac 1: 835°C
 - Ac 3: 870°C

TEMPERING CURVE



FORGING

- 1100/900°C

Contact:

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.