



SPECIFICATIONS

European standards:

- X20Cr13
- Numerical designation: 1.4021

WL : 1.4014

BS : S62

UNS : S42000

TYPICAL MECHANICAL PROPERTIES

- Annealed condition: heat to 850°C followed by slow cooling:
 - Brinell Hardness: 180
- Oil quench from 950/1000°C. Temper at 250°C:
 - UTS: 1450 N/mm²
 - 0.2 % Yield strength: 1150 N/mm²
 - Elongation (5d): 13 %
 - Impact strength KCU: 50 J/cm²

HEAT TREATMENT REFERENCE

- Oil quench from 950/1000°C. Temper at 600 °C.
 - UTS: 900 N/mm²
 - 0.2 % Yield strength: 750 N/mm²
 - Elongation (5d): 17 %
 - Impact strength KCU: 80 J/cm²

COMPOSITION

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

APPLICATIONS

- Blades turbines.
- Various mechanical parts.

CHARACTERISTICS

- Martensitic stainless steel.
- Good resistance to the corrosive effect of fresh water and various corrosion agents.
- Good resistance to steam erosion up to 525°C.

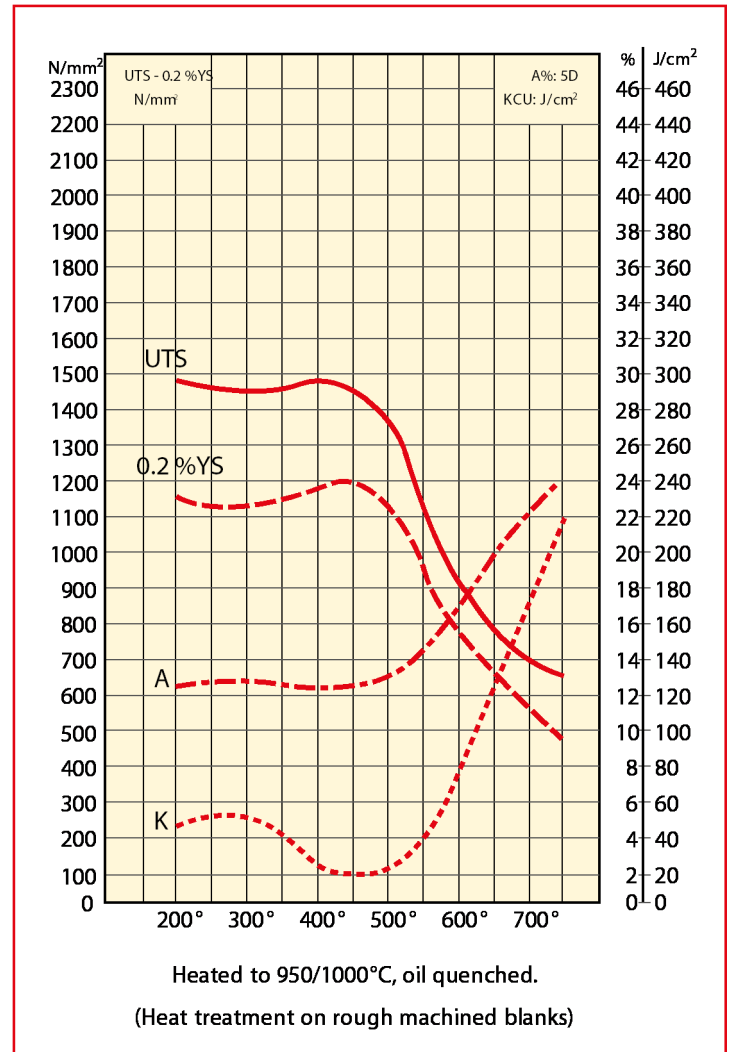
PHYSICAL PROPERTIES

- 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: 805°C
 - Ac 3: 930°C

FORGING

- 1100/900°C

TEMPERING CURVE



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.