

Material data

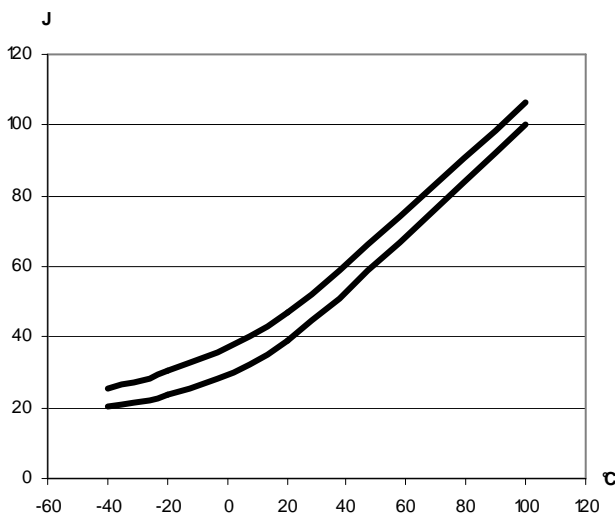
UDDEHOLM COMPONENT BUSINESS

UDDEHOLM IMPAX SUPREME

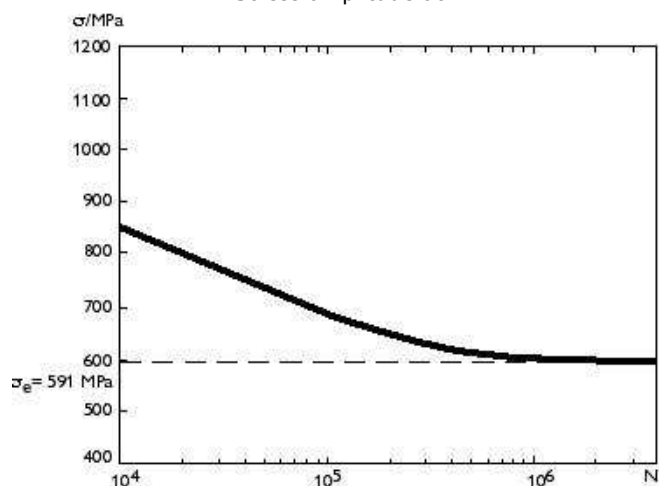
Hardened and tempered to 290 – 330 HB, at 20°C (68°F)

Physical properties	Metric	English
Density	7 800 kg/m ³	0.282 lbs/in ³
Mechanical properties		
Hardness	290 – 330 HB	290 – 330 HB
Hardness, MAX recommended	Delivery condition	Delivery condition
Ultimate tensile strength, R _m	1000 N/mm ²	145 000 psi
Yield strength, R _{p0,2}	900 N/mm ²	130 500 psi
Elongation at break, A ₅	15 %	15 %
Reduction of area, Z	50 %	50 %
Modulus of elasticity	205 000 N/mm ²	29.7x10 ⁶ psi
Poisson's ratio	0,29	0.29
Impact toughness, Charpy-V	30 J	22.1 ft lb
Shear modulus of elasticity	80 000 N/mm ²	1.16 x10 ⁶ psi
Thermal properties		
Coefficient of thermal expansion, linear	12,6 µm/m °C (20-200°C)	7.0 µin/in °F (68-390°F)
Specific heat capacity	460 J/kg °C	0.11 BTU/lb-°F
Thermal conductivity	29 W/m °C	202 BTU in/h ft ² °F

Transition curve 310-320 HB



Wöhler curve 310-320 HB
Stress amplitude at R=-1



Expected values valid for Round Bars up to Ø63.5 mm, longitudinal.