

SPECIFICATIONS

European standard:

EN : ~45NiCrMo16
AFNOR: 45NiCrMo18
W.Nr : ~1.2767
DIN : ~X45NiCrMo16

PHYSICAL PROPERTIES

- Annealed condition: Heat to 650°C. Slow cool.
- Softened condition, hardness approximately 290 HB

COMPOSITION

Carbon.....	0.42
Nickel.....	4.40
Chromium.....	1.60
Moybdenum	0.50

APPLICATIONS

- Hammer dies
- Deep drawing dies
- Drop-stamp dies

CHARACTERISTICS

- High field stress and excellent toughness
- High hardenability

HEAT TREATMENT

- Harden:
 - Preheat to 700°C.
 - Heat to 875°C
 - Air cool or gas pressure quench

Heating in an inert atmosphere is recommended.

- Temper:
 - For maximum hardness:
temper at 1800°C.
 - For good toughness:
temper at 500°C and above

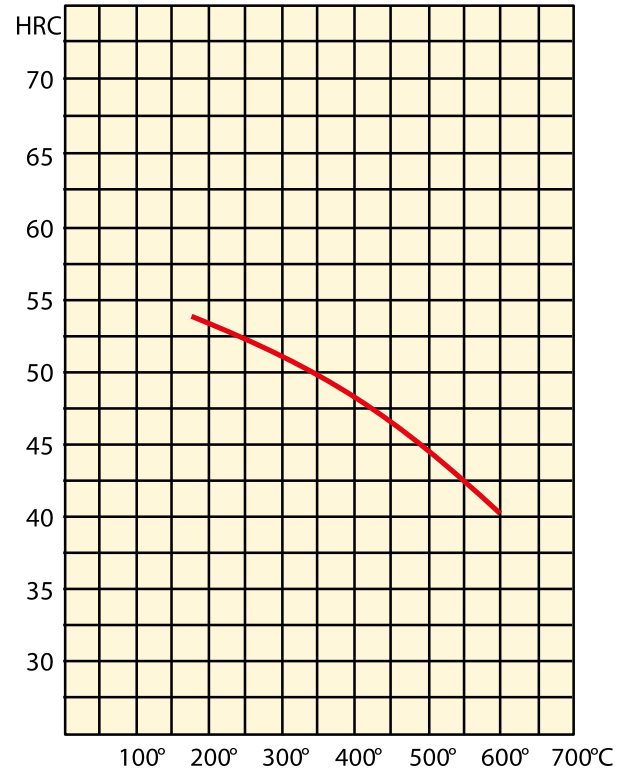
PHYSICAL PROPERTIES

- Density: 7.8
- Mean coefficient of expansion in m/m.°C:
 - between 20°C and 200°C: 11.9×10^{-6}
 - between 20°C and 400°C: 12.8×10^{-6}
 - between 20°C and 600°C: 13.6×10^{-6}
- Critical points:
 - Ac 1: 650°C
 - Ac 3: 790°C

FORGING

- 1100/900°C

HARDNESS VS TEMPERING TEMPERATURE



Heated to 875°C, air cooled.
(Test on 1 cm thick specimen)

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.