

MATERIAL NO.:

1.2316

DESIGNATION:

DIN: X 38 CrMo 16
AFNOR: Z 35 CD 17
UNI: X 38 CrMo 16 KU
AISI: ≈ 422

TECHNICAL TIP:

- » Corrosion resistant like 1.2085
- » For demanding surfaces

INDICATORY ANALYSIS:

C 0.36
 Cr 16.00
 Mo 1.20

STRENGTH:

280 - 325 HB
 (≈ 950 - 1100 N/mm²)

THERMAL CONDUCTIVITY AT 100°C:

18 $\frac{W}{m K}$

**COEFFICIENT OF THERMAL EXPANSION
 [10⁻⁶/K]**

100°C	200°C	300°C	400°C	500°C	600°C	700°C
10.5	10.8	11.1	11.6			

CHARACTER:

- » Corrosion resistant, high-alloy, polishable, pre-toughened **tool steel**

APPLICATION:

- » Moulds for processing corrosive plastics

TREATMENT BY:

- » Polishing:
good suitability
- » Etching, EDM:
possible
- » Nitriding:
reduces the corrosion resistance

HEAT TREATMENT:

Already pre-toughened; usually no heat treatment required

- » Soft annealing:
760 to 800°C for about 4 to 5 hours
slow controlled cooling inside the furnace: 10 to 20°C per hour to about 650°C
further cooling in air, **max. 230 HB**
- » Hardening:
1030 to 1050°C
keep curing temperature for 15 to 30 minutes
quenching in oil/compressed gas/hot bath
obtainable hardness: **49 HRC**
- » Tempering:
slow heating to tempering temperature immediately after hardening;
minimum time in furnace: 1 hour per 20 mm part thickness

TEMPERING CHART:

