meusburger

MATERIAL NO.: 1.2316

DESIGNATION ACCORDING TO:

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

TYPCIAL ANALYSIS:

C	0.36
Cr	16.00
Mo	1.20

HARDNESS: 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

MACHINING:

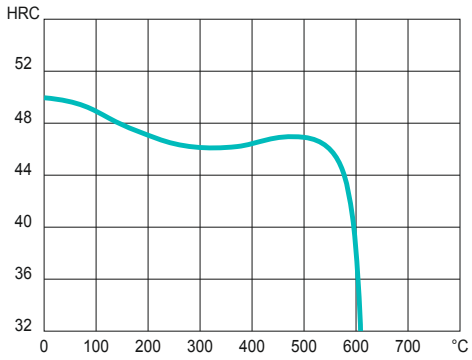
- Polishing:
  good suitability
- Etching, EDM:
  possible
- Nitriding:
  reduces the corrosion resistance

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 GRAPH:



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