meusburger

MATERIAL NO.: MCR8PM

DESIGNATION ACCORDING TO: **DIN:** Special alloy

TECHNICAL TIP:

» Combines wear resistance and toughness at the highest level
» Moreover, added tungsten improves adhesive wear resistance

TYPCIAL ANALYSIS:

C	1.10
Si	1.20
Cr	7.80
Mo	1.60
V	2.40
W	1.10

HARDNESS: max. 255 HB (≈ max. 860 N/mm²)

THERMAL CONDUCTIVITY AT 100 °C: 24 $\frac{W}{m\,K}$

COEFFICIENT OF THERMAL EXPANSION [10⁻⁶/K]

100 °C	200 °C	300 °C	400 °C	500 °C	600 °C	700 °C
11	11.3	11.9	12.2			

CHARACTER:

» Powder metallurgical tool steel with outstanding purity and homogeneity of the material. The isotropic microstructure also enables multidimensional loads.

APPLICATION:

» Blocks for eroding, dies and cutting punches with high requirements for compressive strength, pressure and form rolls, thread rolling dies, impact extrusion punches and embossing tools

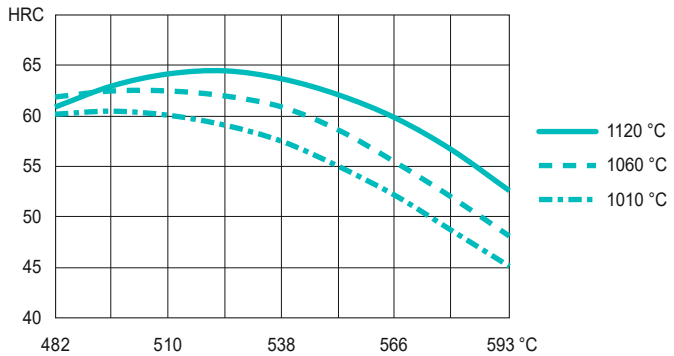
MACHINING:

» Polishing:
possible
» Nitriding:
suitable
» EDM:
highly suitable
» Coating:
highly suitable

HEAT TREATMENT:

» Soft annealing:
840 to 870 °C for about 2 to 5 hours;
slow controlled cooling inside the furnace: 10 to 20 °C per hour to about 535 °C;
further cooling in air, **max. 255 HB**
» Hardening:
curing temperature: **see tempering graph;**
holding time after heating is completed: 45 min.;
quenching in oil/compressed gas/air/hot bath;
obtainable hardness: **58–64 HRC** according to tempering graph
» Tempering:
slow heating to tempering temperature (in order to avoid the formation of cracks) immediately after hardening;
tempering three times is recommended

TEMPERING GRAPH:



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