

MATERIAL NO.:

M W10 PM

DESIGNATION:

EN: HS 10-2-5-8

TECHNICAL TIP:

INDICATORY ANALYSIS:

C 1.6
Cr 4.8
Mo 2.0
V 5.0
W 10.5
Co 8.0

- » Retains hardness at high temperatures due to high cobalt content
- » Excellent for PVD and CVD coating without risk of dimensional changes, as the steel is tempered at more than 520°C

STRENGTH:

max. 285 HB
(≈ max. 970 N/mm²)

THERMAL CONDUCTIVITY AT 100°C:

26 $\frac{W}{m K}$

COEFFICIENT OF THERMAL EXPANSION [10⁻⁶/K]

100°C	200°C	300°C	400°C	500°C	600°C	700°C
10.0	10.5	10.8	11.2			

CHARACTER:

- » High-speed steel produced by powder metallurgy with highest compressive strength. High adhesive wear resistance and excellent toughness. Very high working hardness possible.

APPLICATION:

- » Blocks for eroding, dies, cutting punches and cutting tools for extremely high requirements, fine blanking punches, embossing tools, cold solid forming

TREATMENT BY:

- » Polishing:
best metallurgical properties for mirror polishing
- » Nitriding:
highly suited for nitriding
- » EDM:
highly suited
- » Coating:
highly suited

HEAT TREATMENT:

- » Soft annealing:
870 to 900°C for about 2 to 5 hours
slow controlled cooling inside the furnace 10 to 12°C per hour to about 550°C,
further cooling in air, **max. 300 HB**
- » Hardening:
curing temperature: **see tempering chart**
quenching in oil/compressed gas/air/hot bath
obtainable hardness: **68 HRC**
- » Tempering:
slow heating to tempering temperature (in order to avoid formation of cracks)
immediately after hardening;
keep at tempering temperature for at least 1 hour
four tempering cycles are recommended, with cooling to room temperature in between

TEMPERING CHART:

