PLASTIC MOULD STEELS

PREHARDENED STEEL

Application Segments

Plastic Mould

Available Product Variants

Long Products* | Plates

*) Presented data refer exclusivly to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

Product Description

BÖHLER M238HH corresponds to BÖHLER M238 in High-Hard product variant. A variation in the heat treatment enables significantly higher wear resistance and edge-stability for improved tool life.

Process Melting

Airmelted

Properties

- Toughness & Ductility : very high
- Wear Resistance : high
- English (United Kingdom) : good
- Dimensional stability : good
- Polishability : very high
- No heat treatment necessary
- Prehardened

Applications

- Injection Molding
- General Components for Mechanical Engineering
- Standard Parts (Molds, Plates, Pins, Punches)
- Lamps/Lenses for Automotive
- Tool Holders (milling, drilling, turning & chucks)
- Hotrunner systems

Technical data

Material designation	
1.2738	SEL
40CrMnNiMo8-6-4	EN

Standards	
4957	EN ISO

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni
0.38	0.3	1.5	2	0.2	1.1

Delivery condition

Hardened and Tempered	
Hardness (HB)	355 to 395

Heat treatment

Stress relieving

Temperature	max. 450 °C	Prehardened material: When stress-relieving the material after machining, keep material at temperature in a neutral atmosphere for at least 2 hours after complete through-heating, then slowly cool down in the oven at 20°C [68 °F] /hour to 200°C [392 °F], then cool in air.
Temperature		Newly hardened and tempered material: Carry out the stress relief heat treatment at approx. 50°C [122 °F] below the tempering temperature. After complete through-heating, hold at temperature for 1 to 2 hours in a neutral atmosphere, then slowly cool down in the furnace.

Physical Properties

Temperature (°C)	20
Density (kg/dm^3)	7.81
Thermal conductivity (W/(m.K))	35.2
Specific heat (kJ/kg K)	0.465
Spec. electrical resistance (Ohm.mm^2/m)	-
Modulus of elasticity (10^{3}N/mm^2)	212

Thermal Expansions between 20°C | 68°F and ...

Temperature (°C)	100	200	300	400	500
Thermal expansion (10^{-6} m/(m.K))	11.88	12.44	13	13.45	13.85

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ONE STEP AHEAD.