

PLASTIC MOULD STEELS

PREHARDENED STEEL

Available Product Variants

Long Products*

Plates

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

Product Description

BÖHLER M238 is a prehardened, non-corrosion-resistant plastic mould steel with good machinability. The addition of Ni guarantees uniform strength across the entire cross-section, even with large dimensions (up to 600 mm).

Process Melting

Airmelted

Properties

- > Toughness & Ductility : very high
- > Wear Resistance : good
- > Machinability : good
- > Dimensional stability : good
- > Polishability : high
- > No heat treatment necessary
- > Prehardened

Applications

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

Technical data

Material designation		Standards	
1.2738	SEL	4957	EN ISO
40CrMnNiMo8-6-4	EN		

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)	290 to 330

Heat treatment

Stress relieving		
Temperature	max. 550 °C	Prehardened material: When stress-relieving the material after processing, keep the material at temperature in a neutral atmosphere for at least 2 hours after complete heating, then slowly cool 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 heating, hold at temperature for 1 to 2 hours in a neutral atmosphere, then slowly cool down 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

Long Products: For additional specifications and technical requirements, please contact our regional voestalpine BÖHLER sales companies.

Sheet & Plates: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact voestalpine BÖHLER Bleche GmbH & Co KG.

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