PLASTIC MOULD STEELS

PREHARDENED STEEL

Application Segments

Plastic Mold

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 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
- Lamps/Lenses for Automotive
- Drilling
- Mechanical Engineering
- Standard Parts (Molds, Plates, Pins, Punches)
- Hotrunner systems
- Wear Applications
- Tool Holders
- Clamping
- Components for the recycling industry

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)	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/dm³)	7.81
Thermal conductivity (W/(m.K))	35.2
Specific heat (kJ/kg K)	0.465
Spec. electrical resistance (Ohm.mm²/m)	-
Modulus of elasticity (10³N/mm²)	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

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.

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