

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 hardened and tempered, not corrosion resistant plastic mould steel. Because of the Ni-addition, there is no hardness decrease in the center of large sizes (up to 600 mm). A special melting technology offers good machinability.

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	500 °C 932 °F	In hardened and tempered condition approx. 30 to 50 °C (86 to 122 °F) below the tempering temperature. After through heating, hold at temperature in neutral atmosphere for 1 to 2 hours. Slow cooling in furnace afterwards.

Physical Properties

Temperature (°C °F)	20 68
Density (kg/dm ³ lb/in ³)	7.81 0.28
Thermal conductivity (W/(m.K) BTU/ft h °F)	35.2 20.34
Specific heat (kJ/kg K BTU/lb °F)	0.465 0.1111
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	-
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	212 30.75

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

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/inch.°F)	11.88 6.6	12.44 6.9	13 7.2	13.45 7.5	13.85 7.7

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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