

PLASTIC MOULD STEELS - HEAT TREATABLE STEELS AND PRECIPITATION HARDENING STEELS

Available Product Shapes

[Long Products](#)
[Plates](#)

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.

Properties

- Very high toughness & ductility
- High wear resistance
- Good machinability
- Good dimensional stability
- Mirror finish polishability
- No heat treatment necessary
- Pre-hardened

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		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	355 to 395 HB
----------	---------------

Heat treatment

Hardening and Tempering

Temperature (°C °F)	840 1544 to 860 1580	Oil. After through soaking, hold for 15 - 30 minutes.
-----------------------	-----------------------------	---

Stress relieving

Temperature (°C °F)	500 932	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
-----------------------	-----------	--

Nitriding

Temperature (°C °F)	max. 480 896	All nitriding processes are applicable.
-----------------------	----------------	---

Physical Properties

Temperature (°C °F)	20 68
Density (kg/dm ³ lb/in ³)	7.81 0.28
Thermal conductivity (W/(m.K) BTU (IT) ft/hr/ft ² /F)	35.2 20.34
Specific heat (J/(kg.K) BTU (IT) lb/F)	465 111.06
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

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 6.911	13 7.222	13.45 7.472	13.85 7.694

For more information see www.voestalpine.com/boehler-edelstahl

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.

voestalpine BÖHLER Edelstahl GmbH & Co KG

Mariazeller Straße 25

8605 Kapfenberg, AT

T. +43/50304/20-0

E. info@boehler-edelstahl.at

www.voestalpine.com/boehler-edelstahl

voestalpine

ONE STEP AHEAD.