

PLASTIC MOULD STEELS - HEAT TREATABLE STEELS AND PRECIPITATION HARDENING STEELS

Available Product Shapes

Long Products

Product Description

BÖHLER M268 VMR is a hardened and tempered plastic mould steel with excellent cleanliness for best polishability. The hardness is constant over the entire cross-section of the steel block, even at large sizes, due to the addition of nickel.

Properties

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

Applications

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

Technical data

Material designation	
1.2738	SEL
40CrMnNiMo8-6-4	EN
~P20	AISI

Chemical composition (wt. %)

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

Material characteristics

	Etchability	Machinability in as supplied condition	Polishability	Through hardenability	Toughness	Wear resistance
BÖHLER M268 VMR	★★★★★	★★	★★★★★	★★★★★	★★★★★	★★★★★
BÖHLER M200	★	★★★★★	★★	★	★★	★★
BÖHLER M238	★★	★★★	★★★	★★★★★	★★★★★	★★
BÖHLER M238 HIGH HARD	★★★★	★★	★★★★	★★★★★	★★★	★★★★★
BÖHLER M261	★★	★★★★★	★★	★★★	★★	★★★
BÖHLER M461	★★★	★★★	★★★	★★★	★★★	★★★

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)	7.85 0.28
Thermal conductivity (W/(m.K) BTU (IT) ft/hr/ft ² /F)	34.3 19.82
Specific heat (J/(kg.K) BTU (IT) lb/F)	460 109.87
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	-
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	210 30.46

Thermal Expansions

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932	600 1112	700 1292
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/(inch.F))	12.8 7.111	13 7.222	13.8 7.667	14 7.778	14.2 7.889	14.2 7.889	14.5 8.056

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@bohler-edelstahl.at

www.voestalpine.com/bohler-edelstahl

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ONE STEP AHEAD.