PLASTIC MOULD STEELS

PREHARDENED CORROSION RESISTANT STEEL

Application Segments

Plastic Mould

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 M303HIGHHARD corresponds to BÖHLER M303 in the High-Hard product variant. A variation in the heat treatment enables significantly higher wear resistance.

Process Melting

Airmelted

Properties

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

Applications

- Blow Molding
- Injection Moulding
- Standard Parts (Moulds, Plates, Pins, Punches)
- General Components for Mechanical Engineering
- Hotrunner systems
- Pumping
- Components for food processing and animal feed
- Plastic Extrusion
- Components for Displays
- Lamps/Lenses for Automotive
- Glasfibre reinforced plastics
- Mechanical Engineering
- Food processing industry
- Screws and Barrels
- Electronic industry
- Packaging industry
- Wear Applications

Technical data

Material designation	
~1.2316	SEL
X38CrMo16	EN

BÖHLER M303 HIGHHARD

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni	N
0.27	0.3	0.65	14.5	1	0.85	+

Delivery condition

Hardened and Tempered

Hardness (HB)	350 to 390

Heat treatment

Stress relieving

Temperature	max. 500 °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)	7.72
Thermal conductivity (W/(m.K))	22.8
Specific heat (kJ/kg K)	0.46
Spec. electrical resistance (Ohm.mm²/m)	-
Modulus of elasticity (10³N/mm²)	218

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

Temperature (°C)	**100**	**200**	**300**	**400**	**500**	**600**
Thermal expansion (10⁻⁶ m/(m.K))	10.5	10.8	11.1	11.4	11.7	12.1

voestalpine BÖHLER Edelstahl GmbH & Co KG
Mariazeller Straße 25
8605 Kapfenberg, AT
T. +43/50304/20-0
E. info@bohler-edelstahl.at
https://www.voestalpine.com/bohler-edelstahl/de/

voestalpine
ONE STEP AHEAD.