

# PLASTIC MOULD STEELS

## PREHARDENED CORROSION RESISTANT STEEL

### Available Product Variants

- Long Products
- Plates

### Product Description

BÖHLER M303 is a corrosion resistant martensitic chromium steel, offering excellent toughness, corrosion and wear resistance. It is characterized by improved machinability and polishability.

### Process Melting

- Airmelted

### Properties

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

### Applications

- > Components for Displays
- > Blow Molding
- > Camera lenses
- > Comps. for Food processing and Animal Feed
- > Electronic Industry
- > Food processing Industry
- > General Components for Mechanical Engineering
- > Lamps/Lenses for Automotive
- > Injection Molding
- > Packaging
- > Plastic Extrusion
- > Screws and Barrels
- > Hotrunner systems

### Technical data

Material designation		Standards	
~1.2316	SEL	4957	EN ISO
X38CrMo16	EN		
X38CrMo17			

## 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)	290 to 330
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## Heat treatment

### Stress relieving

Temperature	max. 400 °C   752 °F	Stress relieving after machining in the pre-hardened condition. After through-heating, soak for minimum 2 hours in a neutral atmosphere. Slow cooling in furnace with 20 °C/hr (68 °F/hr) down to 200 °C (390 °F), then cool down in an all-air environment.
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## Physical Properties

Temperature (°C   °F)	20   68
Density (kg/dm <sup>3</sup>   lb/in <sup>3</sup> )	7.72   0.28
Thermal conductivity (W/(m.K)   BTU (IT) ft/hr/ft <sup>2</sup> /F)	22.8   13.17
Specific heat (J/(kg.K)   BTU (IT) lb/F)	465   111.06
Spec. electrical resistance (Ohm.mm <sup>2</sup> /m   10 <sup>-4</sup> Ohm.inch <sup>2</sup> /ft)	0.6   2.81
Modulus of elasticity (10 <sup>3</sup> N/mm <sup>2</sup>   10 <sup>3</sup> ksi)	218   31.62

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

Temperature (°C   °F)	100   212	200   392	300   572	400   752	500   932	600   1,112
Thermal expansion (10 <sup>-6</sup> m/(m.K)   10 <sup>-6</sup> inch/(inch.F))	10.5   5.8	10.83   6	11.11   6.2	11.39   6.3	11.75   6.5	12.1   6.7

For more information see <https://www.voestalpine.com/boehler-edelstahl/de/>

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