

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 ³ lb/in ³)	7.72 0.28
Thermal conductivity (W/(m.K) BTU/ft h °F)	22.8 13.17
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)	0.6 2.81
Modulus of elasticity (10 ³ N/mm ² 10 ³ 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 ⁻⁶ m/(m.K) 10 ⁻⁶ 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

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.