

PLASTIC MOULD STEELS

PREHARDENED CORROSION RESISTANT STEEL

Available Product Variants

Long Products*

Plates

*) Presented data refer exclusively to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

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

Applications

- > Blow Molding
- > Injection Molding
- > Standard Parts (Molds, Plates, Pins, Punches)
- > Components for Displays
- > Lamps/Lenses for Automotive
- > Glasfibre reinforced plastics
- > Comps. for Food processing and Animal Feed
- > Plastic Extrusion
- > Tool Holders (milling, drilling, turning & chucks)
- > Electronic Industry
- > Packaging
- > Food processing Industry
- > Screws and Barrels
- > Camera lenses
- > General Components for Mechanical Engineering
- > Hotrunner systems

Technical data

Material designation	
~1.2316	SEL
X36CrMo17	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)	350 to 390
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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)	0.46 0.1099
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

Long Products: For additional specifications and technical requirements, please contact our regional voestalpine BÖHLER sales companies.

Sheet & Plates: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact voestalpine BÖHLER Bleche GmbH & Co KG.

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.