PLASTIC MOULD STEELS

PREHARDENED CORROSION RESISTANT STEEL

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 M315 is a prehardened, corrosion-resistant martensitic plastic mold steel. Due to its chemical composition, BÖHLER M315 has improved machinability compared to 1.2085 and is approved for food contact.

Process Melting

Airmelted

Properties

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

Applications

- Blow Molding
- Injection Molding
- Hotrunner systems
- Electronic industry
- Packaging industry
- Components for food processing and animal feed
- General Components for Mechanical Engineering
- Plastic Extrusion
- Standard Parts (Molds, Plates, Pins, Punches)

Technical data

Material designation	
~1.2099	SEL

Chemical composition (wt. %)

C	Si	Mn	S	Cr	Ni
0.05	0.4	0.9	0.12	12.5	+

Delivery condition

Hardened and Tempered

Hardness (HB)	290 to 330 | If necessary the steel can be supplied with a hardness of up to 350 HB (~ Rm = 1200 MPa / 174 ksi).

Heat treatment

Stress relieving

Temperature	max. 470 °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 tempering 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/dm^3)	7.72
Thermal conductivity (W/(m.K))	23.9
Specific heat (kJ/kg K)	0.462
Spec. electrical resistance (Ohm.mm^2/m)	-
Modulus of elasticity (10^{3}N/mm^2)	215

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

Temperature (°C)	**100**	**200**	**300**	**400**	**500**
Thermal expansion (10^{-6} m/(m.K))	10.3	10.7	11.1	11.6	12

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.

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ONE STEP AHEAD.