

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 M315 is a corrosion resistant mould frame / bolster steel with a significantly improved machinability.

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
- > General Components for Mechanical Engineering
- > Plastic Extrusion

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	450 °C 842 °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.

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)	23.9 13.81
Specific heat (kJ/kg K BTU/lb °F)	0.462 0.1103
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	-
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	215 31.18

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

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/inch.°F)	10.25 5.7	10.72 6	11.14 6.2	11.58 6.4	12.02 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.

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