PLASTIC MOULD STEELS

PREHARDENED CORROSION RESISTANT STEEL

Application Segments

Plastic Mould

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 M314 is a prehardened, corrosion-resistant martensitic plastic mold steel which, due to its chemical composition, has very good machinability and uniform strength over the entire cross-section.

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
- Packaging industry
- Standard Parts (Moulds, Plates, Pins, Punches)
- Electronic industry
- Plastic Extrusion
- Tool Holders (milling, drilling, turning & chucks)
- Injection Moulding
- Hotrunner systems

Technical data

Material designation	
1.2085	SEL
X33CrS16	EN

Chemical composition (wt. %)

C	Si	Mn	S	Cr	Mo	Ni
0.32	0.35	1.2	0.08	16	0.2	+

Delivery condition

Hardened and Tempered

Hardness (HB)	280 to 340

Heat treatment

Stress relieving

Temperature	max. 550 °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/dm³)	7.65
Thermal conductivity (W/(m.K))	23.9
Specific heat (kJ/kg K)	0.461
Spec. electrical resistance (Ohm.mm²/m)	0.65
Modulus of elasticity (10³N/mm²)	212

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

Temperature (°C)	**100**	**200**	**300**	**400**	**500**
Thermal expansion (10^{-6} m/(m.K))	11	11.1	11.2	11.6	12

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. 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.

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