PLASTIC MOLD STEELS - HEAT TREATABLE CORROSION RESISTANT STEELS

Application Segments

Plastic Mould

Available Product Variants

Long Products

Product Description

BÖHLER M303 ISOPLAST corresponds to a remelted BÖHLER M303 EXTRA. The variation in the production route enables greater toughness and polishability thanks to higher purity and improved homogeneity. Also available as product variant BÖHLER M303HH ISOPLAST (high-hard variant).

Process Melting

Airmelted + Remelted

Applications

- Blow Molding
- Components for Displays
- Components for food processing and animal feed
- Packaging industry
- General Components for Mechanical Engineering
- Injection Molding
- Lamps/Lenses for Automotive
- Plastic Extrusion
- Food processing industry
- Hotrunner systems
- Standard Parts (Molds, Plates, Pins, Punches)
- Glasfibre reinforced plastics
- Electronic industry
- Screws and Barrels

Technical data

Material designation	
~1.2316	SEL

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 | BÖHLER M303 ISOPLAST	
Hardness (HB)	290 to 330

Hardened and Tempered | BÖHLER M303HH ISOPLAST	
Hardness (HB)	350 to 390

Heat treatment

Stress relieving

Temperature	max. 550 °C	Pre-hardened and tempered material M303 ISOPLAST: 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 material in the oven at 20°C/hour to 200°C, then cool in air.
Temperature	max. 500 °C	Pre- hardened and tempered material M303HH ISOPLAST: When stress-relieving the material after machining, keep the material at temperature for at least 2 hours in a neutral atmosphere after complete heating, then slowly cool the material in the oven at 20°C/hour to 200°C, then cool in air.
Temperature		Newly hardened and tempered material: Carry out the stress relief heat treatment at approx. 30 to 50°C 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)	7.72
Thermal conductivity (W/(m.K))	22.8
Specific heat (kJ/kg K)	0.46
Spec. electrical resistance (Ohm.mm²/m)	-
Modulus of elasticity (10³N/mm²)	218

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

Temperature (°C)					
Thermal expansion (10^{-6} m/(m.K))	10.5	10.8	11.1	11.4	11.7

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ONE STEP AHEAD.