

# PLASTIC MOULD STEELS

## PRECIPITATION HARDENED STEEL

### Application Segments

Plastic Mould

### 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 M461 is a precipitation-hardenable plastic mold steel that exhibits good machinability, good erodibility as well as good toughness and polishability in the as-delivered condition - solution-annealed and aged. By eliminating the need for additional heat treatment, the throughput time can also be significantly reduced.

### Process Melting

Airmelted

### Properties

- > Toughness & Ductility : high
- > Wear Resistance : good
- > Machinability : good
- > Dimensional stability : good
- > Polishability : very high

### Applications

- > Injection Molding
- > Lamps/Lenses for Automotive
- > Standard Parts (Molds, Plates, Pins, Punches)
- > Hotrunner systems
- > Cold Forming

### Chemical composition (wt. %)

C	Si	Mn	Cr	Ni	Cu	Al
0.13	0.3	2	0.35	3.5	1.2	1.2

### Delivery condition

Solution annealed + precipitation hardened

Hardness (HRC) 38 to 42

## Physical Properties

Temperature (°C)	20
Density (kg/dm <sup>3</sup> )	7.82
Thermal conductivity (W/(m.K))	25
Specific heat (kJ/kg K)	0.46
Spec. electrical resistance (Ohm.mm <sup>2</sup> /m)	0.37
Modulus of elasticity (10 <sup>3</sup> N/mm <sup>2</sup> )	210

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

Temperature (°C)	100	200	300	400	500
Thermal expansion (10 <sup>-6</sup> m/(m.K))	11.3	12.2	12.8	13.2	13.5

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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