

# 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 M261 is a precipitation-hardenable steel for plastic molds that exhibits very good machinability in the as-delivered condition - solution-annealed and aged. Compared to 1.2312, BÖHLER M261 has a higher resistance to pressure and wear. By eliminating the need for additional heat treatment, the throughput time can also be significantly reduced.

### Process Melting

Airmelted

### Properties

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

### Applications

- > Injection Moulding
- > Standard Parts (Moulds, Plates, Pins, Punches)
- > Tool Holders (milling, drilling, turning & chucks)
- > Cold Forming
- > Hotrunner systems

### Technical data

Material designation	
X13NiCuAl4-1-1	EN

### Chemical composition (wt. %)

C	Si	Mn	S	Cr	Ni	Cu	Al
0.13	0.3	2	0.15	0.35	3.5	1.2	1.2

**Delivery condition**

Solution annealed + precipitation hardened

Hardness (HRC)	38 to 42
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**Physical Properties**

Temperature (°C)	20
Density (kg/dm <sup>3</sup> )	7.73
Thermal conductivity (W/(m.K))	29
Specific heat (kJ/kg K)	0.465
Spec. electrical resistance (Ohm.mm <sup>2</sup> /m)	-
Modulus of elasticity (10 <sup>3</sup> N/mm <sup>2</sup> )	204

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

Temperature (°C)	100	200	300	400	500
Thermal expansion (10 <sup>-6</sup> m/(m.K))	12.63	13.06	13.5	13.89	14.27

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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