

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

Stainless martensitic chromium steel. Moulds for chemically aggressive plastics (e. g. PVC).

Process Melting

- Airmelted

Properties

- > Toughness & Ductility : high
- > Wear Resistance : high
- > Machinability : very high
- > Dimensional stability : good
- > Polishability : good
- > Corrosion resistance : very high
- > No heat treatment necessary
- > Prehardened

Applications

- > Plastic Extrusion
- > Electronic Industry
- > Food processing Industry
- > General Components for Mechanical Engineering
- > Hotrunner systems
- > Injection Molding
- > Packaging
- > Blow Molding
- > Screws and Barrels

Technical data

Material designation	
1.2316	SEL
X36CrMo17 ~X38CrMo16	EN

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni
0.38	0.4	0.65	16	1	0.8

Delivery condition

Hardened and Tempered	
Hardness (HB)	290 to 330

Heat treatment

Stress relieving		
Temperature	max. 550 °C 1,022 °F	After through-heating, soak for 1 to 3 hours in a neutral atmosphere. Slow cooling in furnace with 20°C/h (68°F/h) down to 300°C (570°F), then cool down in an all-air environment.

Physical Properties

Temperature (°C °F)	20 68	100 212	200 392	300 572	400 752	500 932
Density (kg/dm ³ lb/in ³)	7.71 0.28	7.71 0.28	7.71 0.28	7.71 0.28	7.71 0.28	7.71 0.28
Thermal conductivity (W/(m.K) BTU/ft h °F)	20.3 11.73	21.9 12.65	20 11.56	20.7 11.96	24.4 14.1	25.1 14.5
Specific heat (kJ/kg K BTU/lb °F)	0.442 0.1056	0.442 0.1056	0.442 0.1056	0.442 0.1056	0.442 0.1056	0.442 0.1056
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	0.8 3.78	0.8 3.78	0.8 3.78	0.8 3.78	0.8 3.78	0.8 3.78
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	219 31.76	219 31.76	215 31.18	213 30.89	210 30.46	210 30.46

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)	10.38 5.8	10.78 6	11.11 6.2	10.45 5.8	11.77 6.5

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.

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.