

# 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

Hardened and tempered corrosion resistant plastic mould steel featuring excellent machinability and uniform strength over the entire cross section regardless of the tool size.

### 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
- > Injection Molding
- > Hotrunner systems
- > Electronic Industry
- > Packaging
- > General Components for Mechanical Engineering
- > Plastic Extrusion

### Technical data

Material designation	
1.2085	SEL
X33CrS16	EN

### Chemical composition (wt. %)

C	Si	Mn	S	Cr	Mo	Ni
0.32	0.35	1.1	0.1	16	0.15	+

## Delivery condition

Hardened and Tempered	
Hardness (HB)	290 to 330

## Heat treatment

Stress relieving		
Temperature	600 °C   1,112 °F	Stress relieving after machining in the pre-hardened condition. After through-heating, soak for minimum 2 hours in a neutral atmosphere. Slow cooling in furnace with 20 °C/hr (68 °F/hr) down to 200 °C (390 °F), then cool down in an all-air environment.

## Physical Properties

Temperature (°C   °F)	20   68
Density (kg/dm <sup>3</sup>   lb/in <sup>3</sup> )	7.65   0.28
Thermal conductivity (W/(m.K)   BTU/ft h °F)	23.9   13.81
Specific heat (kJ/kg K   BTU/lb °F)	0.461   0.1101
Spec. electrical resistance (Ohm.mm <sup>2</sup> /m   10 <sup>-4</sup> Ohm.inch <sup>2</sup> /ft)	0.65   3.07
Modulus of elasticity (10 <sup>3</sup> N/mm <sup>2</sup>   10 <sup>3</sup> ksi)	212   30.75

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

Temperature (°C   °F)	100   212	200   392	300   572	400   752	500   932
Thermal expansion (10 <sup>-6</sup> m/(m.K)   10 <sup>-6</sup> inch/inch.°F)	10.25   5.7	10.61   5.9	10.96   6.1	11.24   6.2	11.63   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.

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