

I Buderus Corrosion-Resistant Plastic Mould Steel 2085 (~ 1.2316 + S)

	C	Si	Mn	P	S	Cr	Ni
Typical analysis	0.34	0.30	0.95	0.025	0.100	15.0	
Chemical composition as per SEL	0.28–0.38	≤ 1.00	≤ 1.40	≤ 0.030	0.050–0.100	15.0–17.0	≤ 1.00

Figures in % by mass

Register of European Steels (SEL)	X 33 CrS 16
AFNOR	~ Z 33 CS 16
AISI	~ 422 + S

Characteristics

Corrosion-resistant plastic mould steel with increased sulphur content compared to grade 1.2316. For very good machinability properties.

Applications

Mould frames and mould fittings for corrosion-resistant injection-moulding dies. Not suitable for contouring mould parts.

Delivered condition

Quenched and tempered to 280–325 HB (Δ approx. 950–1100 MPa)*

Physical properties (reference values)

Thermal expansion coefficient ($10^{-6}/K$)	20–100 °C	20–250 °C	20–500 °C
	10.0	12.0	13.2
Thermal conductivity (W/mK)	20 °C	250 °C	500 °C
	23.0	24.0	25.0
Young's modulus (GPa)	20 °C	250 °C	500 °C
	215	203	180

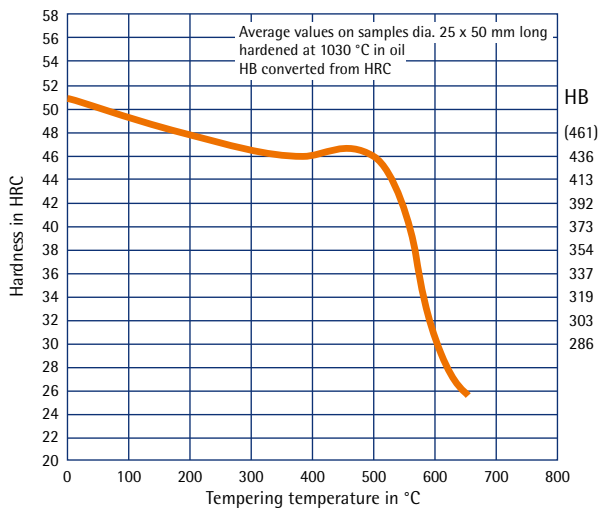
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* Surface hardness in Brinell, converted to DIN EN ISO 18265, Table A.1

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Heat treatment	
Stress relieving	Temperature: Approx. 500 °C in the quenched and tempered state Duration: 1 hour per 50 mm wall thickness Cooling: Furnace
Soft annealing	Temperature: 820 °C Duration: 1 hour per 25 mm wall thickness Cooling: Furnace
Hardening	Temperature: 1030 °C Duration: 1 minute per mm wall thickness
Quenching hardness	Max. 48 HRC in oil or vacuum
Tempering	Temperature: See tempering curve Duration: 1 hour per 25 mm wall thickness Cooling: Air
Working hardness	265–310 HB

Tempering curve



TTT curve (continuous)

