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Buderus Plastic Mould Steel 2767 ISO-B

	C	Si	Mn	P	S	Cr	Ni	Mo
Typical analysis	0.45	0.25	0.30	0.025	0.003	1.30	4.00	0.25
Chemical composition as per SEL	0.40–0.50	0.10–0.40	0.20–0.50	≤ 0.030	≤ 0.030	1.20–1.50	3.80–4.30	0.15–0.35

Figures in % by mass

Register of European Steels (SEL)	45 NiCrMo 16
DIN EN ISO 4957	45 NiCrMo 16
AFNOR	45 NCD 16
AISI	6 F 7

Characteristics

Low-distortion, air through-hardening nickel-alloy tool steel with very good toughness; polishable, grain-reliable.

Applications

Highly stressed compression and injection moulds such as tailgates, mudguards; mould inserts for high hardness and abrasive stress.
Blanking dies for very thick materials (sheet steel up to 12 mm thick), billet shearing blades, industrial blades.
Cutlery presses and stamping dies, forging dies, mandrel holders for extrusion mandrels.

Delivered condition

Annealed to max. 260 HB
We recommend contour hardening for large moulds.

Physical properties (reference values)

Thermal expansion coefficient (10^{-6}/K)	20–100 °C 11.0	20–250 °C 12.2	20–500 °C 13.7
Thermal conductivity (W/mK)	20 °C 31.0	250 °C 30.0	500 °C 32.0
Young's modulus (GPa)	20 °C 215	250 °C 198	500 °C 179

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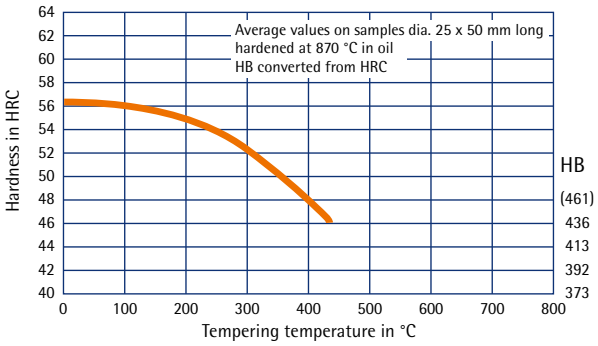
Heat treatment		
Stress relieving	Temperature: Duration: Cooling:	Approx. 600 °C in the annealed state 1 hour per 50 mm wall thickness Furnace
Soft annealing	Temperature: Duration: Cooling:	650 °C 1 hour per 25 mm wall thickness Air
Hardening	Temperature: Duration:	870 °C 1 minute per mm wall thickness
Quenching hardness	Max. 56 HRC	in oil, hot bath, air or vacuum
Tempering	Temperature: Duration: Cooling:	See tempering curve 1 hour per 25 mm wall thickness Air
Working hardness	50–54 HRC	(temper at least twice 220 °C)

Note: If soft annealing is required: do not exceed annealing temperature, hold at temperature for the full annealing time!
In the case of oil hardening, do **not** leave tools to cool down in the oil.

Tempering curve



TTT curve (continuous)