

I Buderus Die Steel 2766

	C	Si	Mn	P	S	Cr	Ni	Mo
Typical analysis	0.35	0.25	0.50	0.025	0.010	1.35	4.00	0.30
Chemical composition as per SEL	0.32–0.38	0.15–0.30	0.40–0.60	≤ 0.035	≤ 0.035	1.20–1.50	3.80–4.30	0.20–0.40

Figures in % by mass

Register of European Steels (SEL)	35 NiCrMo 16
AFNOR	35 NCD 16
BS	BP 30

Characteristics

High-alloy special steel with high compressive strength and high toughness. Excellent through-hardening, good tempering properties, low hardening distortion.

Applications

For dies of all dimensions that are hardened after the impression is made. Especially for dies with deep impressions (high-risk dies and large crankshaft dies).

Delivered condition

Annealed to max. 250 HB

Hardened and tempered to customer specification on request

Physical properties (reference values)

Thermal expansion coefficient ($10^{-6}/K$)	20–100 °C	20–250 °C	20–500 °C
	11.0	12.2	13.7
Thermal conductivity (W/mK)	20 °C	250 °C	500 °C
	31.0	33.0	32.0
Young's modulus (GPa)	20 °C	250 °C	500 °C
	215	198	179

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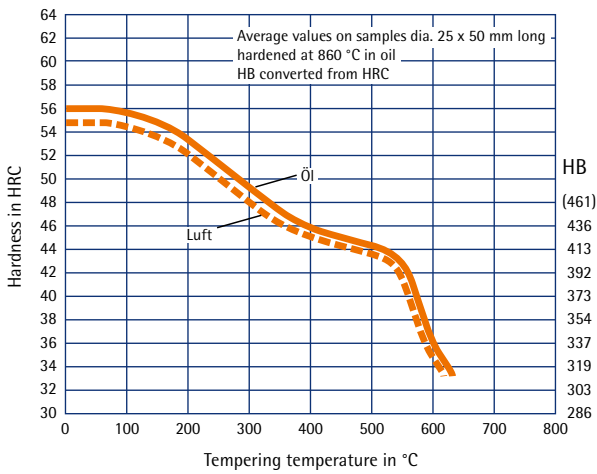
2766

Heat treatment

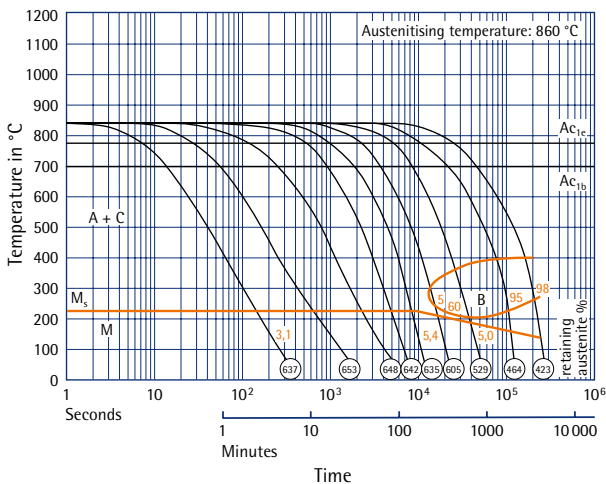
Stress relieving	Temperature: Approx. 650 °C in the annealed state Duration: 1 hour per 50 mm wall thickness Cooling: Furnace
Soft annealing	Temperature: 620 °C Duration: 1 hour per 25 mm wall thickness Cooling: Furnace
Hardening	Temperature: 860 °C Duration: 1 minute per mm wall thickness
Quenching hardness	Max. 56 HRC in oil, air or hot bath
Tempering	Temperature: See tempering curve Duration: 1 hour per 25 mm wall thickness Cooling: Air
Working hardness	325–440 HB

Note: Preheating to 250–280 °C is recommended.

Tempering curve



TTT curve (continuous)



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