

I Buderus Cold Work Tool Steel 2601

	C	Si	Mn	P	S	Cr	Mo	V	W
Typical analysis	1.65	0.30	0.30	0.025	0.010	12.0	0.60	0.30	0.50
Chemical composition as per SEL	1.55–1.75	0.25–0.40	0.20–0.40	≤ 0.030	≤ 0.030	11.0–12.0	0.50–0.70	0.10–0.50	0.40–0.60

Figures in % by mass

Register of European Steels (SEL)	X 165 CrMoV 12
AFNOR	Z 160 CDWV 12

Characteristics

Wear-resistant, good toughness, very compression-resistant, low-distortion, full hardness with air hardening in all dimensions.

Applications

Dimensionally stable blanking dies where toughness is required, shearing blades for sheet steel gauges up to 6 mm; thread rolling dies, hobs, extrusion dies, highly stressed shapers.

Delivered condition

Annealed to max. 255 HB

Physical properties (reference values)

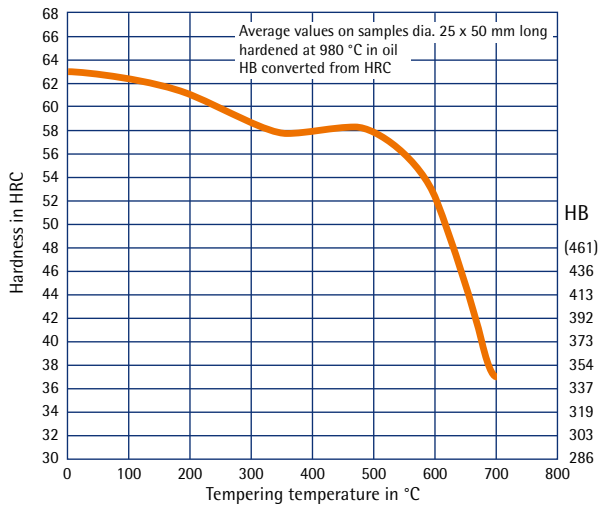
Thermal expansion coefficient ($10^{-6}/K$)	20–100 °C	20–250 °C	20–500 °C
	9.0	12.0	13.0
Thermal conductivity (W/mK)	20 °C	250 °C	500 °C
	20.0	21.0	22.0
Young's modulus (GPa)	20 °C	250 °C	500 °C
	215	196	180

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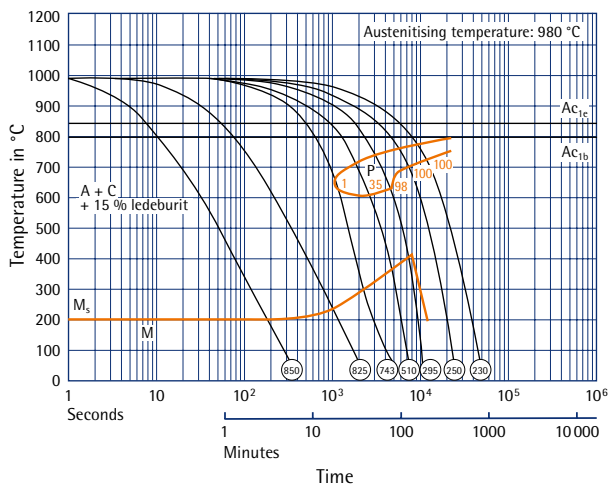
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Heat treatment	
Stress relieving	Temperature: Approx. 650 °C in the annealed state Approx. 180 °C in the hardened state Duration: 1 hour per 50 mm wall thickness Cooling: Furnace
Soft annealing	Temperature: 820 °C Duration: 1 hour per 25 mm wall thickness Cooling: Furnace
Hardening	Temperature: 980 °C Duration: 90 seconds per mm wall thickness
Quenching hardness	Max. 64 HRC in oil, air, hot bath or vacuum
Tempering	Temperature: See tempering curve Duration: 1 hour per 25 mm wall thickness Cooling: Air
Working hardness	59–62 HRC

Tempering curve



TTT curve (continuous)



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