

I Buderus Cold Work Tool Steel 2510

	C	Si	Mn	P	S	Cr	V	W
Typical analysis	1.00	0.25	1.10	0.025	0.010	0.60	0.10	0.60
Chemical composition as per SEL	0.90–1.05	0.15–0.35	1.00–1.20	≤ 0.035	≤ 0.035	0.50–0.70	0.05–0.15	0.50–0.70

Figures in % by mass

Register of European Steels (SEL)	100 MnCrW 4
AFNOR	90 MCWV 4
AISI	O 1
BS	BO 1

Characteristics

Good cutting edge retention, high hardenability, dimensionally stable during heat treatment.

Applications

Blanking and punching dies up to 6 mm sheet steel thickness; thread cutting tools, drills, reamers, calibres, measuring instruments.

Industrial blades.

Delivered condition

Annealed to max. 230 HB

Physical properties (reference values)

Thermal expansion coefficient ($10^{-6}/K$)	20–100 °C	20–250 °C	20–500 °C
	11.7	12.6	14.0
Thermal conductivity (W/mK)	20 °C	250 °C	500 °C
	51.0	46.0	38.0
Young's modulus (GPa)	20 °C	250 °C	500 °C
	210	197	177

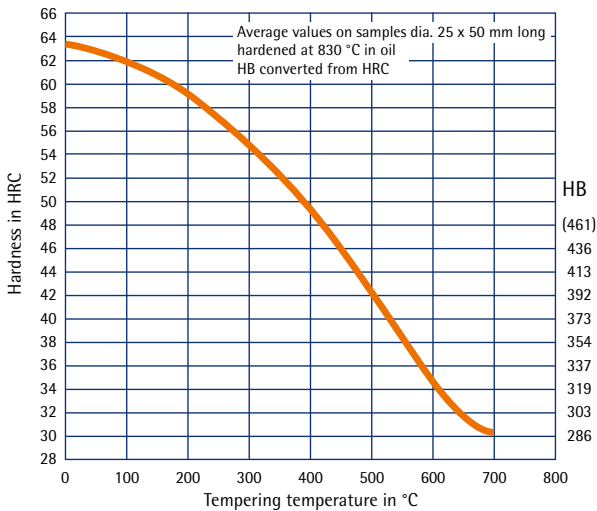
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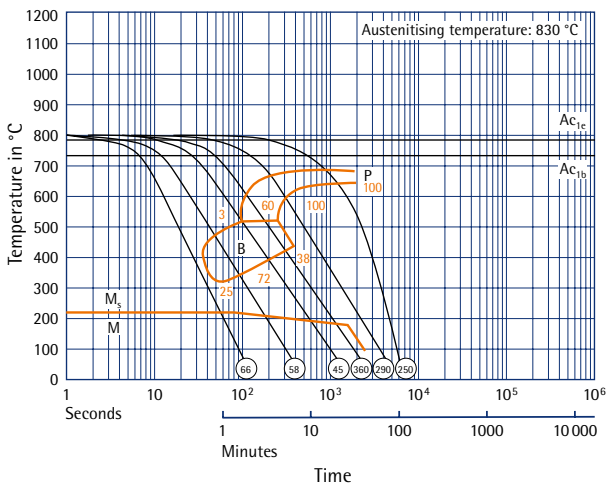
Heat treatment

Stress relieving	Temperature: Approx. 650 °C in the annealed state Duration: 1 hour per 50 mm wall thickness Cooling: Furnace
Soft annealing	Temperature: 750 °C Duration: 1 hour per 25 mm wall thickness Cooling: Furnace
Hardening	Temperature: 830 °C Duration: 1 minute per mm wall thickness
Quenching hardness	Max. 64 HRC in oil, hot bath or vacuum
Tempering	Temperature: See tempering curve Duration: 1 hour per 25 mm wall thickness Cooling: Air
Working hardness	58–62 HRC

Tempering curve



TTT curve (continuous)



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