TOOLMAN
SPECIAL STEELS

S1 2550

	C	Si	Mn	P	S	Cr	V	W
Typical analysis	0.63	0.60	0.30	≤ 0.030	≤ 0.030	1.10	0.18	2.00
Chemical composition (%)	0.40 – 0.55	0.15- 1.20	0.10- 0.40	≤ 0.030	≤ 0.030	1.00- 1.80	0.15- 0.30	1.50- 3.00

Figures in % by mass

DIN EN ISO 4957	60 WCrV 8
AFNOR	55 WC 20

Characteristics

Good toughness, high fatigue strength, good cutting edge retention.

Applications

Blanking dies for thicker material, shearing blades, highly stressed punch dies, woodworking tools, cutters and choppers, ejectors.

Delivered condition

Annealed to max. 229 HB

Physical properties (reference values)

Thermal expansion coefficient (10^{-6}/K)	20–100 °C 12.4
Thermal conductivity (W/mK)	20 °C 41
Young's modulus (GPa)	20 °C 210

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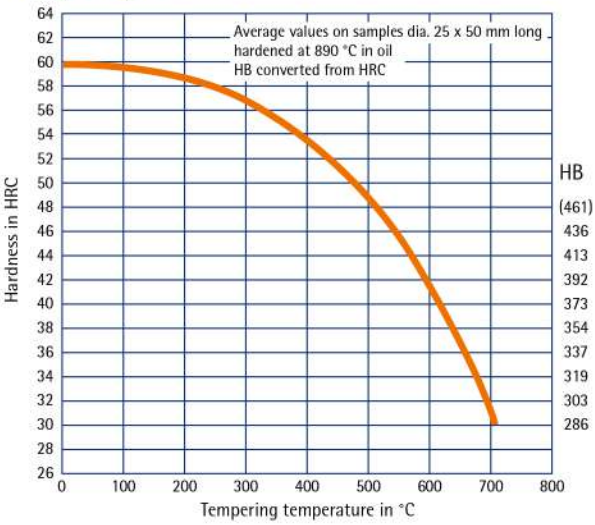
Heat treatment		
Stress relieving	Temperature: Duration: Cooling:	Approx. 650 °C in the annealed state 1 hour per 50 mm wall thickness Furnace
Soft annealing	Temperature: Duration: Cooling:	760 °C 1 hour per 25 mm wall thickness Furnace
Hardening	Temperature: Duration:	890 °C 1 minute per mm wall thickness
Quenching hardness	Max. 60 HRC	in oil, hot bath or vacuum
Tempering	Temperature: Duration: Cooling:	See tempering curve 1 hour per 25 mm wall thickness Air
Working hardness	58-62 HRC	

Tempering curve



TTT curve (continuous)