



ATT 2767 (2767 ISO-B)

CHEMICAL ANALYSIS (PERCENTAGE BY MASS)

	C	Si	Mn	P	S	Cr	Ni	Mo
Guide analysis	0.45	0.25	0.30	0.025	0.003	1.30	4.00	0.25
Standard	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

CHARACTERISTICS

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

APPLICATION

Highly stressed compression and injection molds such as tailgates, mudguards; mold inserts for high hardening 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. 285 HB
Contour hardening is recommended for large molds

SEL	45NiCrMo16
DIN EN ISO 4957	45NiCrMo16
AFNOR	45NCD16
AISI	6F7

PHYSICAL PROPERTIES

Thermal Conductivity (W/m.K) at	20°C	250°C	500°C
	31.0	30.0	32.0
Thermal Expansion (µm/m) from 20°C to	100°C	250°C	500°C
	11.0	12.2	13.7
Young's modulus (GPa)	20°C	250°C	500°C
	215	198	179

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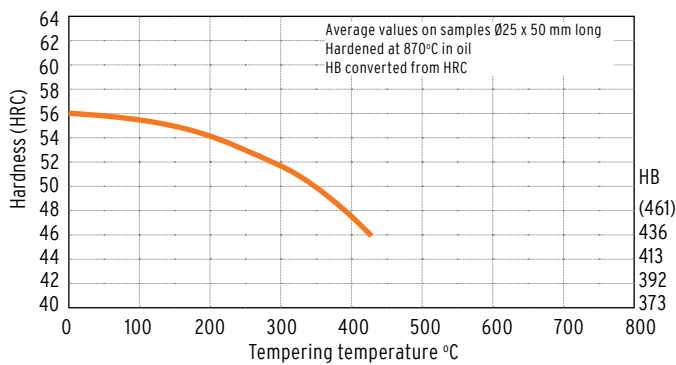
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HEAT TREATMENT

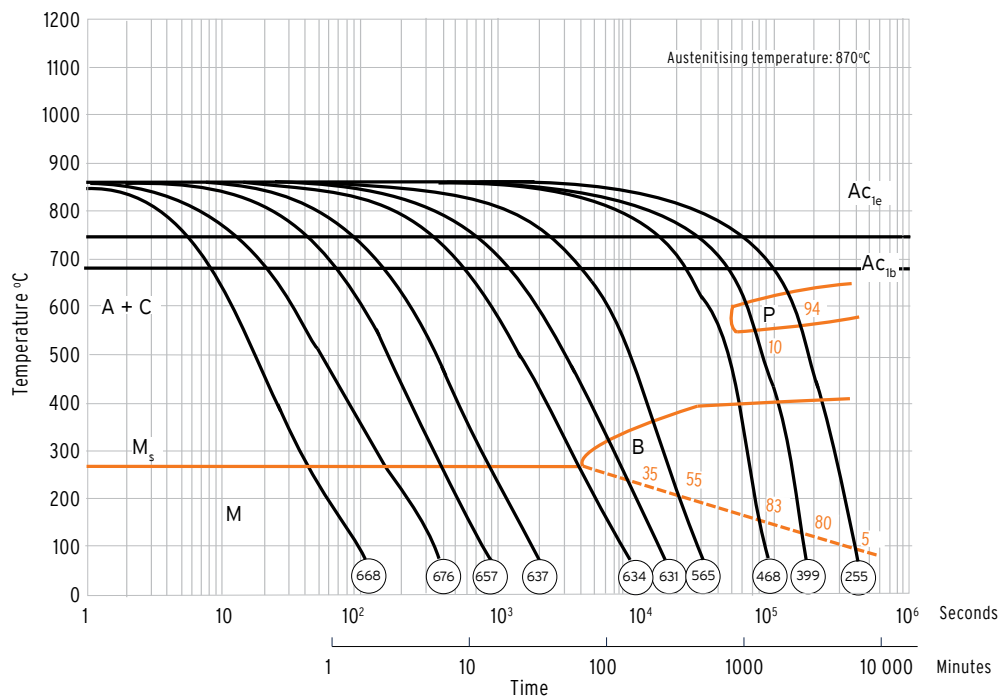
Stress relieving	Temperature	Approx. 600°C in the quenched and tempered state
	Duration	1 hour per 50 mm wall thickness
	Cooling	Furnace
Soft annealing	Temperature	650°C
	Duration	1 hour per 25mm wall thickness
	Cooling	Furnace
Hardening	Temperature	870°C
	Duration	1 min per mm wall thickness
Quenching hardness	Max. 56 HRC	in oil, hot bath, air or vacuum
	Temperature	See tempering curve
Tempering	Duration	1 hour per 25 mm wall thickness
	Cooling	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)



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