ATT 2711 (2711 ISO-B)

CHEMICAL ANALYSIS (PERCENTAGE BY MASS)

	C	Si	Mn	P	S	Cr	Ni	Mo	V
Guide analysis	0.52	0.20	0.70	0.020	0.020	0.75	1.75	0.30	0.10
Standard	0.50 – 0.60	0.15 – 0.35	0.50 – 0.80	≤ 0.025	≤ 0.025	0.60 - 0.80	1.50 - 1.80	0.25 -0.35	0.07 -0.12

CHARACTERISTICS

High toughness, high compressive strength, polishable. Nitridable, hard-chrome platable, flame hardenable and grain-reliable as supplied.

SEL	54NiCrMoV6
DIN EN ISO 4957	54NiCrMoV6
AFNOR	55NCDV7
AISI	~6F2
BS	~BH224

APPLICATION

For large injection and compression molds subject to high levels of mechanical and thermal stress. Contour hardening is recommended. At higher working hardness, also suitable for processing SMC and GMT, combined with surface coating where applicable.

DELIVERED CONDITION

Annealed to max. 248 HB
Hardened and tempered to 280 – 325 HB (approx. 950 – 1,100 MPa) or to 355 – 415 HB (approx. 1,200 – 1,400 MPa)*.
Alternatively, according to customer specifications

PHYSICAL PROPERTIES

Thermal Conductivity (W/m.K) at	20°C 36.0	250°C 37.5	500°C 34.8
Thermal Expansion (µm/m) from 20°C to	100°C 11.0	250°C 12.4	500°C 13.5
Young's modulus (GPa)	20°C 212	250°C 197	500°C 175

* Surface hardness in Brinell, converted to DIN EN ISO 18265 Table A.1.

Advanced Tooling Tek Shanghai Co., Ltd.
No, 1-3, Lane 499, Xin Miao San Road, Xianqiao Town,
Songjiang Dist., Shanghai, 201612 China
Tel: +86 21 3373 8146 | Fax: +86 21 3373 8193 | info@att-metal.com

www.att-metal.com WeChat

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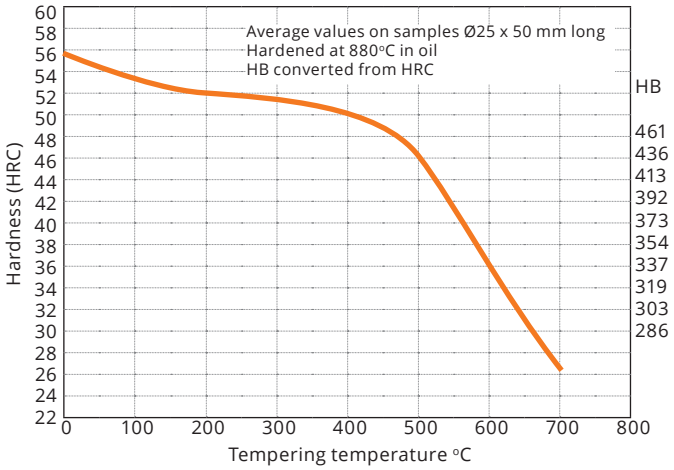
HEAT TREATMENT

Stress relieving	Temperature	Approx. 600°C in the annealed state Approx. 540°C in the hardened and tempered state
	400 - 450°C	1 hour per 50 mm wall thickness
	Cooling	Furnace
Soft annealing	Temperature	700°C
	Duration	1 hour per 25mm wall thickness
	Cooling	Furnace
Hardening	Temperature	880°C
	Duration	1 min per mm wall thickness
Quenching hardness	Max. 56 HRC	in water/oil, protective atmosphere/oil, oil, hot bath or vacuum
Tempering	Temperature	See tempering curve
	Duration	1 hour per 25 mm wall thickness
	Cooling	Air
Working hardness	280-415 HB	

Tempering curve



TTT curve (continuous)