

Identification

Material number	Reference number	AISI
1.2767	45NiCrMo16	6F3

Chemical composition Typical analysis in %

C	Si	Mn	Cr	Mo	Ni
0.45	0.25	0.35	1.40	0.20	4.00

Steel properties

High hardenability and toughness, highly suitable for polishing, texturing and EDM machining.
We recommend the use of THYRODUR® 2767 (ESR) for extreme demands.

Physical properties

Coefficient of thermal expansion $10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	20 – 100 °C		20 – 200 °C		20 – 300 °C	
	Annealed	11.7		12.6		13.1
Quenched and tempered	12.0		12.5		13.0	

Thermal conductivity $\text{W}/(\text{m} \cdot \text{K})$	100 °C	150 °C	200 °C	250 °C	300 °C
	Annealed	38.2	38.6	38.9	39.1
Quenched and tempered	27.7	28.9	29.7	30.5	31.0

Applications

Cutlery dies, cutting tools for thick material, billet-shear blades, drawing jaws, massive embossing and bending tools, plastic moulds, reinforcements.

Heat treatment

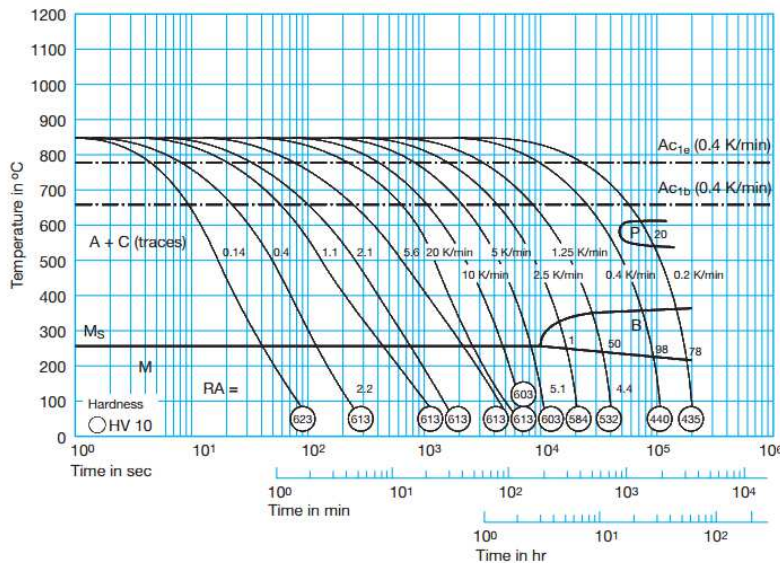
Soft annealing °C	Cooling	Hardness HB
610 – 650	Furnace	max. 260

Stress-relief annealing °C	Cooling	
approx. 600 – 650	Furnace	

Hardening °C	Quenching			Hardness after quenching HRC		
	100	200	300	400	500	600
840 – 870	Air, oil or saltbath (180 – 220 °C)			56		

Tempering °C	100	200	300	400	500	600
	HRC	56	54	50	46	42

Time-temperature-transformation diagram



Tempering diagram

