

Identification		
Material number	Reference number	AISI
1.2510	(100MnCrW4)	O2

Chemical composition Typical analysis in %						
C	Si	Mn	Cr	V	W	
0.95	0.20	1.10	0.60	0.10	0.60	

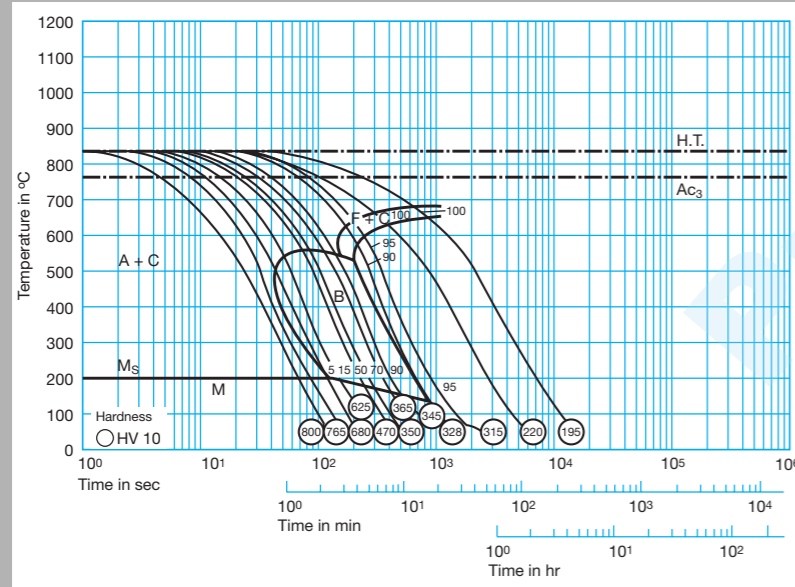
Steel properties
Good cutting edge retention, high hardenability and dimensional stability during heat treatment.

Physical properties			
Thermal conductivity W/(m · K)	20 °C	350 °C	700 °C
	33.5	32.0	30.9

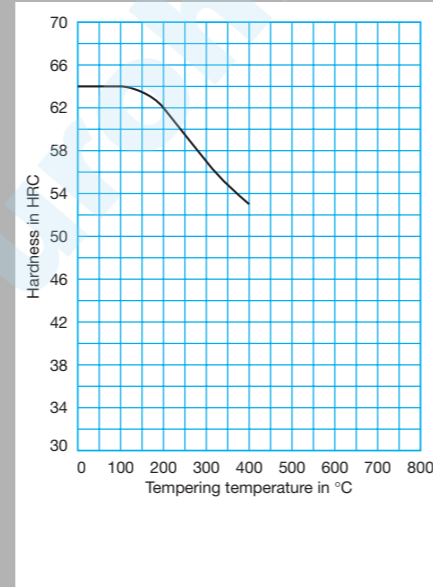
Applications
Blanking and stamping dies for cutting sheets up to 6 mm thickness, threading tools, drills, broaches, gauges, measuring tools, plastic moulds, shear blades, guide rails.

Heat treatment					
Soft annealing °C	Cooling	Hardness HB			
740 – 770	Furnace	max. 230			
Stress-relief annealing °C	Cooling	Hardness after quenching HRC			
approx. 650	Furnace				
Hardening °C	Quenching	Hardness after quenching HRC			
780 – 820	Oil or saltbath (180 – 220 °C)	64			
Tempering °C		100	200	300	400
HRC		64	62	57	53

Time-temperature-transformation diagram



Tempering diagram



Reference numbers in brackets are not standardized in EN ISO 4957.

Identification		
Material number	Reference number	AISI
1.2516	(120WV4)	

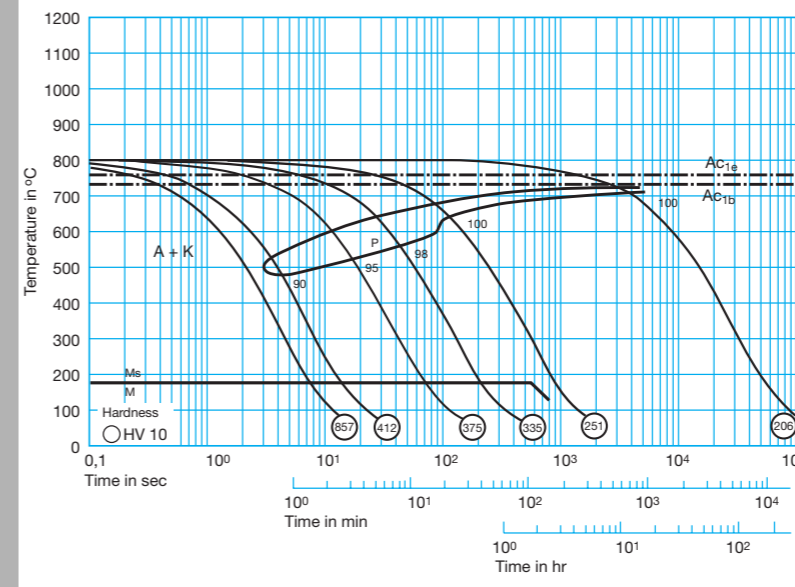
Chemical composition Typical analysis in %			
C	Cr	V	W
1.20	0.2	0.1	1.0

Steel properties
Water-hardening steel featuring good cutting edge retention and high hardenability.

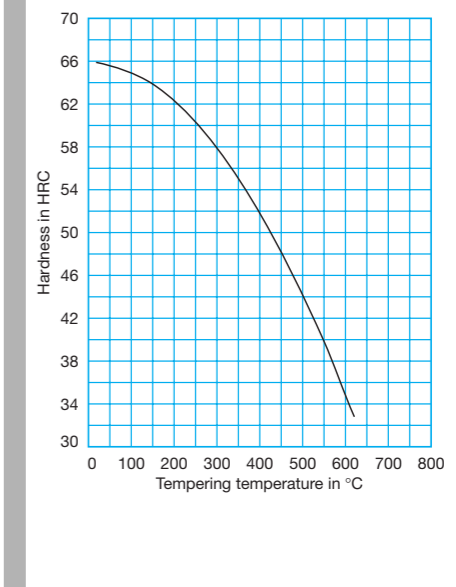
Applications
Thread cutting tools, twist drills, dentist's drills and metal saws.

Heat treatment					
Soft annealing °C	Cooling	Hardness HB			
700 – 720	Furnace	max. 230			
Stress-relief annealing °C	Cooling	Hardness after quenching HRC			
650 – 680	Furnace				
Hardening °C	Quenching	Hardness after quenching HRC			
780 – 820	Oil or water	66			
Tempering °C		100	200	300	400
HRC		65	62	57	51

Time-temperature-transformation diagram



Tempering diagram



Reference numbers in brackets are not standardized in EN ISO 4957.