

1.1730



Main characteristics and applications

Surface hardenable tool steel with hard surface and tough core, after hardening.

Used for cold heading dies, mould base plates for plastic mould and die casting tools, hand tools, tongs, agricultural tools, blanking tools, leather knives.

Comparable standards

UNI	W.Nr	DIN	AFNOR	AISI/SAE	BS
C45U	1.1730	C45U	XC48	~1045	-

Chemical composition (typical; in weight %)

C	Mn	Si	P	S
0.45	0.70	0.30	0.025	0.003

Critical points

Ac1	Ac3	Ms
730 °C	795 °C	340 °C

Heat treatment

TREATMENT	TEMPERATURE	HOLDING TIME (HT)	COOLING	COMMENTS
Annealing	Heat to 680 - 720 °C	Min. H.T. for 2 minute /mm	Furnace	-
Stress relieving (Normalized condition)	Heat to 600 - 650 °C	Min. H.T. for 2 minute /mm	Furnace	-
Normalizing / Hardening	Heat to 830 - 850 °C	Min. H.T. for 1 minute /mm	Air	Hardness after normalizing: 190 HB Hardness after hardening: 57 HRC (on surface)
Tempering	-	-	-	To be carried out after hardening

Production technology

EAF – LF – VD - Forging – Heat treatment +A /+NSR

US specification

In according to standard EN10160 Class S3E3 and standard SEP 1921 Class C/c (only forged)

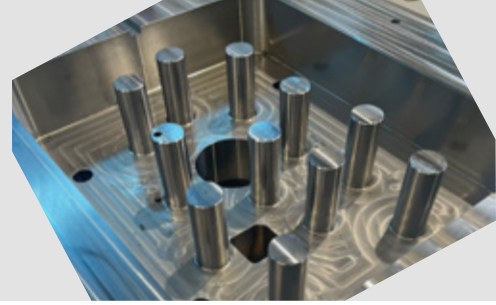
Delivery condition

W1.1730 is delivered annealed condition (+A), with hardness max 207 HB or in normalized and stress relieved condition (+NSR).

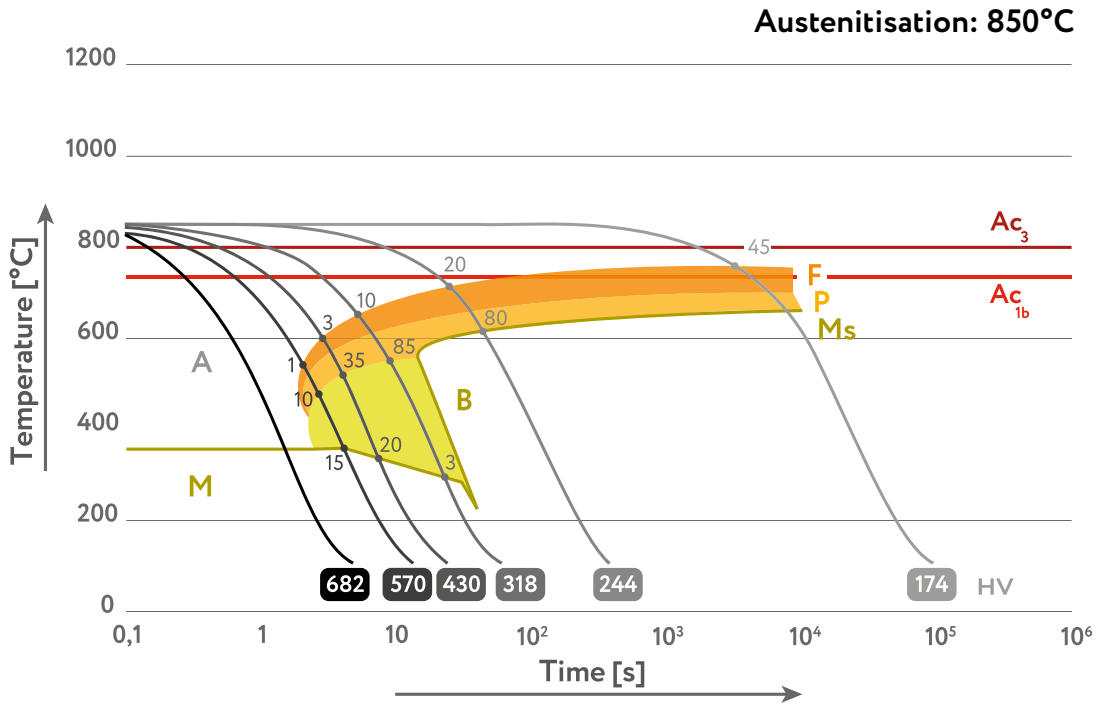
Physical properties (reference values)

	20°C	100°C	250°C	500°C
Thermal expansion coefficient (10-6/K)	12.4	12.7	13.2	14.5
Thermal conductivity (W/mk)	40.9	41.1	41.5	35.6
Young modulus (Kn/mm2)	212	207	196	175

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C.C.T. curve



Tempering curve

