

1.2363

Cold working steel



1 Main characteristics and applications

Cr-Mo-V cold- working steel with 1% Carbon with high through-hardenability, dimension stability, extra high wear resistance and good toughness.

Typical application are cutting and stamping tools, shear blades, cold rolling mandrels, extrusion tools, cold working application where high wear resistance is needed.

2 Comparable standards

UNI	W.Nr	DIN	AFNOR	AISI/SAE	BS
-	1.2363	X100CrMoV5-1	Z100CDV5	A2	BA2

3 Chemical composition (typical; in weight %)

C	Mn	Si	Cr	Mo	Ni	V	P+S
0.95	0.40	0.10	4.75	0.90	-	0.15	-
1.05	1.00	0.50	5.50	1.40	-	0.50	<0.03

4 Critical points

Ac1	770 °C
Ac3	815 °C
Ms	120 °C

5 Production technology

EAF - LF - VD - Forging - Heat treatment +A

6 US specification

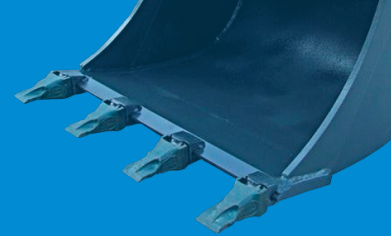
In according to standard EN10228-3 Class 4 and standard SEP 1921 Class E/e

7 Delivery condition

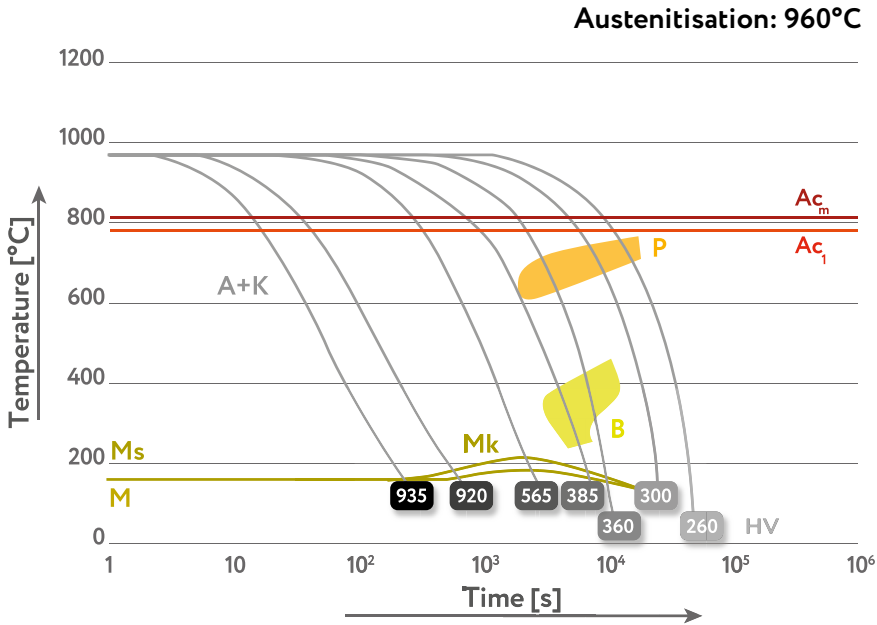
W1.2363 is delivered in annealed condition, with hardness max 240 HB (23 HRC).

8 Heat treatment

TREATMENT	TEMPERATURE	HOLDING TIME (HT)	COOLING	COMMENTS
Annealing	Heat to 820 - 850 °C	Min. H.T. for 3 hours	Cooling in air to 730°C then 760-770°C and hold 1 h each 15 mm. Cooling in furnace to 500°C than cooling in air	-
Stress relieving	Heat to 650-680°C	Min. H.T. for 1 hour/25 mm	Air or furnace	To be carried out after machining, is recommended to eliminate the residual stresses induced by mechanical working
Hardening	Preheat to 600-700°C Heat to 960-980 °C	Min. H.T. for 1 minute /mm	Oil - salt bath or vacuum pressure gas	In order to obtain hardness 63-65 HRC
Tempering	-	-	Air	To be carried out soon after the hardening according to the required hardness



9 C.C.T. curve



10 Tempering curve

