



Sales Office:

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XPM

Conventional melting (EF+LF+VD)								
GENERAL:								
<ul style="list-style-type: none"> - uniform hardness across the cross-section - very good polishability - good machinability - greatly increased thermal conductivity - hardenable and temperable plastic mould steel - nitridable - suitable for chrome plating and pitting; - improve weldability as 2738 - good toughness 								
APPLICATIONS:								
<ul style="list-style-type: none"> - die steel for plastic moulds with a thickness over 400 mm - moulds for TV housings and rear walls - copier housings - moulds for dashboards and large outside body parts 								
CHEMICAL ANALYSIS: %								
C	Si	Mn	P	S	Cr	Mo	Ni	special elements
0,23 - 0,29	≤ 0,40	1,40 - 1,70	≤ 0,025	≤ 0,005	1,20 - 1,80	0,30 - 0,70	0,90 – 1,20	added
PHYSICAL PROPERTIES:								
Coefficient of thermal expansion	20-100 °C	20-200 °C	20-300 °C]	20-400 °C	20-500 °C			
[10 ⁻⁶ m/(m x K)]	11,8	12,5	13,1	13,5	14,8			
Thermal conductivity	20 °C	250 °C	500 °C					
[W/(m x K)]	37,2	41,0	39,2					
ULTRASONIC:								
ASTM A388 - FBH max. 3 mm (1/8 inch)					or			
SEP 1921 – test group 3 – class E , e					or acc. to your request			
CLEANLINESS:								
ASTM E45- Method A with type A ≤ 1,5 ,					or			
B; C and D each ≤ 2					or acc. to your request			
DIN 50602– K4 ≤ 20					or acc. to your request			
DELIVERY CONDITION:								
hardened and tempered								
SERVICE HARDNESS:								
38 – 42HRC or acc. to your request								
STRUCTURE:								
fine bainitic structure								



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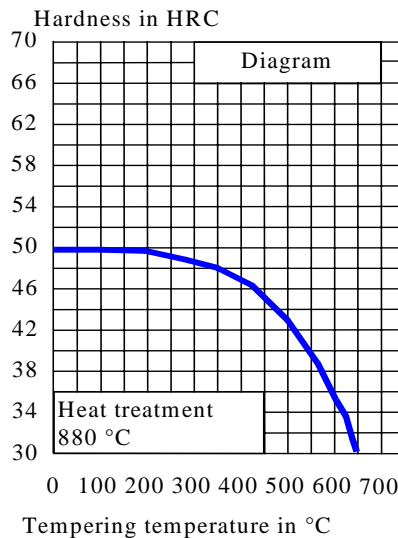
XPM

HEAT TREATMENT:

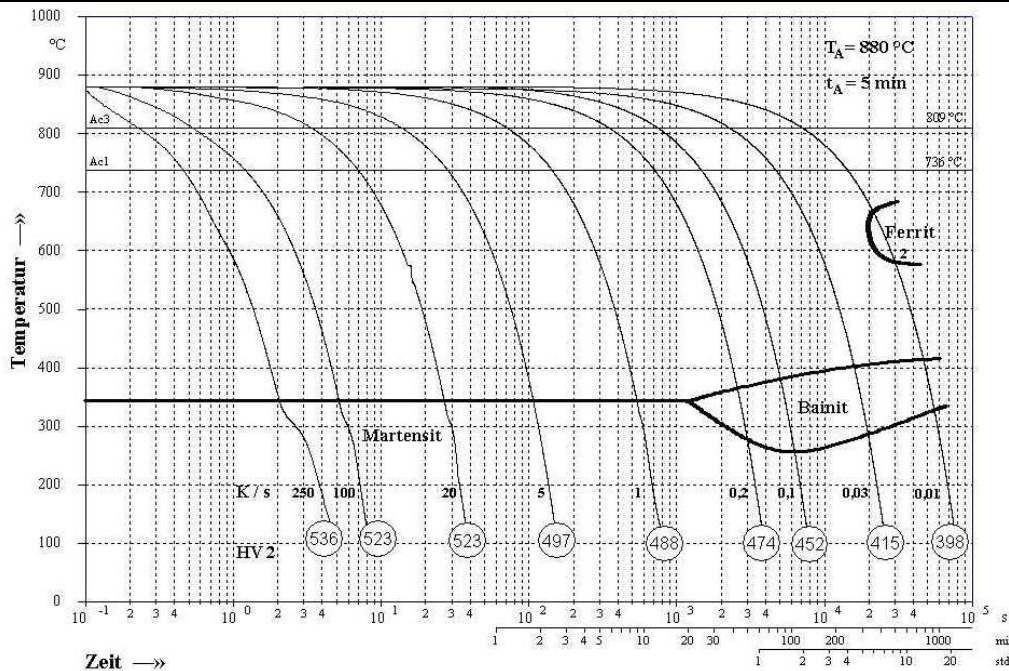
<i>Hot forming</i>	<i>Soft annealing</i>	<i>Hardening</i>	<i>Tempering</i>
1100 - 850°C	710 - 740°C	870 - 890°C	560 - 650°C #

TEMPERING DIAGRAMM:

values in HRC
 tested on samples dia. 25 x 50 mm long
 hardened at 880 °C in oil



CCT GRAPH:



DELIVERY SIZES:

Rounds – up to 1300 mm

Blocks – up to 1200 mm thickness



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Cutting values - scrub-, face milling

Mentioned values: V_c in m/min.

			1.2738	XPM			
			hardened and tempered		hardened and tempered		
			30-34 HRC		32-36 HRC	36-40 HRC	
scrub milling ¹	HSS		+	*	*		
			-	*	*		
	hard metal Uncoated	P25	+	** (100)	** (120)		105
		P35	-	** (85)	** (100)		85
	hard metal Coated	P25	+	150	180		160
		P35	-	120	140		120

face milling ²	HSS (1.3234) fz = max. 0,1 mm			+	20	20	20
				-	12	12	12
	hard metal Uncoated	P25	+	** (160)	** (210)		170
		P35	-	** (130)	** (170)		120
	hard metal Coated	K15	+	220	270		230
		P25	-	220	260		220
	hard metal Cerment	P15	+	270	320		270
			-	*	*		

Legend:

* not to recommend

** The application of coated hartmetal will be recommended. If not, the mentioned values are valid.

¹ advance per cog (fz) = 0,1 - 0,3 mm and relation of milling width to tool diameter < 3/4

² advance per cog (fz) = 0,03 - 0,3 mm and relation of milling width to tool diameter = 1/10

Hint:

At tool diameter > 70 mm the cutting speed has to be reduced by factor 0,7!