HIDEG MUNKA ACÉLOK

Elérhető termékváltozatok

Hosszúkás termékek* | Lemezek

*) Presented data refer exclusivly to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

Termékleírás

Vágószerszámok (matricák és bélyegek), kivágástechnikai szerszámok, menethengerlő szerszámok, ollókések.

Olvadási útvonal

Airmelted

Tulajdonságok

- Kopásállóság : nagyon magas
- Nyomószilárdság : nagyon magas
- Méretállóság : jó

Használ

- Gépkések (gyártók részére)
- Finomkivágás / kivágás / alakozás
- Hengerlés
- Porsajtolás
- Cold Forming

Műszaki jellemzők

Anyagmegjelölés	
1.2363	SEL
~T30102	UNS
X100CrMoV5	EN
~X100CrMoV5-1	EN
A2	AISI
SKD12	JIS

Szabványok	
4957	EN ISO

Vegyi összetétel

C	Si	Mn	Cr	Mo	V
1,00	0,30	0,55	5,20	1,10	0,25

Anyagi tulajdonságok

	Nyomószilárdság	Méretstabilitás a hőkezelés során	Szívósság	Csiszoló kopásállóság
BÖHLER K305	★★★★★	★★★	★★	★★★★★
BÖHLER K306	★★★★	★★★	★★★★	★★★
BÖHLER K313	★★★★	★★★	★★★	★★★
BÖHLER K320	★★★	★★★	★★★	★★★
BÖHLER K329	★★★	★★★	★★★★	★★★★
BÖHLER K600	★	★★★	★★★★★	★
BÖHLER K601	★	★★★	★★★★	★★
BÖHLER K605	★★	★★★	★★★★	★

Szállítási feltétel

Annealed

Keménység (HB)	max. 240

Hőkezelés

Annealing

Hőmérséklet	800 amig 850 °C	Slow controlled cooling in furnace at a rate of 50 to 68°F/hr (10 to 20°C/hr) down to approx. 1112°F (600°C), further cooling in air.

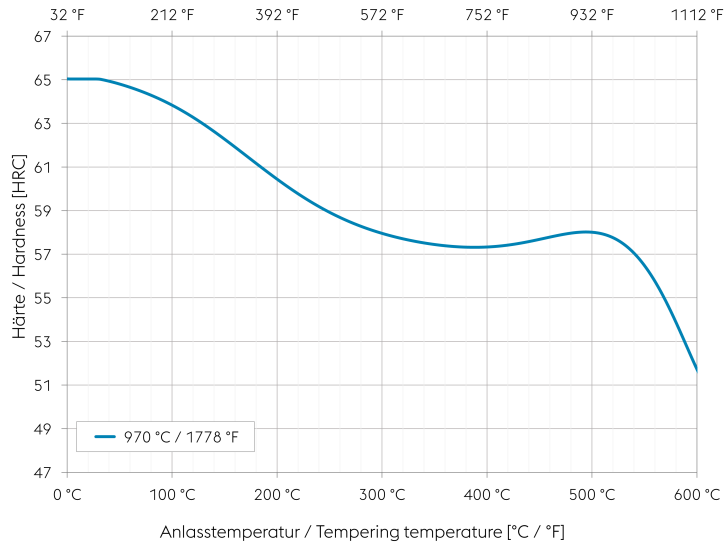
Stress relieving

Hőmérséklet	650 °C	Slow cooling in furnace. Intended to relieve stresses set up by extensive machining, or in complex shapes. After through heating, hold in neutral atmosphere for 1 - 2 hours..

Hardening and Tempering

Hőmérséklet	950 amig 980 °C	Oil, salt bath 428 to 482°F or 932 to 1022°F (220 to 250°C or 500 to 550°C), air, gas Holding time after temperature equalization: 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.

Tempering chart



Tempering:

Specimen size: square 0,787 inch (20 mm)

Slow heating to tempering temperature immediately after hardening.

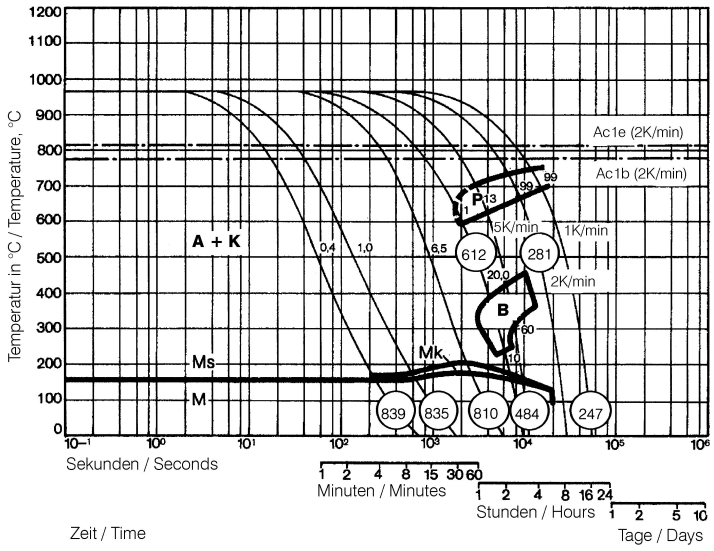
Time in furnace 1 hour for each 0,787 inch (20 mm) of workpiece thickness but at least 2 hours.

Slow cooling to room temperature after each tempering step is recommended.

Please refer to the tempering chart for guide values for the hardness achievable after tempering.

Tempering for stress relieving 86 to 122 °F (30 to 50 °C) below the highest tempering temperature.

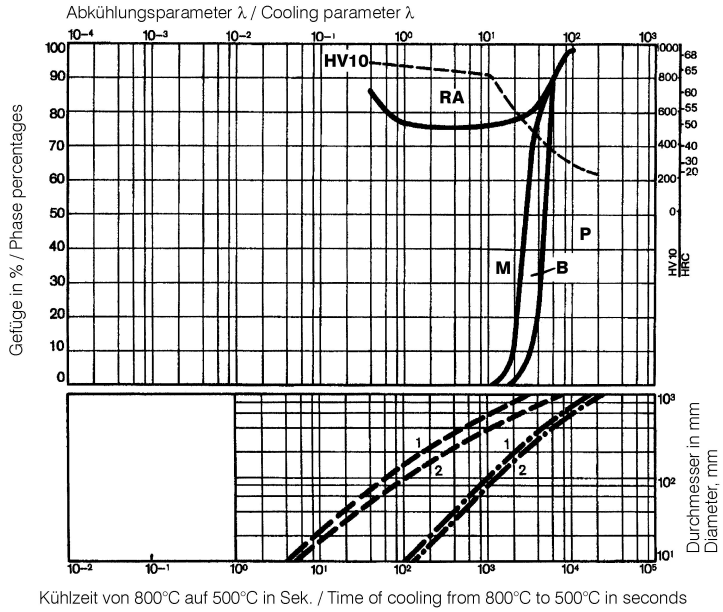
Continuous cooling CCT curves



Austenitising temperature: 960°C
Holding time: 15 minutes

O Vickers hardness
1...99 phase percentages
0.4...20.0 cooling parameter, i.e. duration of cooling from 800°C to 500°C in s x 10^{-2}
5K/min...1K/min cooling rate in K/min in the 800°C to 500°C range

Quantitative phase diagram

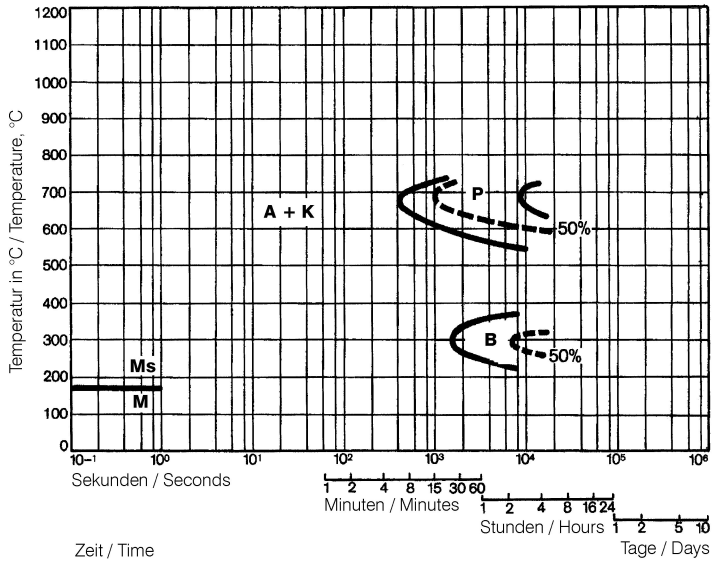


Mk... Grain boundary martensite
RA... Residual austenite
A... Austenite
B... Bainite
P... Perlite
K... Carbide
M... Martensite

- - - - - - Oil cooling
- • - Air cooling

1... Edge or face
2... Core

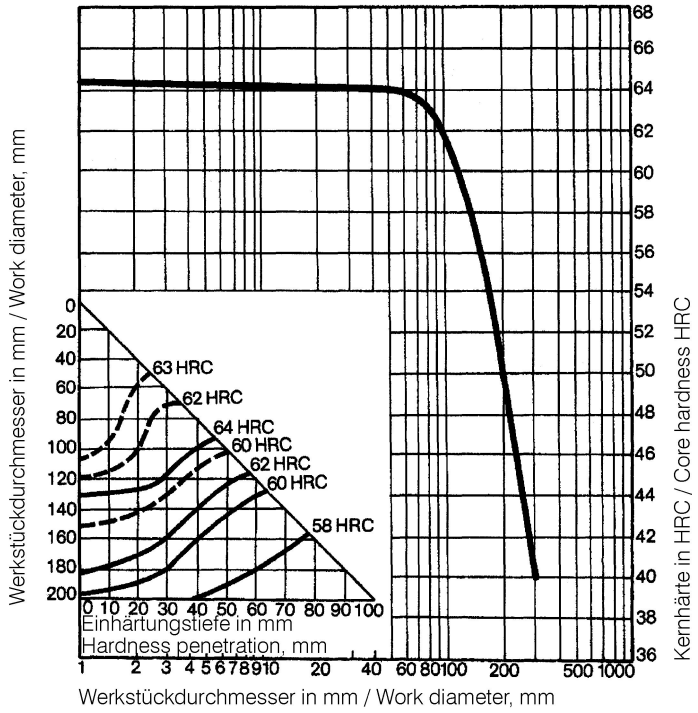
Isothermal TTT curves



Austenitising temperature: 960°C
Holding time: 15 minutes

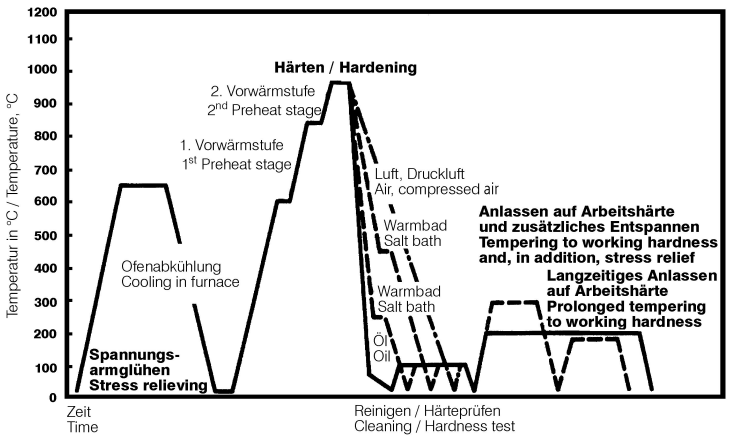
A... Austenite
B... Bainite
P... Perlite
K... Carbide
M... Martensite

Influence of work diameter on core hardness and hardness penetration



Quenched from: 960°C
Agent:
——— Oil
- - - - - - Air

Heat treatment sequence



Fizikai tulajdonságok

Hőmérséklet (°C)	20
Sűrűség (kg/dm^3)	7,7
Hővezető képesség (W/(m.K))	26
Fajlagos hőkapacitás (kJ/kg K)	0,46
Specifikus elektromos ellenállás (Ohm.mm^2/m)	0,52
Rugalmassági modulus (10^{3}N/mm^2)	190

Hőtágulás

Hőmérséklet (°C)	100	200	300	400	500
Hőtágulás (10^{-6} m/(m.K))	12	12,1	11,9	11,6	11,7

Long Products: For additional specifications and technical requirements, please contact our regional voestalpine BÖHLER sales companies.

Sheet & Plates: Product Variant may differ in terms of melting process, technical data, delivery, and surface condition as well as available product dimensions. Please contact voestalpine BÖHLER Bleche GmbH & Co KG.

The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.

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voestalpine
ONE STEP AHEAD.