ACEROS PARA TRABAJO EN FRÍO

Formatos disponibles

Productos largos* | Chapas

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

Descripción

Acero para herramientas de estampación en frío, herramientas para acuñar monedas, cuchillería, herramientas de fresado, cuchillas de corte en frío para material de calibre pesado y moldes de plástico.

Método de obtención

Convencional

Propiedades

- Dureza y Ductilidad : muy alta
- Estabilidad dimensional : buena

Aplicaciones

- Cuchillas de máquinas (fabricantes)
- Corte fino / Troquelado / Estampado
- Componentes para la industria del reciclaje
- Conformado en frío
- Componentes estándar (moldes, placas, expulsores, punzones)
- Acuñado
- Componentes generales de ingeniería mecánica

Datos técnicos

Designación	
1.2767	SEL
45NiCrMo16	EN
SKT6	JIS

Estándares	
4957	EN ISO

Composición Química

C	Si	Mn	Cr	Mo	Ni
0,48	0,23	0,40	1,30	0,25	4,00

Características

	Resistencia a la compresión	Estabilidad dimensional durante el tratamiento térmico	Tenacidad	Resistencia al desgaste abrasivo
BÖHLER K600	★	★★★	★★★★★	★
BÖHLER K305	★★★★★	★★★	★★	★★★★★
BÖHLER K306	★★★★	★★★	★★★★	★★★
BÖHLER K313	★★★★	★★★	★★★	★★★
BÖHLER K320	★★★	★★★	★★★	★★★
BÖHLER K329	★★★	★★★	★★★★	★★★★
BÖHLER K601	★	★★★	★★★★	★★
BÖHLER K605	★★	★★★	★★★★	★

Estado de suministro

recocido

Dureza (HB)	máx. 285 |

Tratamiento térmico

Recocido

Temperatura	610 a 650 °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.

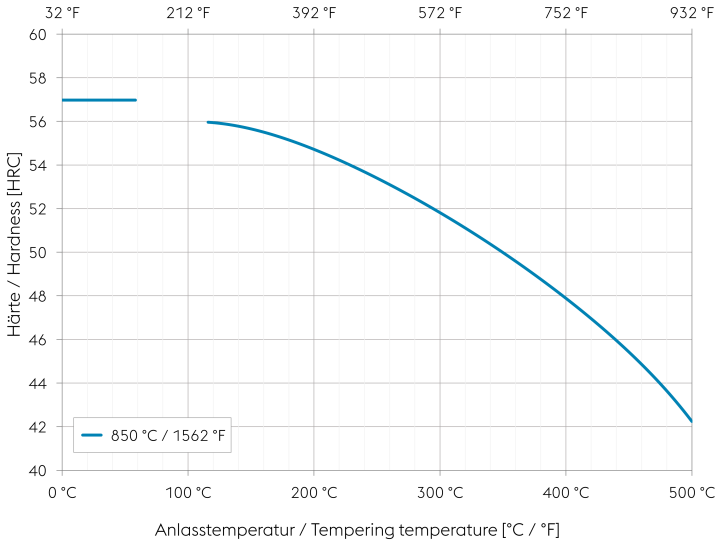
Alivio de tensiones

Temperatura	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 to 2 hours.

Temple y revenido

Temperatura	840 a 870 °C	Oil, salt bath 572 to 752°F (300 to 400°C), air. Holding time after temperature equalization: 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.

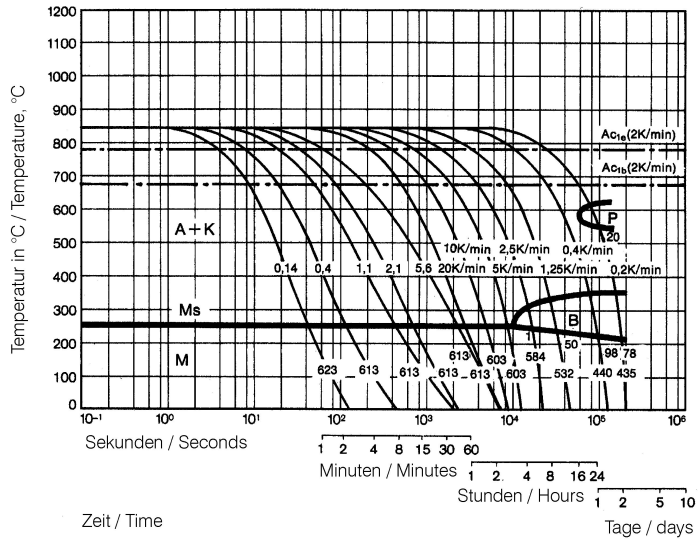
Tempering chart



Tempering:

Hardening temperature:
——— 850°C / 1562°F
Specimen size: square 20 mm

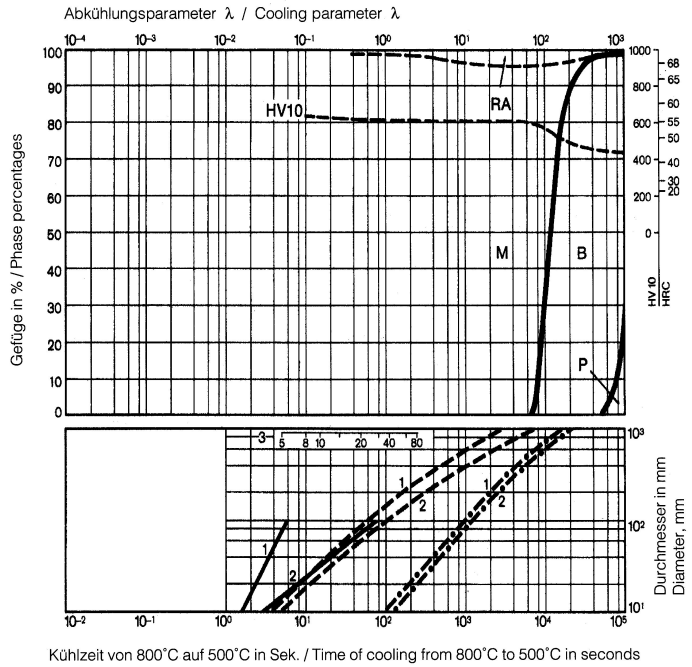
Continuous cooling CCT curves



Austenitising temperature: 840°C / 1544°F
Holding time: 15 minutes

O Vickers hardness
1...98 phase percentages
0.14...5.6 cooling parameter, i.e. duration of cooling from 1472 to 932°F (800 to 500°C) in s x 10^{-2}
68...32,36°F/min (20...0.2K/min) cooling rate in °F/min (K/min) in the 1472 to 932°F (800 to 500°C) range

Quantitative phase diagram

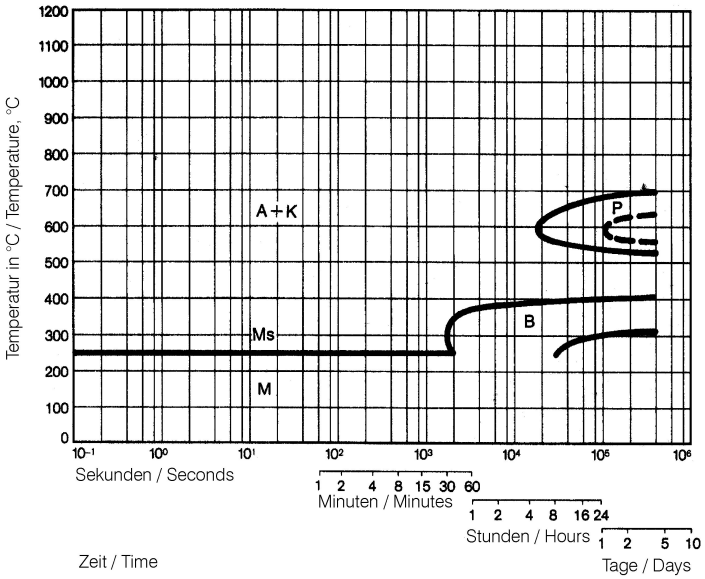


RA... Residual austenite
A... Austenite
B... Bainite
P... Perlite
K... Carbide
M... Martensite

——— Water cooling
- - - - - - Oil cooling
- • - Air cooling

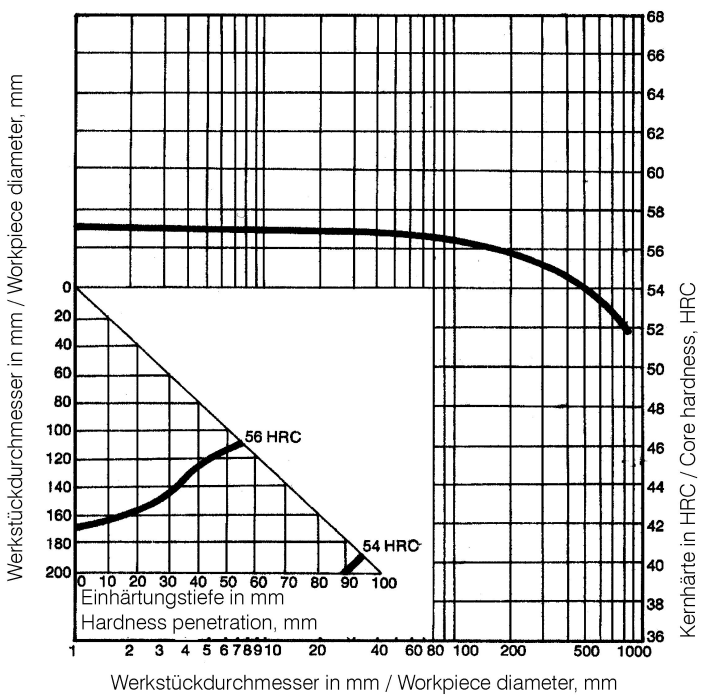
1... Edge or face
2... Core
3... Jominy test: distance from end

Isothermal TTT curves



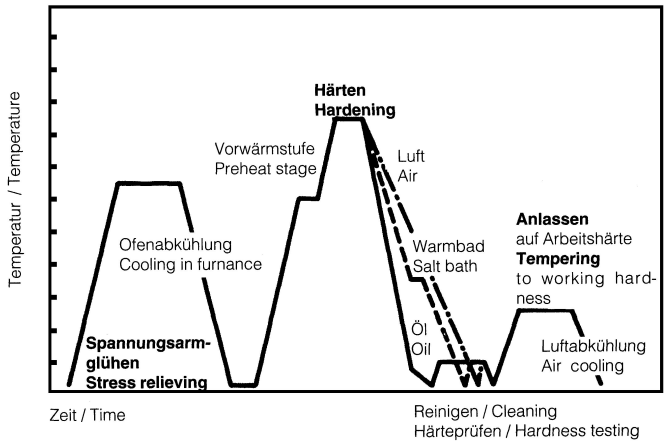
Austenitising temperature: 840°C / 1544°F
Holding time: 15 minutes

Influence of work diameter on core hardness and hardness penetration



Quenched from: 850°C / 1562°F
Quenchant: Oil

Heat treatment sequence



Propiedades físicas

Temperatura (°C)	20
Densidad (kg/dm^3)	7,85
Conductividad térmica (W/(m.K))	28
Calor específico (kJ/kg K)	0,46
Resistencia eléctrica específica (Ohm.mm^2/m)	0,3
Módulo de elasticidad (10^{3}N/mm^2)	210

Expansión térmica

Temperatura (°C)	100	200	300	400	500
Expansión térmica (10^{-6} m/(m.K))	11	12,5	13	13,5	14

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.

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voestalpine
ONE STEP AHEAD.