

ACCIAI DA UTENSILI PER LAVORAZIONE A FREDDO

Granulometria disponibile

 Prodotti lunghi*

 Lamiere

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

Descrizione del prodotto

Acciaio per utensili da taglio, per tranciatura e punzonatura, utensili filettatori, per la lavorazione del legno, della carta e del metallo. Strumenti di misura, calibri e stampi per le materie plastiche.

Percorso di fusione

 Airmelted

Proprietà

- > Durezza e duttilità : alto
- > Resistenza all'usura : buono
- > Resistenza alla compressione : molto alto
- > Stabilità dimensionale : buono
- > Macinabilità : alto

Applicazioni

- > Stampaggio a freddo
- > Tranciatura / Tranciatura fine / Stampaggio
- > Parti standard (stampi, piastre, perni, punzoni)

Dati tecnici

Corrispondenze		Standard	
1.2510	SEL	4957	EN ISO
T31501	UNS	A681	ASTM
100MnCrW4	EN		
O1	AISI		
~SKS3	JIS		

Analisi chimica

C	Si	Mn	Cr	V	W
0,95	0,25	1,10	0,55	0,10	0,55

Proprietà del materiale

	Resistenza alla compressione	Stabilità dimensionale durante il trattamento termico	Tenacità	Abrasivo resistente all'usura
BÖHLER K460	★★★★	★	★★★★	★★
BÖHLER K245	★★	★	★★★★★	★
BÖHLER K455	★★★	★	★★★★★	★
BÖHLER K720	★★	★	★★★★	★

Condizioni di consegna

Ricotto

Durezza (HB)	max. 220
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Trattamento termico

Annealing

Temperatura	710 a 750 °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.
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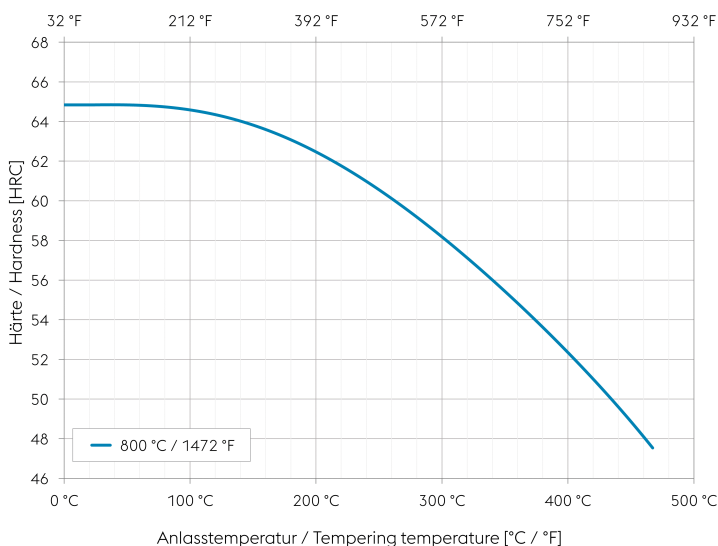
Alleviare lo stress

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 1-2 hours.
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Tempra e rinvenimento

Temperatura	780 a 820 °C	Oil. Salt bath 392 to 482°F (200 to 250°C), up to 0,787 inch (20 mm) thickness. Holding time after temperature equalization: 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.
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Tempering chart



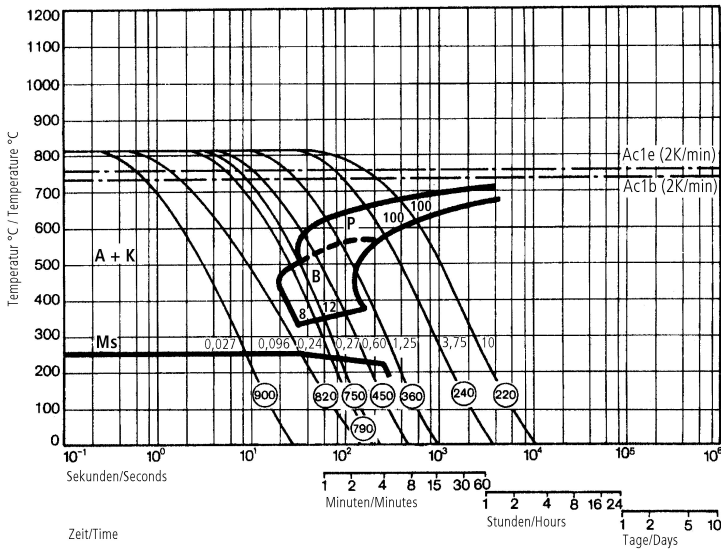
Tempering:

Hardening temperature:

800°C

Specimen size: square 20 mm

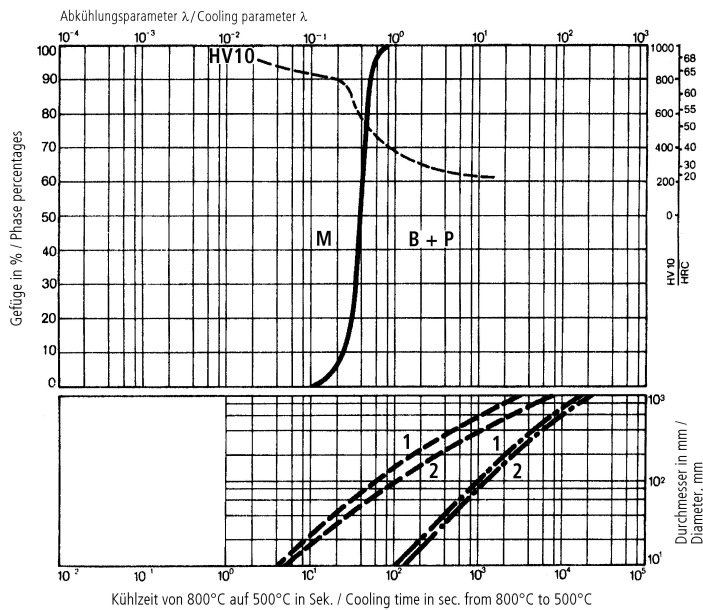
Continuous cooling CCT curves



Austenitising temperature: 1490°F (810°C)
Holding time: 15 minutes

O Vickers hardness
8...100 phase percentages
0.027...10 cooling parameter (λ), i.e. duration of cooling from 1472 to 932°F (800 to 500°C) in $s \times 10^{-2}$

Quantitative phase diagram

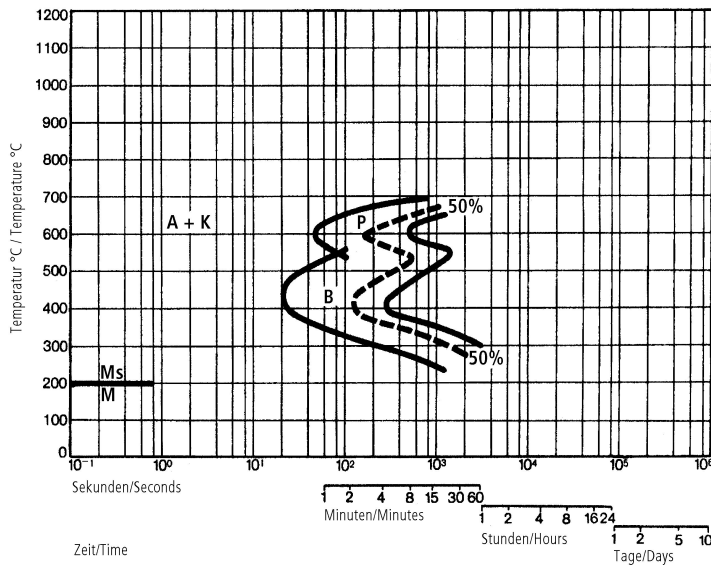


A... Austenite
B... Bainite
K... Carbide
M... Martensite
P... Pearlite

----- Oil cooling
- · - Air cooling

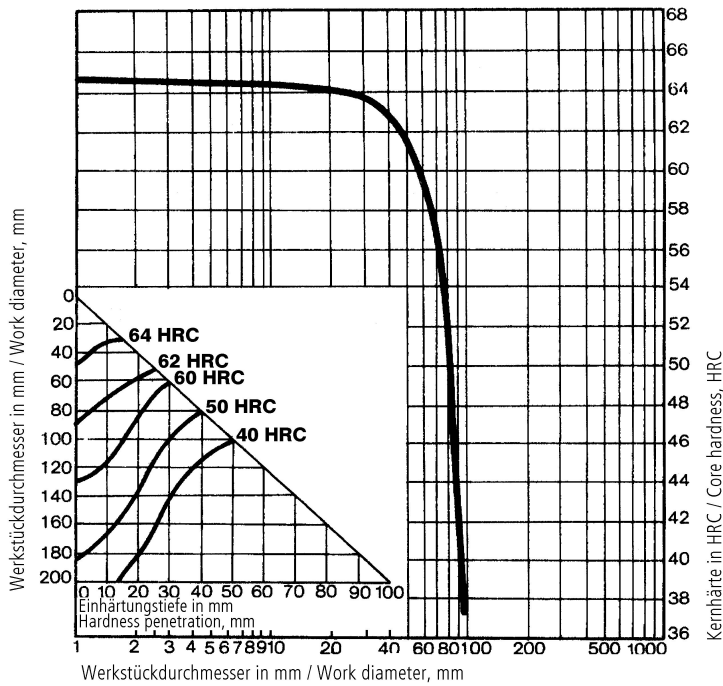
1... Edge or face
2... Core

Isothermal TTT curves



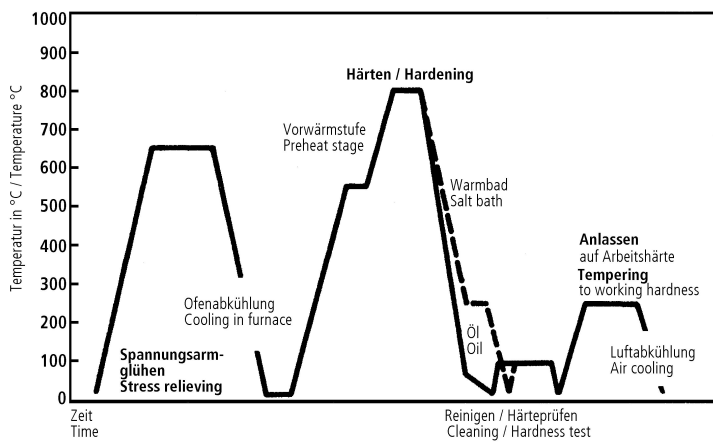
Austenitising temperature: 810°C / 1490°F
Holding time: 15 minutes

Influence of work diameter on core hardness and hardness penetration



Quenched from: 800°C / 1472°F
Agent: Oil

Heat treatment sequence



Proprietà fisiche

Temperatura (°C)	20
Densità (kg/dm ³)	7,85
Conducibilità termica (W/(m.K))	30
Capacità termica specifica (kJ/kg K)	0,46
Resistenza elettrica specifica (Ohm.mm ² /m)	0,35
Modulo di elasticità (10 ³ N/mm ²)	210

Espansioni termiche

Temperatura (°C)	100	200	300	400	500
Espansione termica (10^{-6} m/(m.K))	11,5	12	12,2	12,5	12,8

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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