

# 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 lavorazione a freddo con eccellente tenacità e buona resistenza all'usura.

## Percorso di fusione

Airmelted

## Proprietà

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

## Applicazioni

- > Lame automatiche (per produttori)

## Dati tecnici

Corrispondenze	
~1.2360	SEL
~A8	AISI

## Analisi chimica

C	Si	Mn	Cr	Mo	V
0,52	0,95	0,40	8,00	1,40	0,35

**Proprietà del materiale**

	Resistenza alla compressione	Stabilità dimensionale durante il trattamento termico	Tenacità	Abrasivo resistente all'usura
<b>BÖHLER K329</b>	★★★	★★★	★★★★★	★★★★★
<b>BÖHLER K305</b>	★★★★★	★★★	★★	★★★★★
<b>BÖHLER K306</b>	★★★★★	★★★	★★★★★	★★★
<b>BÖHLER K313</b>	★★★★★	★★★	★★★	★★★
<b>BÖHLER K320</b>	★★★	★★★	★★★	★★★
<b>BÖHLER K600</b>	★	★★★	★★★★★	★
<b>BÖHLER K601</b>	★	★★★	★★★★★	★★
<b>BÖHLER K605</b>	★★	★★★	★★★★★	★

**Condizioni di consegna**
**Ricotto**

Durezza (HB)	max. 240
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**Trattamento termico**
**Annealing**

Temperatura	800 a 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.
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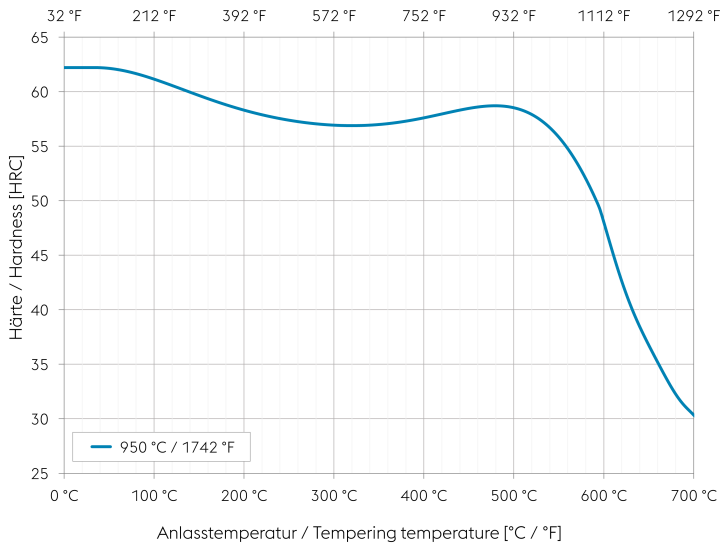
**Alleviare lo stress**

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 to 2 hours.
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**Tempra e rinvenimento**

Temperatura	1.000 a 1.040 °C	Oil, salt bath 932 to 1022°F (500 to 550°C), air. Holding time after temperature equalization: 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.
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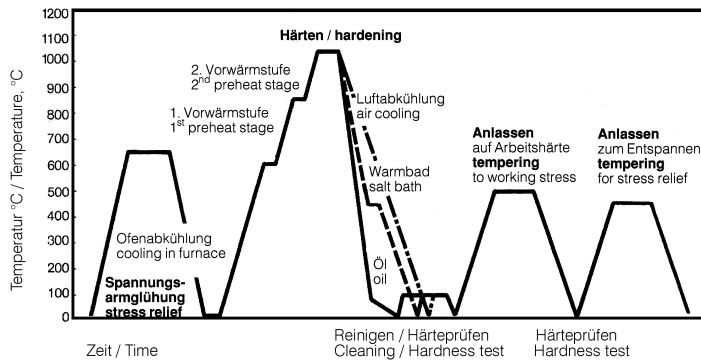
### Tempering chart



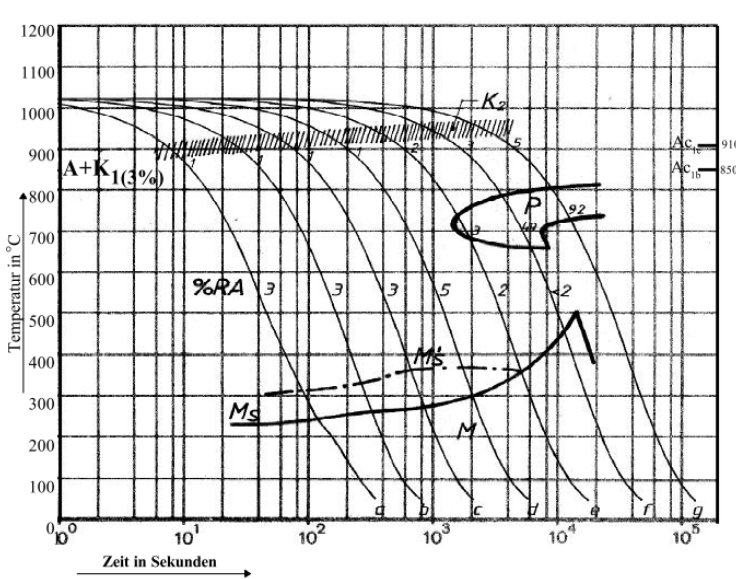
**Tempering:**

Hardening temperature: 1020°C  
Specimen size: square 20 mm

### Heat treatment sequence



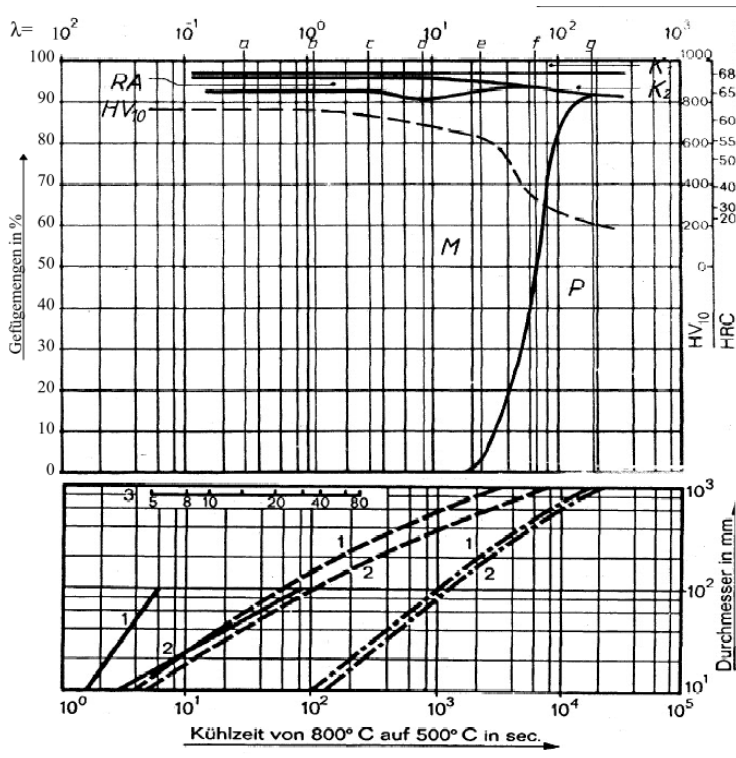
Continuous cooling CCT curves



Austenitising temperature: 1020°C / 1868°F  
Holding time: 30 minutes

O Vickers hardness  
2...100 phase percentages  
0.42...14.6 cooling parameter, i.e. duration of cooling from 800°C to 500°C (1472°F to 932°F) in  $s \times 10^{-2}$

Quantitative phase diagram



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

— Watercooling  
- - - Oil cooling  
- · - Air cooling

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

## Proprietà fisiche

Temperatura (°C)	20
Densità (kg/dm <sup>3</sup> )	7,7
Conducibilità termica (W/(m.K))	26
Capacità termica specifica (kJ/kg K)	0,46
Resistenza elettrica specifica (Ohm.mm <sup>2</sup> /m)	0,6
Modulo di elasticità (10 <sup>3</sup> N/mm <sup>2</sup> )	210

## Espansioni termiche

Temperatura (°C)	100	200	300	400	500
Espansione termica (10 <sup>-6</sup> 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.

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