

# SOĞUK İŞ ÇELİKLERİ

## Mevcut Ürün Şekilleri

Uzun Ürünler\*

Levhalar

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

## Ürün Tanımı

BÖHLER K329 belongs to the group of 8% chromium steels and is a modified 1.2360 (AISI A8) type. BÖHLER K329 is the classic among the chipper steels and is mainly used for machining knives in the woodworking industry, but also for knives in the paper and recycling industries. BÖHLER K329 is popular among knife customers worldwide not only on account of its excellent properties, but also because BÖHLER is able to supply customized solutions thanks to its broad product portfolio.

## Erime rotası

Airmelted

## Özellikler

- > Tokluk ve Süneklik : iyi
- > Aşınma Direnci : yüksek
- > Basınç Dayanımı : iyi
- > Boyutsal kararlılık : iyi

## Uygulamalar

- > Machine knife (for producers)

## Teknik veriler

Malzeme Tanımı	
~1.2360	SEL
~A8	AISI

## Kimyasal Bileşim

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

## Malzeme özellikleri

	Basınç Dayanımı	Isıl işlem sırasında boyutsal kararlılık	Sertlik	Aşındırıcı aşınma direnci
BÖHLER K329	★★★	★★★	★★★★★	★★★★★
BÖHLER K305	★★★★★	★★★	★★	★★★★★
BÖHLER K306	★★★★★	★★★	★★★★★	★★★
BÖHLER K313	★★★★★	★★★	★★★	★★★
BÖHLER K320	★★★	★★★	★★★	★★★
BÖHLER K600	★	★★★	★★★★★	★
BÖHLER K601	★	★★★	★★★★★	★★
BÖHLER K605	★★	★★★	★★★★★	★

## Teslimat durumu

## Annealed

Sertlik (HB)	maks. 240
--------------	-----------

## Isıl işlem

## Annealing

Sıcaklık	800 kadar 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.
----------	------------------	---

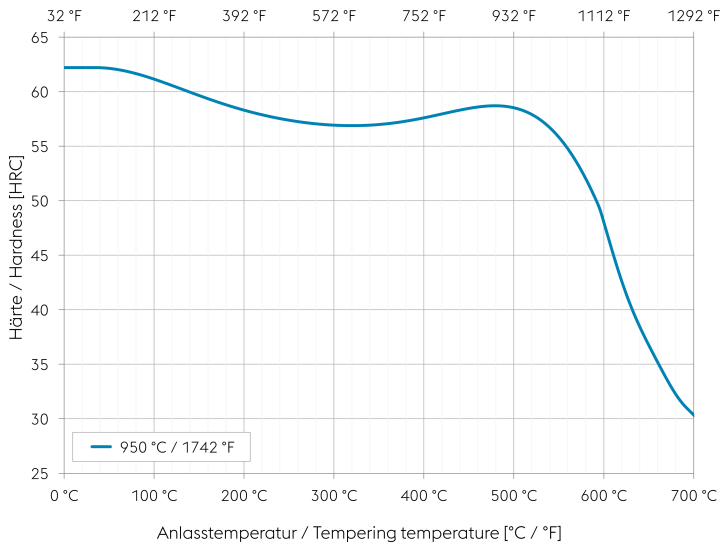
## Stress relieving

Sıcaklık	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.
----------	--------	--

## Sertleştirme ve Temperleme

Sıcaklık	1.000 kadar 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.
----------	----------------------	---

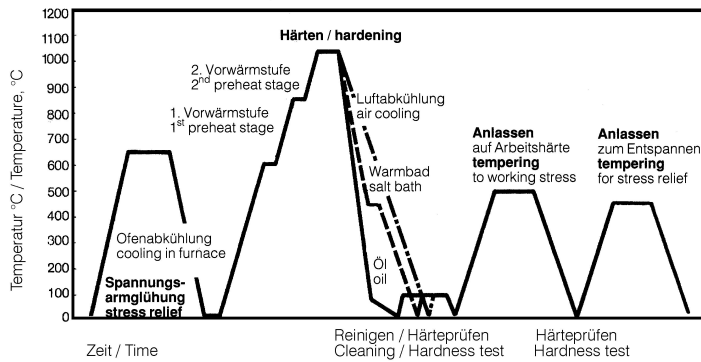
**Tempering chart**



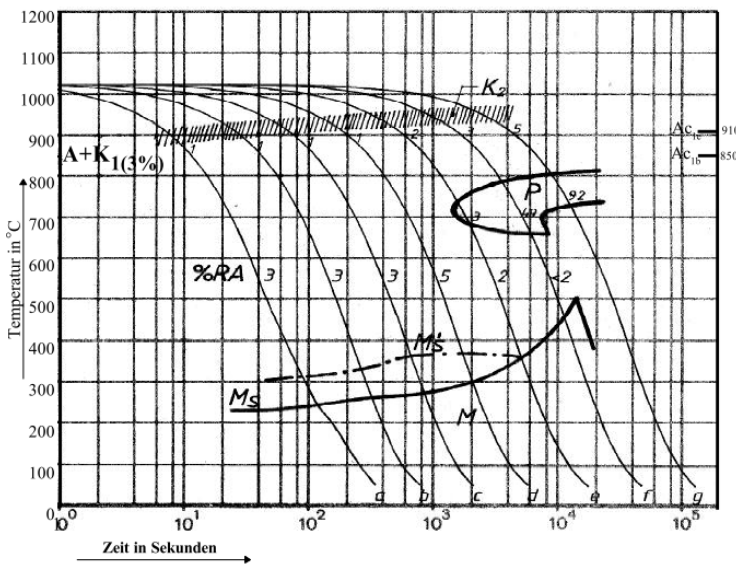
**Tempering:**

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

**Heat treatment sequence**



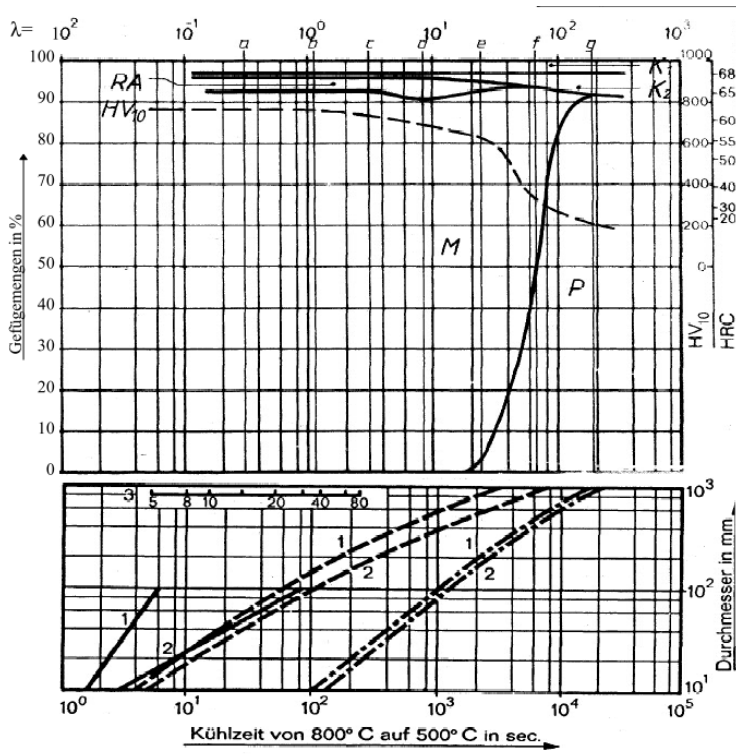
Continuous cooling CCT curves



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

## Fiziksel özellikler

Sıcaklık (°C)	20
Yoğunluk (kg/dm <sup>3</sup> )	7,7
Termal iletkenlik (W/(m.K))	26
Özgül ısı kapasitesi (kJ/kg K)	0,46
Spes. elektrik direnci (Ohm.mm <sup>2</sup> /m)	0,6
Elastikiyet modülü (10 <sup>3</sup> N/mm <sup>2</sup> )	210

## Termal genleşmeler

Sıcaklık (°C)	100	200	300	400	500
Termal genleşme (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.

**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.*