

COLD WORK STEELS

Available Product Variants

Long Products*

Plates

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

Product Description

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.

Process Melting

Airmelted

Properties

- > Toughness & Ductility : good
- > Wear Resistance : high
- > Compressive strength : good
- > Dimensional stability : good

Applications

- > Machine knife (for producers)

Technical data

Material designation	
~1.2360	SEL
~A8	AISI

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	V
0.52	0.95	0.40	8.00	1.40	0.35

Material characteristics

	Compressive strength	Dimensional stability during heat treatment	Toughness	Wear resistance abrasive
BÖHLER K329	★★★	★★★	★★★★★	★★★★★
BÖHLER K305	★★★★★	★★★	★★	★★★★★
BÖHLER K306	★★★★★	★★★	★★★★★	★★★
BÖHLER K313	★★★★★	★★★	★★★	★★★
BÖHLER K320	★★★	★★★	★★★	★★★
BÖHLER K600	★	★★★	★★★★★	★
BÖHLER K601	★	★★★	★★★★★	★★
BÖHLER K605	★★	★★★	★★★★★	★

Delivery condition

Annealed

Hardness (HB)	max. 240
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Heat treatment

Annealing

Temperature	800 to 850 °C 1,472 to 1,562 °F	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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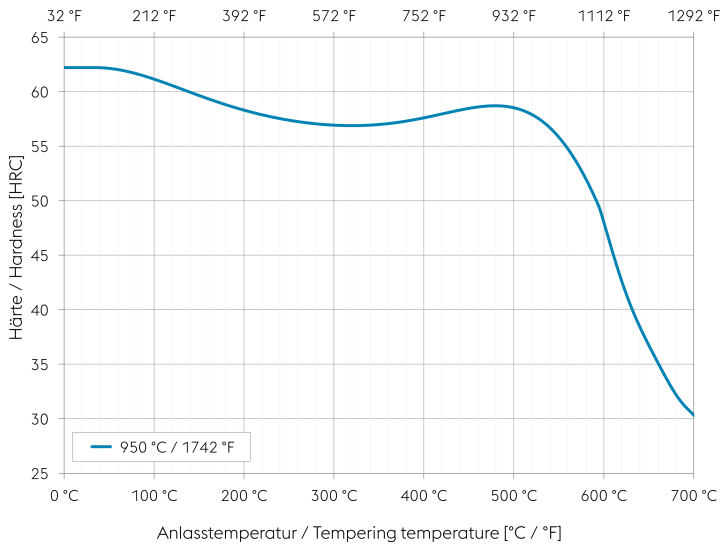
Stress relieving

Temperature	650 °C 1,202 °F	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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Hardening and Tempering

Temperature	1,000 to 1,040 °C 1,832 to 1,904 °F	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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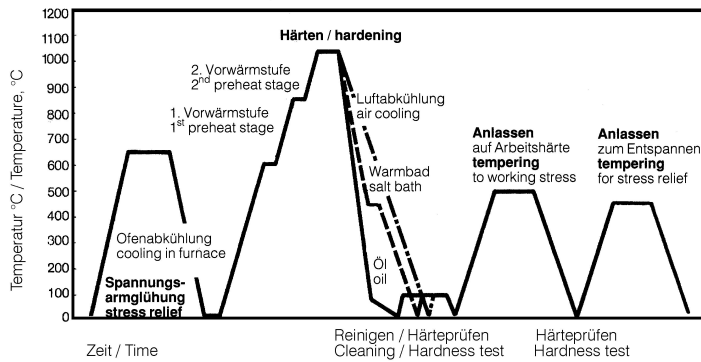
Tempering chart



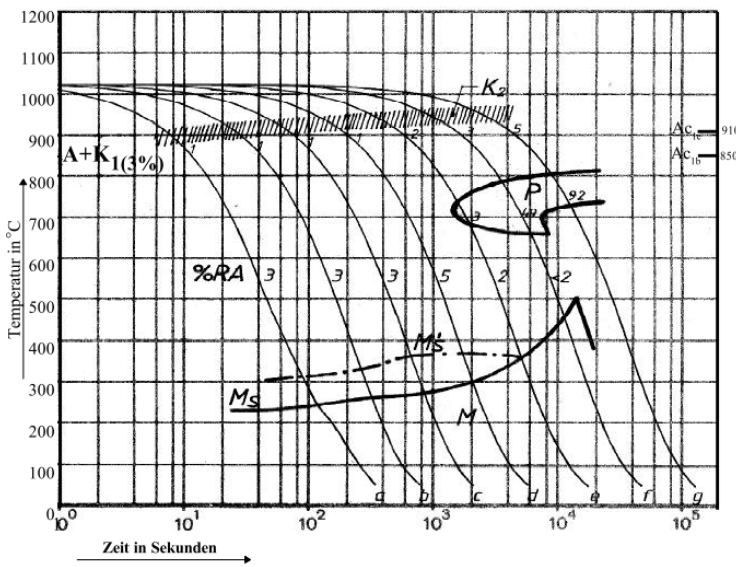
Tempering:

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

Heat treatment sequence



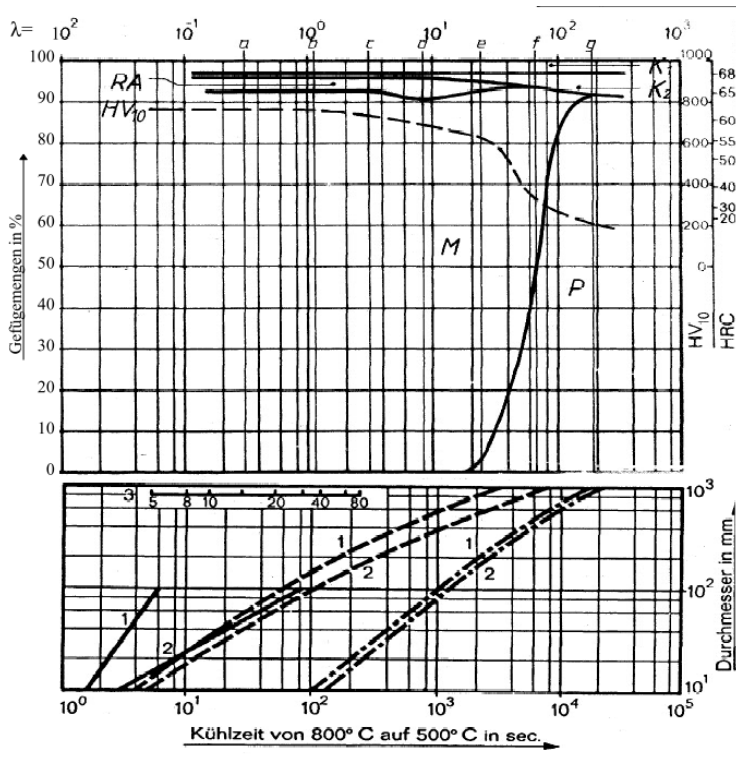
Continuous cooling CCT curves



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

Physical Properties

Temperature (°C °F)	20 68
Density (kg/dm ³ lb/in ³)	7.7 0.28
Thermal conductivity (W/(m.K) BTU/ft h °F)	26 15.02
Specific heat (kJ/kg K BTU/lb °F)	0.46 0.1099
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	0.6 2.84
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	210 30.46

Thermal Expansions between 20°C | 68°F and ...

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/inch.°F)	11.5 6.4	12 6.7	12.2 6.8	12.5 6.9	12.8 7.1

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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