BÖHLER

BÖHLER K360 ISODUR®

KOUDVERVORMSTAAL

Beschikbare uitvoeringen

Stafstaal* | Plaat

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

Product omschrijving

BÖHLER K360 ISODUR is een verderontwikkeling van 8%-chroomstalen en wordt vaak op de behoeften van onze klanten aangepast. De buitengewoon hoge slijtvastheid samen met goede drukbelastbaarheid maken dit staal tot een probleemoplosser.

Smeltroute

Airmelted + Remelted

Eigenschappen

- Taaiheid & Vervormbaarheid : goed
- Slijtageweerstand : hoog
- Samenpersende sterkte : goed
- Dimensionale stabiliteit : goed
- Slijpbaarheid : zeer hoog

Toepassingen

- Machinale messen (voor fabrikanten)
- Coining
- Schroeven en vaten
- Algemene componenten voor werktuigbouw
- Componenten voor de recyclingindustrie
- Walsen
- Fijn stanswerk / ponsen / stampen
- Slijtstukken
- Rollen
- Pill punching dies
- Cold Forming
- Persen van poeders
- Thread rolling (NL)
- Comp. voor uitrustingen onder de grond (boorgaten, schachten enz.)

Chemische samenstelling

C	Si	Mn	Cr	Mo	V	Al	Nb
1,25	0,90	0,35	8,75	2,70	1,18	+	+

Materiaaleigenschappen

	Drukbelastingscapaciteit	Dimensionale stabiliteit tijdens warmtebehandeling	Taaiheid	Slijtvast abrasief	Slijtvaste lijm
BÖHLER K360 ISODUR®	★★★	★★★★	★★★	★★★★	★★★★
BÖHLER K100	★★	★★	★	★★★	★★
BÖHLER K105	★★	★★	★	★★	★★
BÖHLER K107	★★	★★	★	★★★	★★
BÖHLER K110	★★	★★★	★	★★★	★★
BÖHLER K190 MICROCLEAN®	★★★★	★★★★★	★★★★	★★★★	★★★★
BÖHLER K294 MICROCLEAN®	★★★★★	★★★★★	★★★	★★★★★	★★★★★
BÖHLER K340 ECOSTAR®	★★★	★★★	★★	★★	★★
BÖHLER K340 ISODUR®	★★★	★★★★	★★★	★★★	★★★★
BÖHLER K346	★★★	★★★	★★★	★★★★	★★
BÖHLER K353	★★	★★★	★★	★★	★★
BÖHLER K390 MICROCLEAN®	★★★★★	★★★★★	★★★★	★★★★★	★★★★★
BÖHLER K490 MICROCLEAN®	★★★★	★★★★★	★★★★	★★★★	★★★★
BÖHLER K497 MICROCLEAN®	★★★★★	★★★★★	★★★	★★★★★	★★★★★
BÖHLER K888 MATRIX	★★★★	★★★★★	★★★★★	★★	★★
BÖHLER K890 MICROCLEAN®	★★★★	★★★★★	★★★★★	★★★	★★★

Leveringsconditie

gegloeid

Hardheid (HB)	max. 250

Warmtebehandeling

Annealing

Temperatuur	800 naar 850 °C	Slow controlled cooling in furnace at a rate of 10 to 20 °C/hr (18 to 36 °F/hr) down to approximately 600 °C (1112 °F) || Further cooling in air.

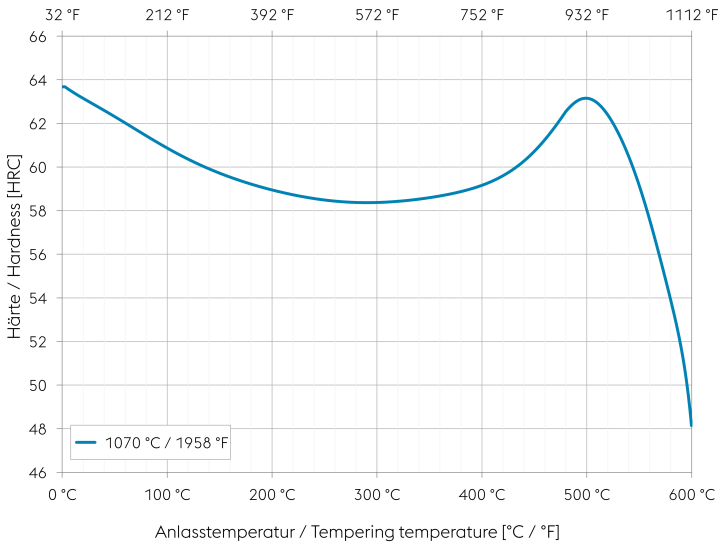
Stress relieving

Temperatuur	560 naar 650 °C	After through heating, hold in neutral atmosphere for 1-2 hours. || Slow cooling in furnace || Intended to relieve stresses caused by extensive machining or in complex shapes.

Harden en ontlaten

Temperatuur	1.040 naar 1.080 °C	Quenching: Oil, salt bath, gas, compressed or still air. || Holding time after temperature equalization: 15 to 30 minutes. || After hardening, tempering to the desired working hardness according to the tempering chart.

Tempering chart - Tempering curve in the vacuum furnace



Specimen size: square 20 mm (0,787 inch)

Slow heating to tempering temperature immediately after hardening.

Time in furnace 1 hour for each 20 mm (0,787 inch) of workpiece thickness but at least 2 hours.

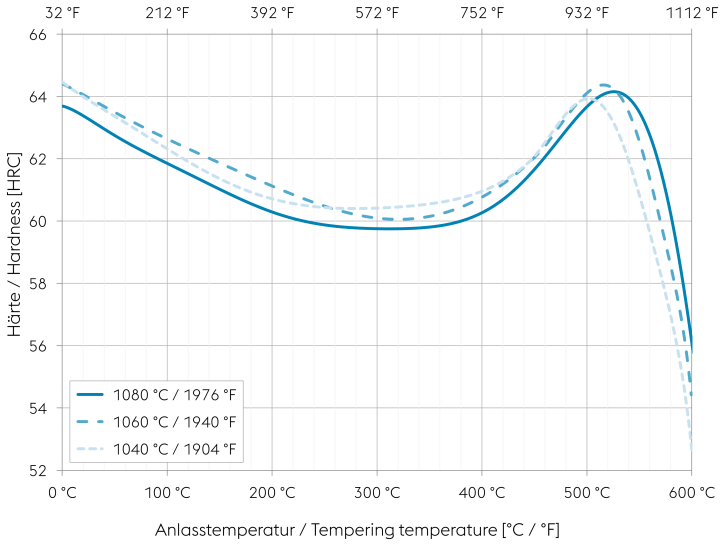
Please refer to the tempering chart for guide values for the achievable hardness after tempering.

It is recommended to temper at least three times above the secondary hardness maximum.

Cooling in air to room temperature after each tempering step is recommended.

Tempering for stress relieving 30 to 50 °C (86 to 122 °F) below the highest tempering temperature.

Tempering chart - Comparison of different austenitising temperatures (salt-bath / oil)



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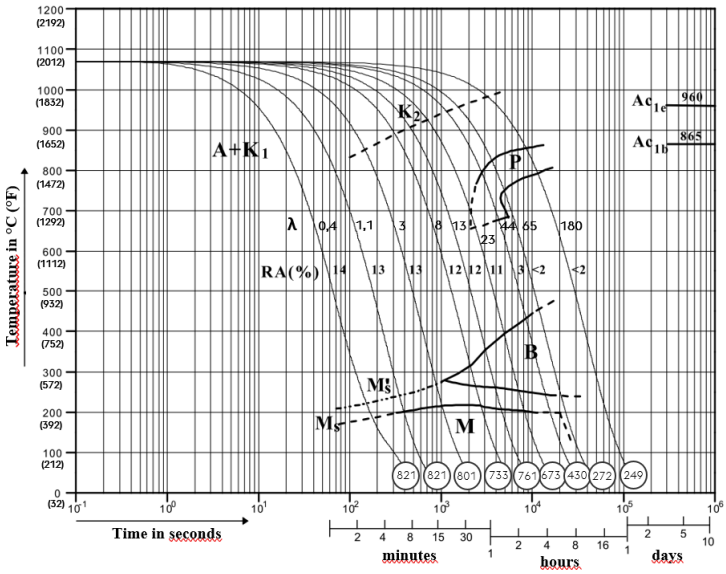
Continuous cooling CCT curves



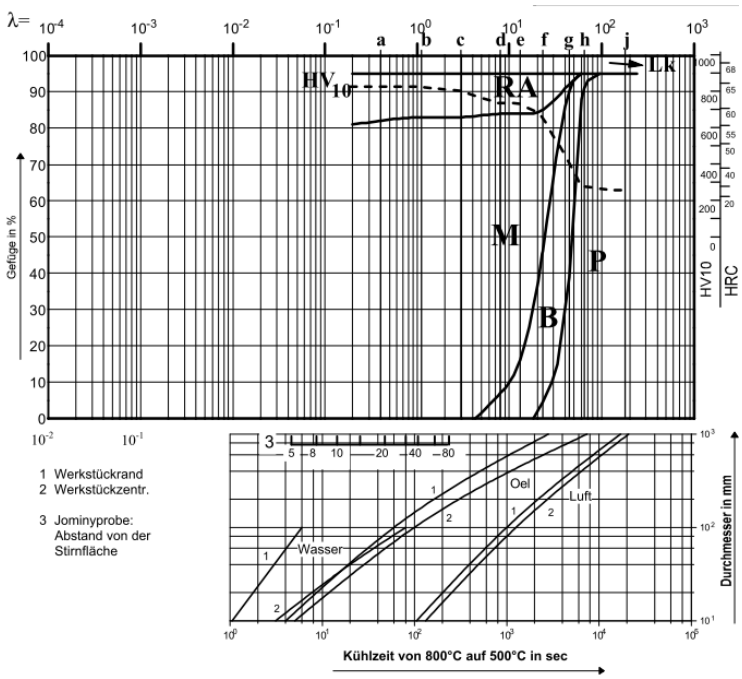
Austenitising temperature: 1070 °C (1958 °F)
Holding time: 30 minutes

O Vickers hardness

0.4...59.8 cooling parameter λ, i.e. duration of cooling from 800 to 500 °C (1472 to 932 °F) in s x 10^{-2}

A... Austenite
K... Carbide
P... Perlite
B...Bainite
M... Martensite
Ms... Martensite starting temperature

Quantitative phase diagram



HV10... Vickers Hardness
Lk... Ledeburite carbide
RA... Residual austenite
M... Martensite
B... Bainite
P... Perlite

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

Fysische eigenschappen

Temperatuur (°C)	20
Soortelijk gewicht (kg/dm^3)	7,7
Thermische conductiviteit (W/(m.K))	16,3
Soortelijke warmte (kJ/kg K)	0,46
Specifieke elektrische weerstand (Ohm.mm^2/m)	0,64
Elasticiteitsmodus (10^{3}N/mm^2)	212

Thermische expansie

Temperatuur (°C)	100	200	300	400	500
Thermische expansie (10^{-6} m/(m.K))	11,2	11,5	11,8	12,3	12,7

Long Products: For additional specification 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.

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ONE STEP AHEAD.