

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 K360 ISODUR belongs to the group of 8% chromium steels. This tool steel is produced using the electro-slag remelting (ESR) process developed by BÖHLER. This re-melting technology ensures the lowest micro and macro segregation as well as excellent purity and uniformity of the material. The alloy composition with higher molybdenum and vanadium content makes BÖHLER K360 ISODUR even more wear resistant than BÖHLER K340 ISODUR. Compared to tool steels like 1.2379 (D2), this combination of better toughness and wear resistance offers significant advantages for punching and cutting tools.

Erime rotası

Airmelted + Remelted

Özellikler

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

Uygulamalar

- > Machine knife (for producers)
- > Coining
- > Screws and Barrels
- > Makine Mühendisliği için Genel Parçalar
- > Geri Dönüşüm Endüstrisi için Parçalar
- > Rolling
- > Fine Blanking, Stamping, Blanking
- > Wear parts
- > Haddeler
- > Pill punching dies
- > Cold Forming
- > Powder Pressing
- > Thread rolling (TR)
- > Comps. for Equip. Below Ground (Boring, Shafts, etc.)

Kimyasal Bileşim

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

Malzeme özellikleri

	Basınç Dayanımı	Isıl işlem sırasında boyutsal kararlılık	Sertlik	Aşındırıcı aşınma direnci	Aşınma direnci yapıştırıcı
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®	★★★★★	★★★★★	★★★★★	★★★	★★★

Teslimat durumu

Annealed

Sertlik (HB)	maks. 250
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Isıl işlem

Annealing

Sıcaklık	800 kadar 850 °C	Slow, controlled cooling in furnace at a rate of 10 to 20 °C/hr down to approx. 600 °C, further cooling in air.
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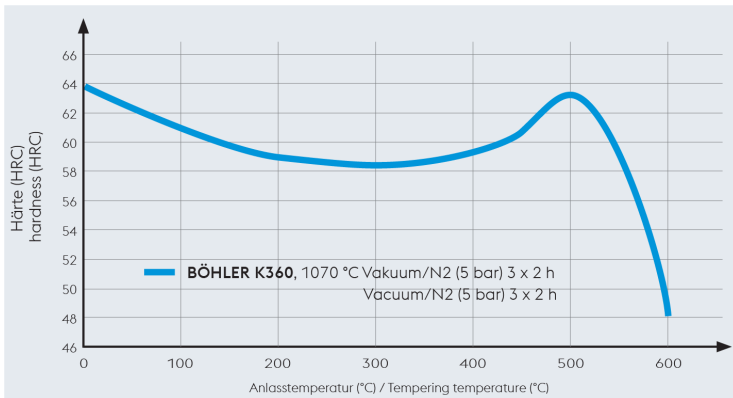
Stress relieving

Sıcaklık	560 kadar 650 °C	Slow cooling in furnace to relieve stresses due to extensive machining or in complex shapes. After through-heating, hold in neutral atmosphere for 1 - 2 hours.
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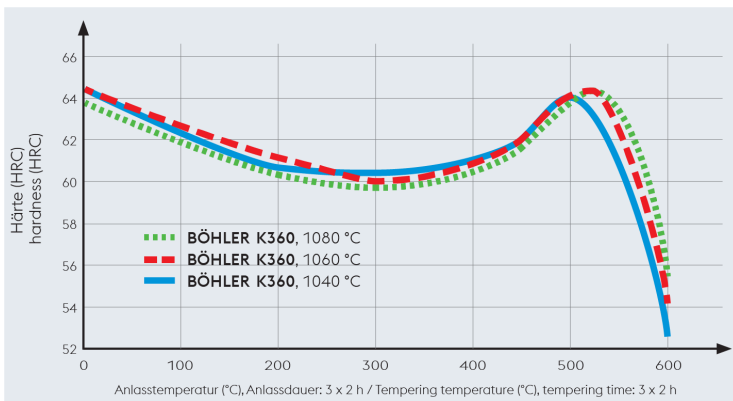
Sertleştirme ve Temperleme

Sıcaklık	1.040 kadar 1.080 °C	Oil, salt bath, compressed air, air After through-heating, hold for 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.
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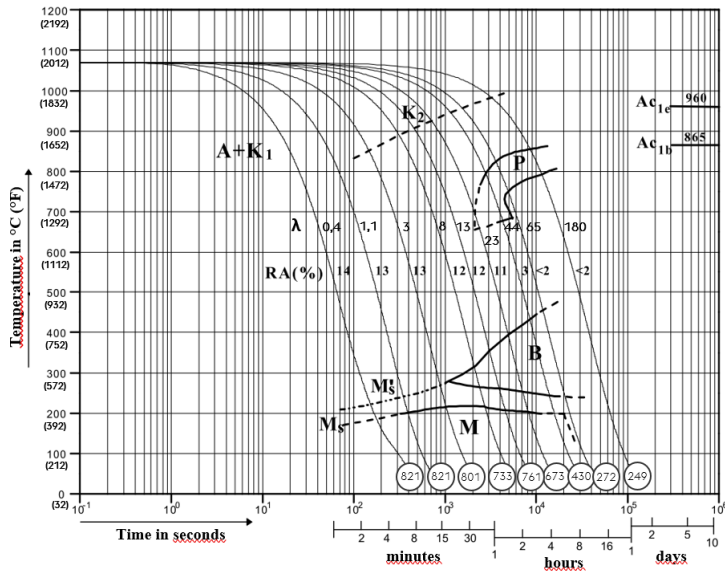
Tempering chart - Tempering curve in the vacuum furnace



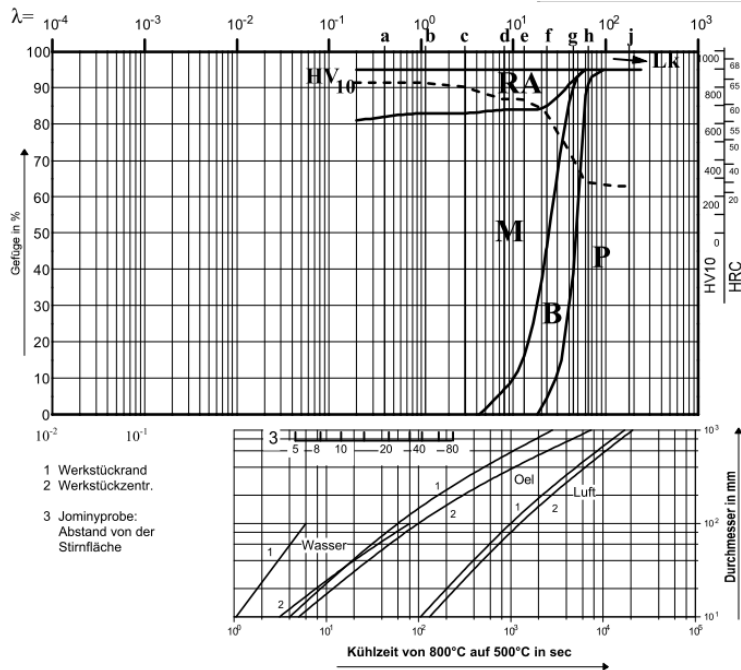
Tempering chart - Comparison of different austenitising temperatures (salt-bath / oil)



Continuous cooling CCT curves



Quantitative phase diagram



Fiziksel özellikler

Sıcaklık (°C)	20
Yoğunluk (kg/dm ³)	7,7
Termal iletkenlik (W/(m.K))	16,3
Özgül ısı kapasitesi (kJ/kg K)	0,46
Spes. elektrik direnci (Ohm.mm ² /m)	0,64
Elastikiyet modülü (10 ³ N/mm ²)	212

Termal genleşmeler

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

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