

ACEROS PARA TRABAJO EN FRÍO

Formatos disponibles

[Productos largos*](#)[Chapas](#)

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

Descripción

BÖHLER K340 ISODUR es un acero para herramientas de trabajo en frío con 8% de Cromo, fabricado mediante el proceso ESR de refundición bajo electroescoria. Esta tecnología desarrollada y probada por BÖHLER garantiza cantidades mínimas de micro y macrosegregaciones, lo cual nos permite ofrecerle el acero de la mayor pureza y homogeneidad, necesarios para lograr las características que aseguren su rendimiento.

Método de obtención

[Airmelted + Remelted](#)

Propiedades

- > Dureza y Ductilidad : buena
- > Resistencia al desgaste : alto
- > Resistencia a la compresión : buena
- > Estabilidad dimensional : buena
- > Afilabilidad : muy alta

Aplicaciones

- > Cuchillas de máquinas (fabricantes)
- > Acuñado
- > Tornillos y cilindros
- > Rodillos
- > Thread rolling (ES)
- > Laminación
- > Corte fino / Troquelado / Estampado
- > Componentes para la industria del reciclaje
- > Componentes de desgaste
- > Pill punching dies
- > Conformado en frío
- > Compactación de polvo
- > Componentes para equipos bajo tierra (perforación, ejes, etc.)
- > Componentes generales de ingeniería mecánica
- > Glasfibre reinforced plastics

Composición Química

| C | Si | Mn | Cr | Mo | V | Al | Nb |
|------|------|------|------|------|------|----|----|
| 1,10 | 0,90 | 0,40 | 8,30 | 2,10 | 0,50 | + | + |

Características

| | Resistencia a la compresión | Estabilidad dimensional durante el tratamiento térmico | Tenacidad | Resistencia al desgaste abrasivo | Resistencia al desgaste adhesivo |
|--|-----------------------------|--|-----------|----------------------------------|----------------------------------|
| BÖHLER K340 ISODUR® | ★★★ | ★★★★★ | ★★★ | ★★★ | ★★★★★ |
| BÖHLER K100 | ★★ | ★★ | ★ | ★★★ | ★★ |
| BÖHLER K105 | ★★ | ★★ | ★ | ★★ | ★★ |
| BÖHLER K107 | ★★ | ★★ | ★ | ★★★ | ★★ |
| BÖHLER K110 | ★★ | ★★★ | ★ | ★★★ | ★★ |
| BÖHLER K190 MICROCLEAN® | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| BÖHLER K294 MICROCLEAN® | ★★★★★ | ★★★★★ | ★★★ | ★★★★★ | ★★★★★ |
| BÖHLER K340 ECOSTAR® | ★★★ | ★★★ | ★★ | ★★ | ★★ |
| BÖHLER K346 | ★★★ | ★★★ | ★★★ | ★★★★★ | ★★ |
| BÖHLER K353 | ★★ | ★★★ | ★★ | ★★ | ★★ |
| BÖHLER K360 ISODUR® | ★★★ | ★★★★★ | ★★★ | ★★★★★ | ★★★★★ |
| BÖHLER K390 MICROCLEAN® | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| BÖHLER K490 MICROCLEAN® | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| BÖHLER K497 MICROCLEAN® | ★★★★★ | ★★★★★ | ★★★ | ★★★★★ | ★★★★★ |
| BÖHLER K888 MATRIX | ★★★★★ | ★★★★★ | ★★★★★ | ★★ | ★★ |
| BÖHLER K890 MICROCLEAN® | ★★★★★ | ★★★★★ | ★★★★★ | ★★★ | ★★★ |

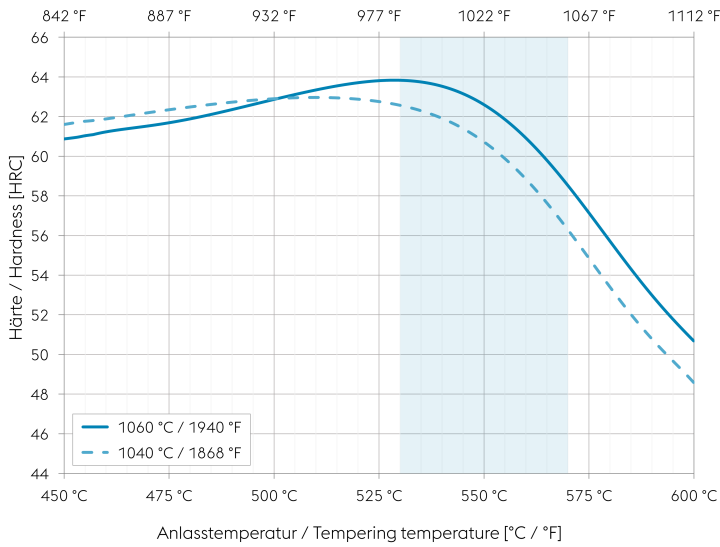
Estado de suministro

| recocido | |
|-------------|----------|
| Dureza (HB) | máx. 235 |

Tratamiento térmico

| Alivio de tensiones | | |
|---------------------|------------------|--|
| Temperatura | 650 °C | After through-heating, hold in neutral atmosphere for 1 - 2 hours. Slow cooling in furnace. |
| Temple y revenido | | |
| Temperatura | 1.040 a 1.060 °C | Oil, salt bath, compressed air, air, vacuum After through-heating, hold for 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart. |

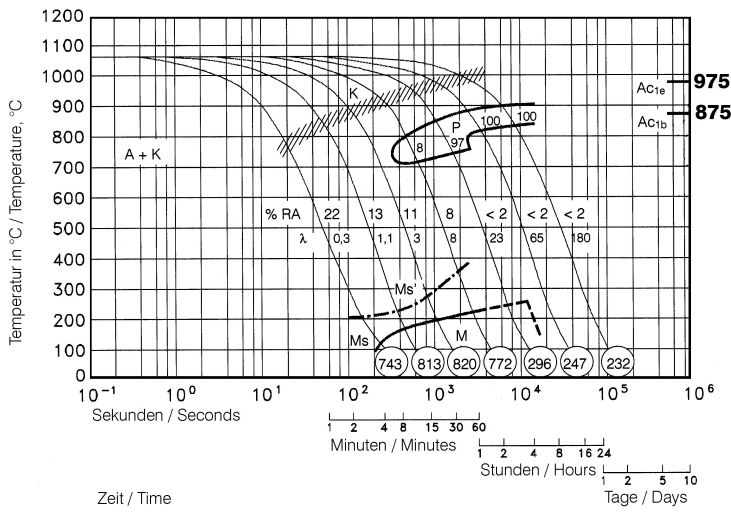
Tempering chart



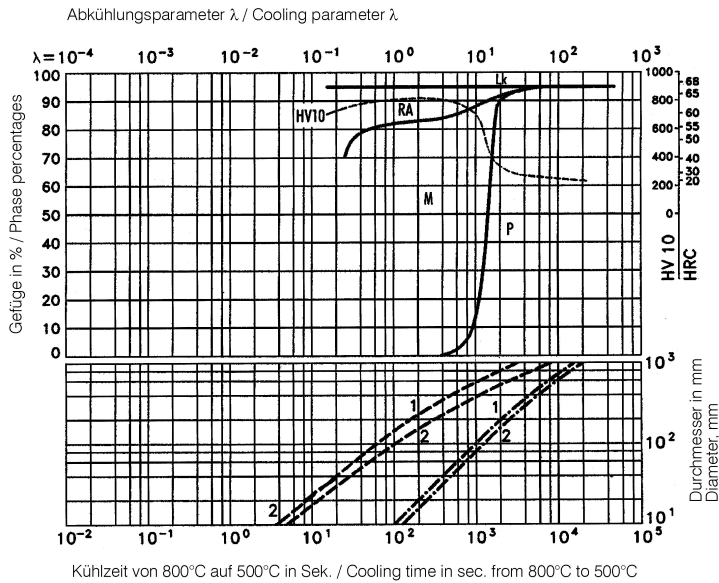
Tempering:

Hardening temperature:
 — 1040°C/1904°F
 - - - 1060°C/1940°F
 Specimen size: square 20 mm

CCT chart for continuous cooling



Quantitative phase diagram



LK... Ledeburitic carbides
RA... Retained austenite
M... Martensite
P... Perlite

Propiedades físicas

| | |
|--|------|
| Temperatura (°C) | 20 |
| Densidad (kg/dm ³) | 7,68 |
| Conductividad térmica (W/(m.K)) | 17,8 |
| Calor específico (kJ/kg K) | 0,49 |
| Resistencia eléctrica específica (Ohm.mm ² /m) | 0,64 |
| Módulo de elasticidad (10 ³ N/mm ²) | 206 |

Expansión térmica

| Temperatura (°C) | 100 | 200 | 300 | 400 | 500 | 600 | 700 |
|--|------|------|------|------|------|------|------|
| Expansión térmica (10 ⁻⁶ m/(m.K)) | 11,2 | 11,8 | 12,3 | 12,7 | 12,9 | 13,1 | 13,1 |

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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ONE STEP AHEAD.