BÖHLER

BÖHLER S290 MICROCLEAN®

ACEROS RÁPIDOS

Formatos disponibles

Productos largos | Chapas

Descripción

BÖHLER S290 MICROCLEAN - "El duro"

Este acero pulvimetalúrgico se encuentra entre el acero al carbono y el acero rápido y gracias a su inusual aleación alcanza una dureza de hasta 70 HRC. Además de su dureza en caliente y buena resistencia al desgaste, presenta una resistencia a la compresión que resalta como una de las principales características de este acero.

Propiedades

- Dureza y ductilidad: good
- Resistencia al desgaste: very high
- Resistencia a la compresión: very high
- Estabilidad de los bordes: very high
- Molturabilidad: good
- Dureza en caliente (dureza al rojo): very high

Aplicaciones

- Conformado en frío / acuñado
- Corte fino / Troquelado / Estampación
- Talladura de engranajes, herramientas de rasurado y perfiladoras
- Compactación de polvo
- Herramientas de corte especiales
- Componentes de desgaste

Composición Química

C	Si	Mn	Cr	Mo	V	W	Co
2	0,5	0,3	3,8	2,5	5,1	14,3	11

Características

	Resistencia a la compresión	Aptitud para el rectificado	Dureza en caliente	Tenacidad	Resistencia al desgaste	Edge Stability
BÖHLER S290 MICROCLEAN	★★★★★	★	★★★★	★★	★★★★★	★★★★
BÖHLER S200	★★★	★★	★★★	★★	★★★	★★
BÖHLER S390 MICROCLEAN	★★★★	★★★	★★★★	★★★★	★★★★	★★★★
BÖHLER S400	★★★	★★★	★★★	★★★	★★	★★
BÖHLER S401	★★	★★★	★★	★★★	★★	★★★
BÖHLER S404	★★	★★★	★★	★★★	★★	★★
BÖHLER S500	★★★★	★★★	★★★★	★★	★★★	★★★
BÖHLER S590 MICROCLEAN	★★★★	★★★	★★★★	★★★	★★★	★★★
BÖHLER S600	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S607	★★★	★★★	★★★	★★	★★★	★★★
BÖHLER S690 MICROCLEAN	★★★	★★★	★★	★★★★★	★★★	★★
BÖHLER S705	★★★	★★★	★★★★	★★	★★	★★★★
BÖHLER S790 MICROCLEAN	★★★	★★★	★★	★★★★	★★	★★★

Estado de suministro

recocido

Dureza	máx. 350 HB

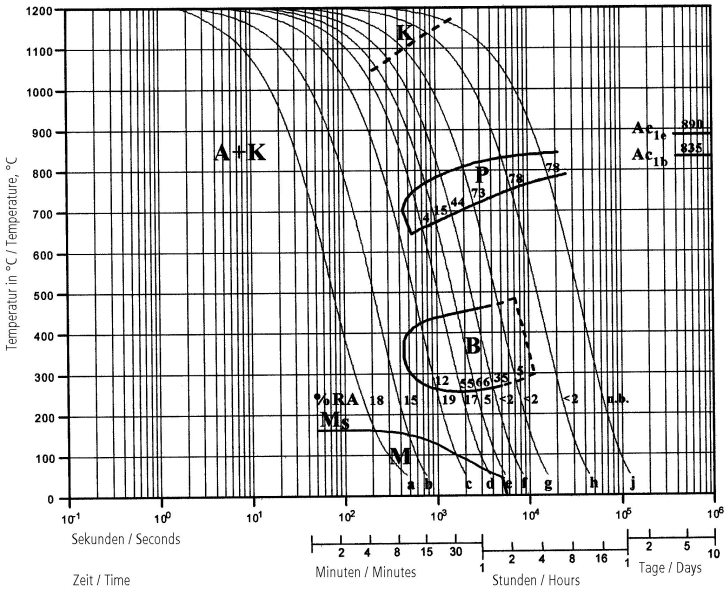
Tratamiento térmico

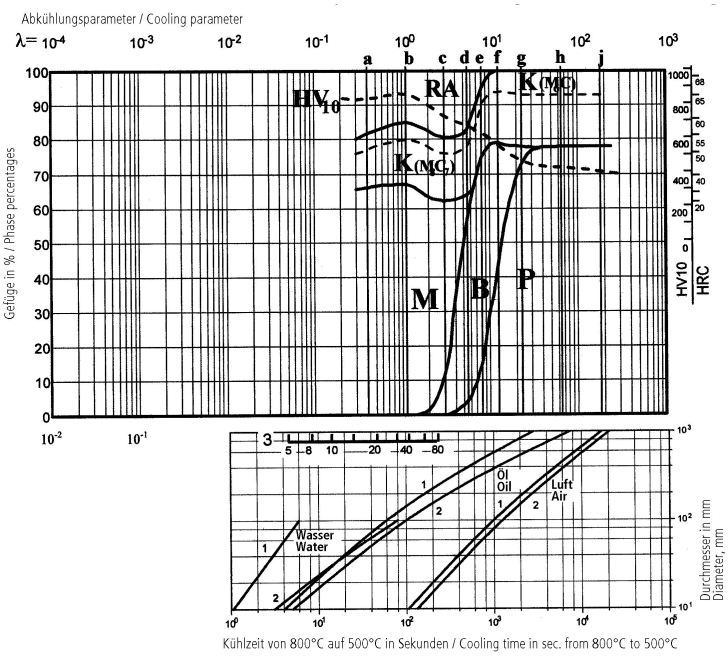
Aliviar el estrés

Temperatura (°C)	600 to 650	Slow cooling in furnace. To relieve stresses set up by extensive machining or in tools of intricate shape. After through heating, hold in neutral atmosphere for 1 to 2 hours.

Temple y revenido

Temperatura (°C)	1150 to 1210	1150 to 1210°C (2102 to 2210°F), salt bath. 1150 to 1190°C (2102 to 2174°F), gas. Upper temperature range for parts of simple shape, lower for parts of complex shape. For cold working tools also lower temperatures are of inportance for higher toughness. Soaking time after heating up the whole section of a workpiece 80 seconds minimum is required for dissolving sufficient carbides. Maximum soaking time 150 seconds to avoid detriments by oversoaking. In practice instead of soaking time the time of exposure from placing the workpiece into the salth bath after preheating until removing (including the stages of heating to the specified surface temperature and of heating to the temperature. throughout the whole section) is used. “see immersion time diagrams”. Vacuum hardening is also possible. The time in the vacuum furnace depends on the relevant workpiece size and furnace parameters.


Temperatur in °C / Temperature, °C
A+K
K
P
B
M
Ms
%RA
Ac1e 891
Ac1b 835
Sekunden / Seconds
Minuten / Minutes
Stunden / Hours
Tage / Days
Zeit / Time


Abkühlungsparameter / Cooling parameter
Gefüge in % / Phase percentages
HV10
RA
K(MC)
M
B
P
HV10
HRC
Wasser Water
Öl Oil
Luft Air
Durchmesser in mm Diameter, mm
Kühlzeit von 800°C auf 500°C in Sekunden / Cooling time in sec. from 800°C to 500°C

Physical Properties

Temperatura (°C)	20
Densidad (kg/dm^3)	8,3
Conductividad térmica (W/(m.K))	19
Calor específico (J/(kg.K))	410
Resistencia eléctrica específica (Ohm.mm^2/m)	0,56
Módulo de elasticidad (10^{3}N/mm^2)	242

Expansión térmica

Temperatura (°C)	100	200	300		500	600	700
Expansión térmica (10^{-6} m/(m.K))	9,6	10	10,3		10,9	11,2	11,6

Para más información vea www.acerosbohler.com

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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voestalpine
ONE STEP AHEAD.