BÖHLER

BÖHLER S290
MICROCLEAN®

SNELDRAAISTAAL

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

Dit materiaal slaat de brug tussen hardmetaal en snelstaal, en vertoont door zijn buitengewone legerings-samenstelling een hardheid tot 70 HRC. Behalve de warmhardheid en de goede slijtvastheid is ook de druk-belastbaarheid één van de belangrijkste eigenschappen van dit poedermetallurgische snelstaal.

Smeltroute

Powder metallurgy

Eigenschappen

- Taaiheid & Vervormbaarheid : goed
- Slijtageweerstand : zeer hoog
- Samenpersende sterkte : zeer hoog
- Randstabiliteit : zeer hoog
- Slijpbaarheid : goed
- Hete hardheid (rode hardheid) : zeer hoog

Toepassingen

- Koudvervorming / munten
- Persen van poeders
- Fijn stanswerk / ponsen / stampen
- Speciale snijwerktuigen
- Gereedschap voor snijden, schrapen en steken van tandwielen
- Slijtstukken

Chemische samenstelling

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

Materiaaleigenschappen

	Drukbelastingscapaciteit	Vervormbaarheid	Hete hardheid	Taaiheid	Slijtvastheid	Behoud van snijkant
BÖHLER S290 MICROCLEAN®	★★★★★	★	★★★★	★★	★★★★★	★★★★
BÖHLER S390 MICROCLEAN®	★★★★	★★★	★★★★	★★★★	★★★★	★★★★
BÖHLER S393 MICROCLEAN®	★★★★	★★★	★★★★	★★★★	★★★★	★★★★
BÖHLER S590 MICROCLEAN®	★★★★	★★★	★★★★	★★★	★★★	★★★
BÖHLER S690 MICROCLEAN®	★★★	★★★	★★	★★★★★	★★★	★★
BÖHLER S790 MICROCLEAN®	★★★	★★★	★★	★★★★	★★	★★★
BÖHLER S793 MICROCLEAN®	★★★	★★★	★★★★	★★★	★★★	★★★

Leveringsconditie

gegloeid

Hardheid (HB)	max. 350

Warmtebehandeling

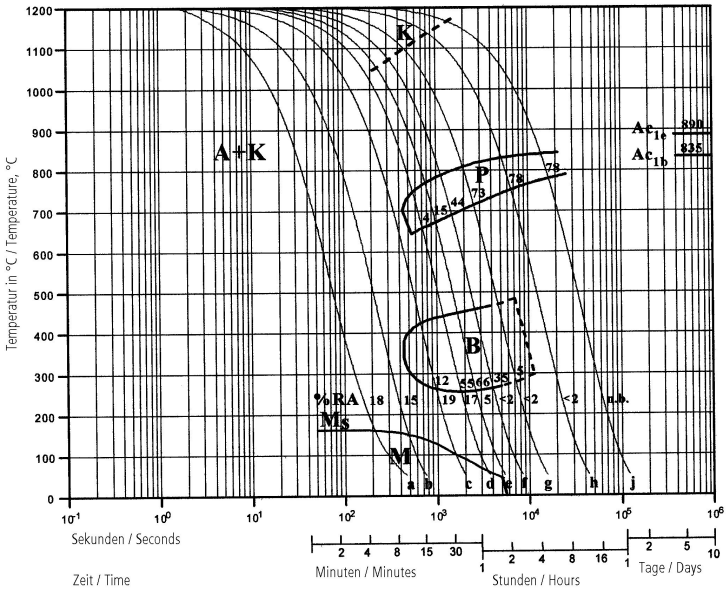
Stress relieving

Temperatuur	600 naar 650 °C	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.

Harden en ontlaten

Temperatuur	1.150 naar 1.210 °C	Salt bath, vacuum || Preheating: 1st stage ~ 500 °C (930 °F), 2nd stage ~ 850 °C (1560 °F), 3rd stage ~1050 °C (1920 °F)|| Austenitising: 1150 - 1210 °C (2100 °F - 2210 °F), holding time after complete heating 80 seconds, maximum 150 seconds, to avoid material damage due to overheating. || Quenching: oil, warm bath (500 - 550 °C (930 °F - 1020 °F)), gas
Temperatuur	550 naar 580 °C	Slow heating to tempering temperature immediately after austenitising. || Dwell time in the furnace 1 hour per 20 mm material thickness (at least 1 hour) || Slow cooling to room temperature between each tempering step || 3 tempering cycles recommended || Hardness see tempering chart

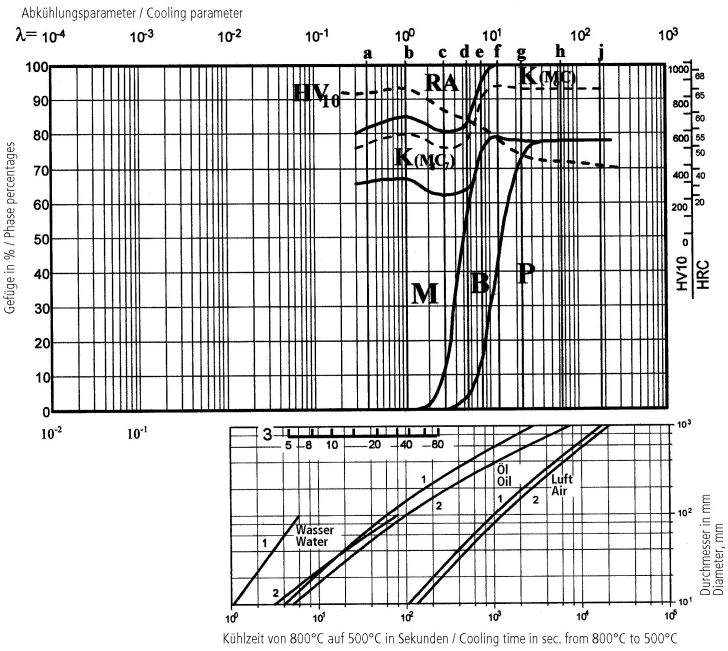
Continuous cooling CCT curves



Austenitising temperature: 1210°C (2210°F)
Holding time: 180 seconds

A....Austenite
B....Bainite
K....Carbide
P....Perlite
M....Martensite
RA...Retained Austenite

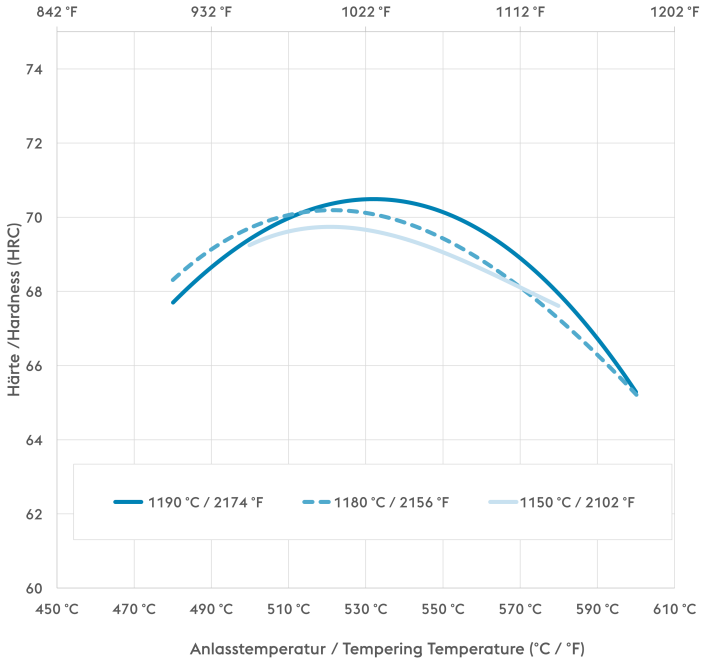
Quantitative phase diagram



A....Austenite
B....Bainite
K....Carbide
P....Perlite
M....Martensite
RA...Retained Austenite

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

Tempering Chart



Holdingtime 3x2 hours

Specimensize: square 25mm

Fysische eigenschappen

Temperatuur (°C)	**20**
Soortelijk gewicht (kg/dm^3)	8,3
Thermische conductiviteit (W/(m.K))	19
Soortelijke warmte (kJ/kg K)	0,41
Specifieke elektrische weerstand (Ohm.mm^2/m)	0,56
Elasticiteitsmodus (10^{3}N/mm^2)	242

Thermische expansie

Temperatuur (°C)	100	200	300	400	500	600	700
Thermische expansie (10^{-6} m/(m.K))	9,6	10	10,3	10,6	10,9	11,2	11,6

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.

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.

voestalpine BÖHLER Edelstahl GmbH & Co KG
Mariazeller Straße 25
8605 Kapfenberg, AT
T. +43/50304/20-0
E. info@bohler-edelstahl.at
https://www.voestalpine.com/bohler-edelstahl/de/