

SNELDRAAISTAAL

Beschikbare uitvoeringen

Stafstaal*

Plaat

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

Product omschrijving

BÖHLER S500 – "Het vuurvaste"

In de groep van conventionele snelstalen is deze legering, met verschil tot ieder ander, het materiaal dat behalve de uitstekende snijdeigenschappen ook een zeer goede warmhardheid biedt.

Smeltroute

Airmeltd

Eigenschappen

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

Toepassingen

- > Bladen voor zaagmachines
- > Kopfrezen
- > Spiraalboren en tappen
- > Trekfrezen en ruimers
- > Gereedschap voor snijden, schrapen en steken van tandwielen
- > Thread rolling (NL)
- > Koudvervorming / munten
- > Speciale snijwerktuigen

Technische gegevens

Materiaal aanduiding		Normen	
1.3247	SEL	4957	EN ISO
HS2-9-1-8	EN		

Chemische samenstelling

C	Si	Mn	Cr	Mo	V	W	Co
1,1	0,5	0,2	3,9	9,2	1,1	1,5	7,8

Materiaaleigenschappen

	Drukbelastingcapaciteit	Verdraaibaarheid	Hete hardheid	Taaheid	Slijtvastheid	Behoud van snijkant
BÖHLER S500	★★★★	★★★	★★★★★	★★	★★★	★★★
BÖHLER S200	★★★	★★	★★★	★★	★★★	★★
BÖHLER S400	★★★	★★★	★★★	★★★	★★	★★
BÖHLER S401	★★	★★★	★★	★★★	★★	★★★
BÖHLER S404	★★	★★★	★★	★★★	★★	★★
BÖHLER S430	★★	★★★	★★	★★★	★★	★★
BÖHLER S600	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S607	★★★	★★★	★★★	★★	★★★	★★★
BÖHLER S630	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S705	★★★	★★★	★★★★★	★★	★★	★★★★★
BÖHLER S730	★★★	★★★	★★★★★	★★	★★	★★★★★

Leveringsconditie

gegloeid

Hardheid (HB)	max. 280 Drawn max 300 HB
Treksterkte (N/mm ²)	max. 6.964
Opbrengststerkte (MPa)	min. 3

Warmtebehandeling

Annealing

Temperatuur	770 naar 840 °C	Controlled slow cooling in furnace (10 to 20°C / h) to approx. 600°C (1110°F), air cooling.
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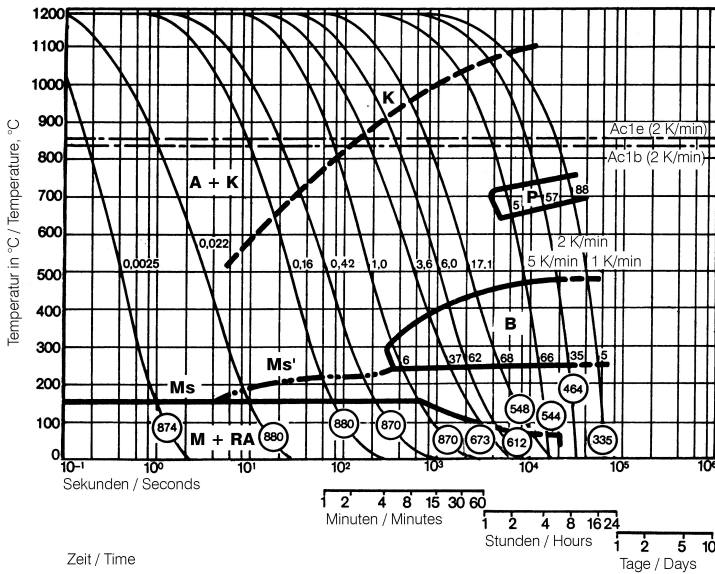
Stress relieving

Temperatuur	600 naar 650 °C	Slow cooling 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.
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Harden en ontlaten

Temperatuur	1.130 naar 1.180 °C	Salt bath, vacuum Preheating: 1st stage ~ 500 °C, 2nd stage ~ 850 °C, 3rd stage ~1050 °C Austenitising: 1130 - 1180 °C, holding time after complete heating 80 seconds, maximum 150 seconds, to avoid material damage due to overheating. Quenching: oil, warm bath (500 - 550 °C), gas
Temperatuur	550 naar 570 °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 3 tempering cycles recommended Hardness see tempering chart

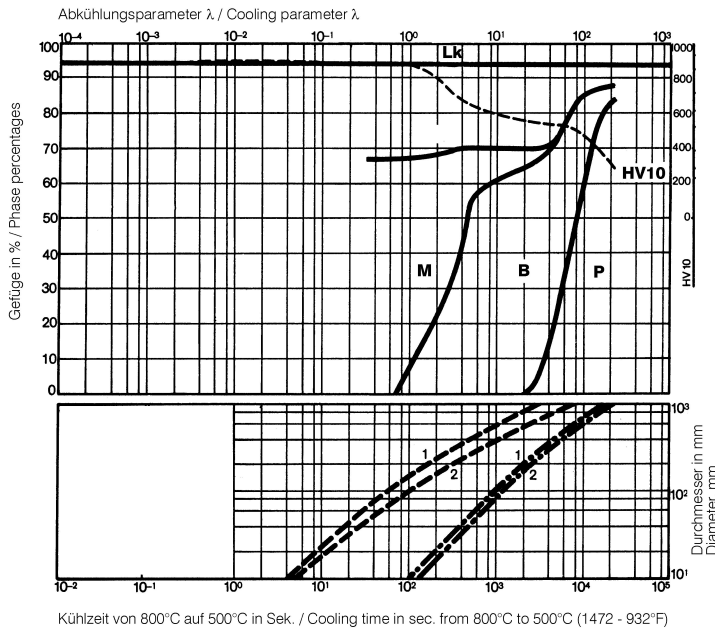
Continuous cooling CCT curves



Austenitising temperature: 1180°C (2156°F)
Holding time: 180 seconds

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

Quantitative phase diagram

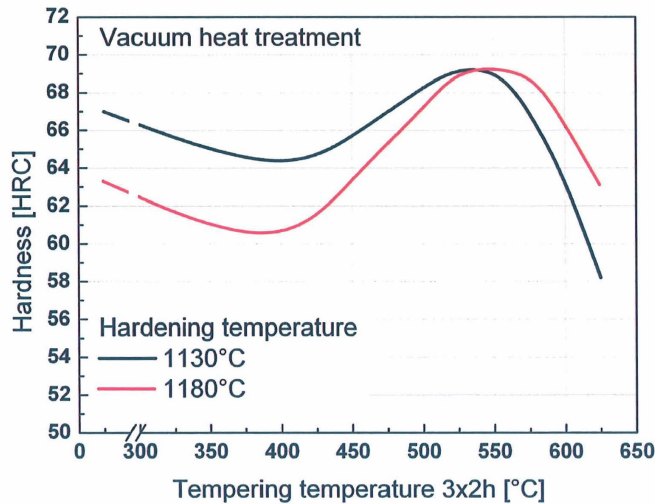


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- 1....Edge or Face
- 2....Core
- 3....Jominy test: distance from quenched end

Kühlzeit von 800°C auf 500°C in Sek. / Cooling time in sec. from 800°C to 500°C (1472 - 932°F)

Tempering Chart



Holding time 3 x 2 hours
Specimen size: square 25 mm

Fysische eigenschappen

Temperatuur (°C)	20
Soortelijk gewicht (kg/dm ³)	8,1
Thermische conductiviteit (W/(m.K))	20
Soortelijke warmte (kJ/kg K)	0,429
Specifieke elektrische weerstand (Ohm.mm ² /m)	0,52
Elasticiteitsmodulus (10 ³ N/mm ²)	220

Thermische expansie

Temperatuur (°C)	100	200	300	400	500	600	700
Thermische expansie (10 ⁻⁶ m/(m.K))	11	11,5	11,9	12,3	12,4	12,5	12,5

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.