KOUDVERVORMSTAAL

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

Machineklemmen (bijv. spantangen, spandoornen), schaarmessen, ponsen, Schroevendraaiers, doorslagpennen, drevels, optrompkoppen, centers, nageldrevels.

Smeltroute

Airmelted

Eigenschappen

- Taaiheid & Vervormbaarheid : zeer hoog
- Samenpersende sterkte : goed
- Dimensionale stabiliteit : goed
- Treksterkte / Opbrengststerkte : hoog

Toepassingen

- Cold Forming
- Algemene componenten voor werktuigbouw
- Standaardonderdelen (matrijzen, platen, pennen, ponsen)
- Componenten voor de recyclingindustrie

Technische gegevens

Materiaal aanduiding	
1.2101	SEL
62SiMnCr4	EN

Chemische samenstelling

C	Si	Mn	Cr
0,63	1,10	1,10	0,60

Materiaaleigenschappen

	Drukbelastingscapaciteit	Dimensionale stabiliteit tijdens warmtebehandeling	Taaiheid	Slijtvast abrasief
BÖHLER K245	★★	★	★★★★★	★
BÖHLER K455	★★★	★	★★★★★	★
BÖHLER K460	★★★★	★	★★★★	★★
BÖHLER K720	★★	★	★★★★	★

Leveringsconditie

gegloeid

Hardheid (HB)	max. 235

Warmtebehandeling

Annealing

Temperatuur	710 naar 750 °C	Slow controlled cooling in furnace at a rate of 50 to 68°F/hr (10 to 20°C/hr) down to approx. 1112°F (600°C), further cooling in air.

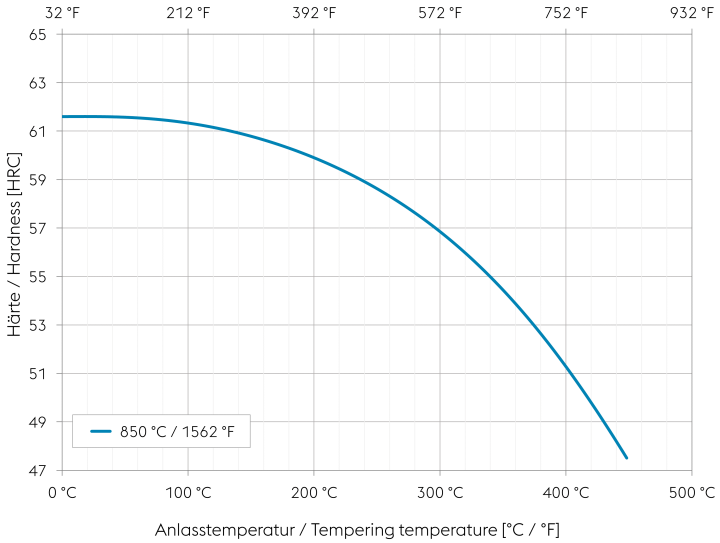
Stress relieving

Temperatuur	650 °C	Slow cooling in furnace; Intended to relieve stresses set up by extensive machining, or in complex shapes. After through heating, hold in neutral atmosphere for 1 to 2 hours.

Harden en ontlaten

Temperatuur	830 naar 860 °C	Oil, salt bath (for small sizes) Holding time at hardening temperature: 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.

Tempering chart



Tempering:

Specimen size: square 0,787 inch (20 mm)

Slow heating to tempering temperature immediately after hardening.

Time in furnace 1 hour for each 0,787 inch (20 mm) of workpiece thickness but at least 2 hours.

Slow cooling to room temperature after each tempering step is recommended.

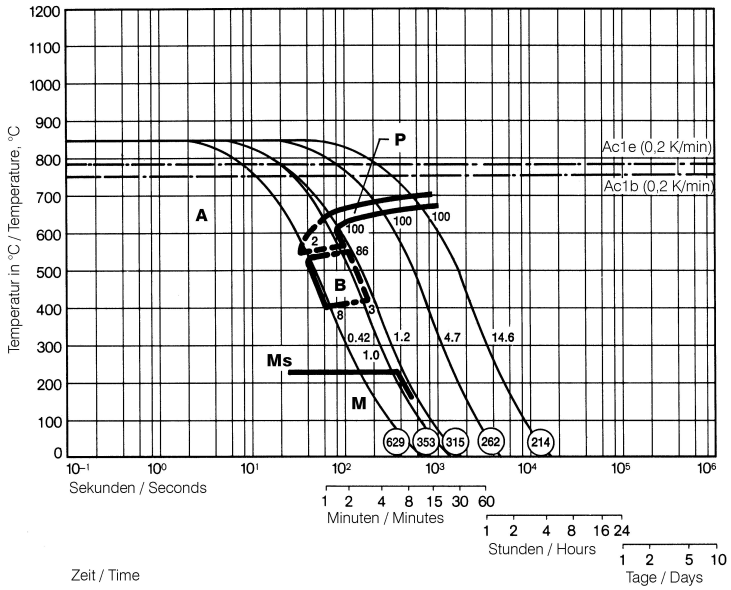
1. Tempering at 392 to 482 °F (200 to 250 °C) to working hardness

2. Partial tempering at 932 to 1022 °F (500 to 550 °C) to spring hardness

Please refer to the tempering chart for guide values for the hardness achievable after tempering.

Tempering for stress relieving 86 to 122 °F (30 to 50 °C) below the highest tempering temperature.

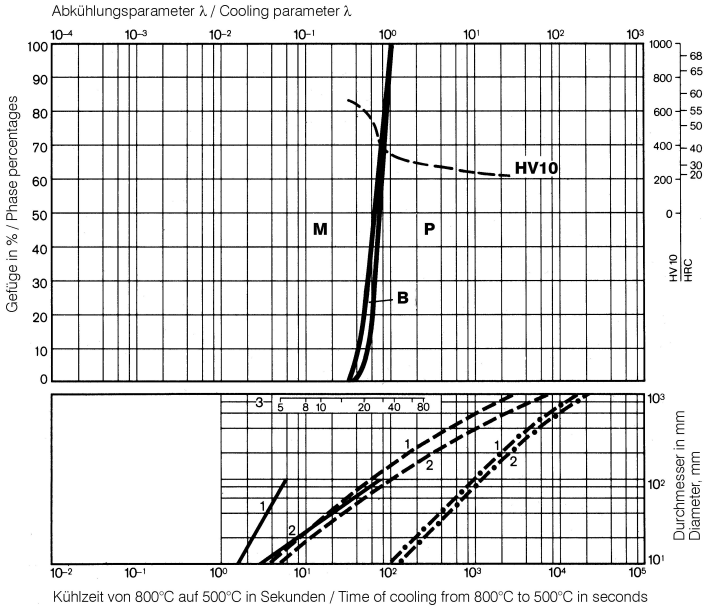
Continuous cooling CCT curves



Austenitising temperature: 845°C / 1553°F
Holding time: 15 minutes

O Vickers hardness
2...100 phase percentages
0.42...14.6 cooling parameter, i.e. duration of cooling from 800°C to 500°C (1472°F to 932°F) in s x 10^{-2}

Quantitative phase diagram

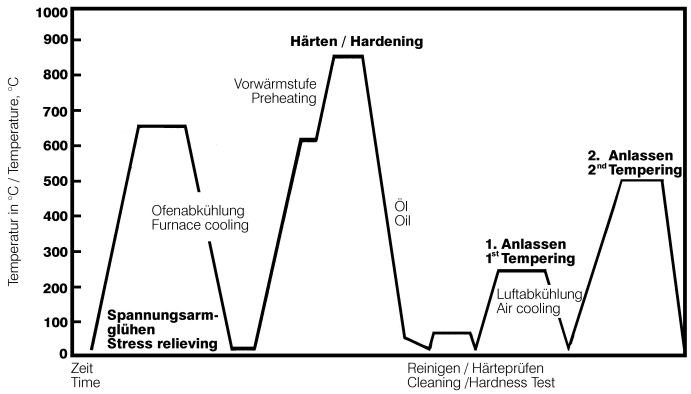


A... Austenite
B... Bainite
P... Perlite
M... Martensite

——— Watercooling
- - - - - - Oil cooling
- • - Air cooling

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

Heat treatment sequence



Fysische eigenschappen

Temperatuur (°C)	20
Soortelijk gewicht (kg/dm^3)	7,7
Thermische conductiviteit (W/(m.K))	30
Soortelijke warmte (kJ/kg K)	0,46
Specifieke elektrische weerstand (Ohm.mm^2/m)	0,35
Elasticiteitsmodus (10^{3}N/mm^2)	210

Thermische expansie

Temperatuur (°C)	100	200	300	400	500
Thermische expansie (10^{-6} m/(m.K))	12,4	12,1	12,6	12,8	13

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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voestalpine
ONE STEP AHEAD.