

# BRZOREZNI ČELICI

## Dostupne varijante proizvoda



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

## Opis proizvoda

### BÖHLER S630 – ekonomični čelik"

Volfram-molibden brzorezni čelik legiran s aluminijom za sjajnu žilavost i dobru strojnu obradivost. Univerzalno primjenjiv za ureznice i svrdla, razvrtače, metalne pile, glodala svih vrsta i alate za obradu drveta.

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## Put taljenja

## Karakteristike

- > Žilavost i duktilnost : visok
- > Otpornost na habanje : visok
- > Tlačna čvrstoća : visok
- > Stabilnost rubova : vrlo visoka
- > Mogućnost brušenja : dobar
- > Tvrdća pri visokim temperaturama : visok

## Korištenje

- > Hladno oblikovanje / utiskivanje
- > Valjanje
- > Standardni dijelovi (kalupi, ploče, klinovi, probijači)
- > Precizno štancanje / štancanje / pečačenje
- > Rezanje / strojni noževi
- > Svrdla i konusi
- > Oblikovanje utiskivanjem praškastih materijala
- > Posebni rezni alati
- > Potrošni dijelovi

## Tehnički podaci

Oznaka materijala	
1.3330	SEL
HS 4-4-2 Al	EN

## Kemijski sastav

C	Cr	Mo	V	W	Al
0,95	4,00	4,00	2,00	4,00	0,50

## Materijal

	Kapacitet tlaka	Brušenje	Vruća tvrdoća	Žilavost	Otpornost na habanje	Točnost rezanja
BÖHLER S630	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S200	★★★	★★	★★★	★★	★★★	★★
BÖHLER S400	★★★	★★★	★★★	★★★	★★	★★
BÖHLER S401	★★	★★★	★★	★★★	★★	★★★
BÖHLER S404	★★	★★★	★★	★★★	★★	★★
BÖHLER S430	★★	★★★	★★	★★★	★★	★★
BÖHLER S500	★★★★	★★★	★★★★	★★	★★★	★★★
BÖHLER S600	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S607	★★★	★★★	★★★	★★	★★★	★★★
BÖHLER S705	★★★	★★★	★★★★	★★	★★	★★★★
BÖHLER S730	★★★	★★★	★★★★	★★	★★	★★★★

## Isporuka

## Annealed

Tvrdoća (HB)	max. 280
Vlačna čvrstoća (MPa)	max. 950

## Toplinska obrada

## Annealing

Temperatura	770 do 840 °C	Controlled slow cooling in furnace (10 - 20°C / h / (50 - 68°F 7 h) to approx. 600°C (1110°F), air cooling.
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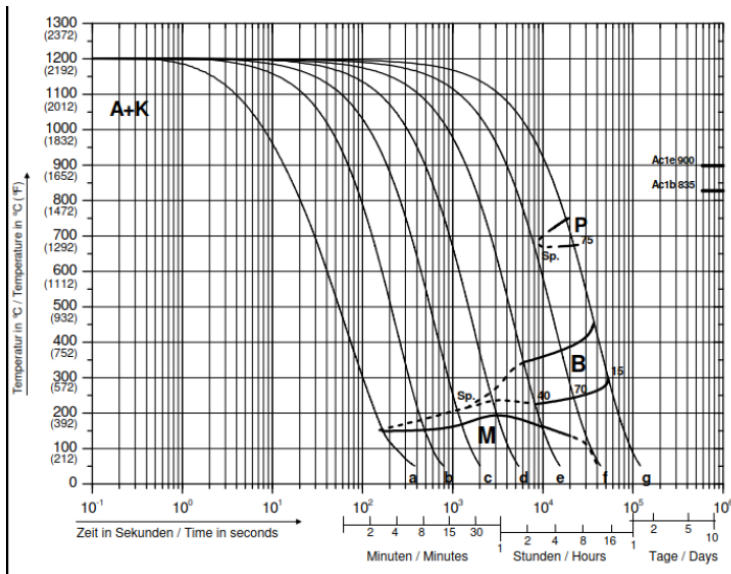
## Stress relieving

Temperatura	600 do 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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## Hardening and Tempering

Temperatura	1.050 do 1.200 °C	Salt bath, vacuum    Preheating: 1st stage ~ 500 °C, 2nd stage ~ 850 °C, 3rd stage ~ 1050 °C (for higher austenitising temperature)    Austenitising: for cutting applications at higher austenitising temperatures (> 1130 °C), holding time after complete heating 80 seconds, maximum 150 seconds, to avoid material damage due to overtime.    Austenitising: for cold work applications at lower austenitising temperatures (< 1100°C). Holding time after complete heating 15 to 30 min    Quenching: oil, warm bath (500 - 550 °C), gas.
Temperatura	550 do 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 after each tempering step   3 tempering cycles recommended    Hardness see tempering chart

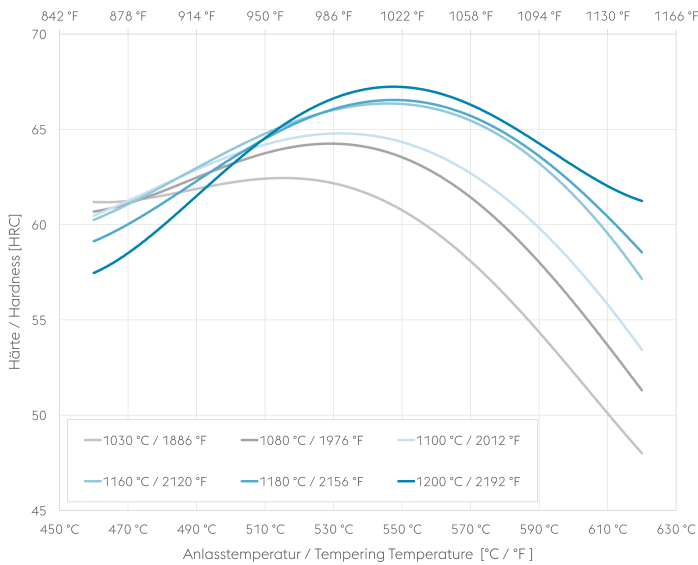
Continuous cooling CCT curves



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

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

Tempering Chart



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

## Fizička svojstva

Temperatura (°C)	20
Gustoća (kg/dm <sup>3</sup> )	7,88
Toplinska vodljivost (W/(m.K))	18,8
Specifični toplinski kapacitet (kJ/kg K)	0,432
Spec. Otpornik (Ohm.mm <sup>2</sup> /m)	0,56
Modul elastičnosti (10 <sup>3</sup> N/mm <sup>2</sup> )	217

**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.*