

TOOL STEELS

HARDENABLE CORROSION RESISTANT STEEL

Application Segments

Plastic Mould

Cold Work

Dostupne varijante proizvoda

Šipkasti proizvodi

Opis proizvoda

Martensitic chromium steel with high carbon, molybdenium and vanadium addition.

Put taljenja

Airmelted

Karakteristike

- > Žilavost i duktilnost : dobar
- > Otpornost na habanje : vrlo visoka
- > Obradivost : dobar
- > Dimenzionalna stabilnost : dobar
- > Mogućnost poliranja : dobar
- > Otpornost na koroziju : visok

Korištenje

- > Sustav za vruće spajanje
- > Moulds for plastic injection (PIM)
- > Foodindustry like extrusion screws, can closing rolls
- > Pharmaceutical industry like pill punches and -dies
- > Extrusion screws for plastic processing

Technički podaci

Oznaka materijala	
1.4112	SEL
~1.2361	
X90CrMoV18	EN
~X91CrMoV18	
~440B	AISI

Kemijski sastav

C	Si	Mn	Cr	Mo	V
0,9	0,45	0,4	17,5	1,1	0,1

Isporuka

Annealed

Tvrdoća (Unit)	max. 265
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Toplinska obrada

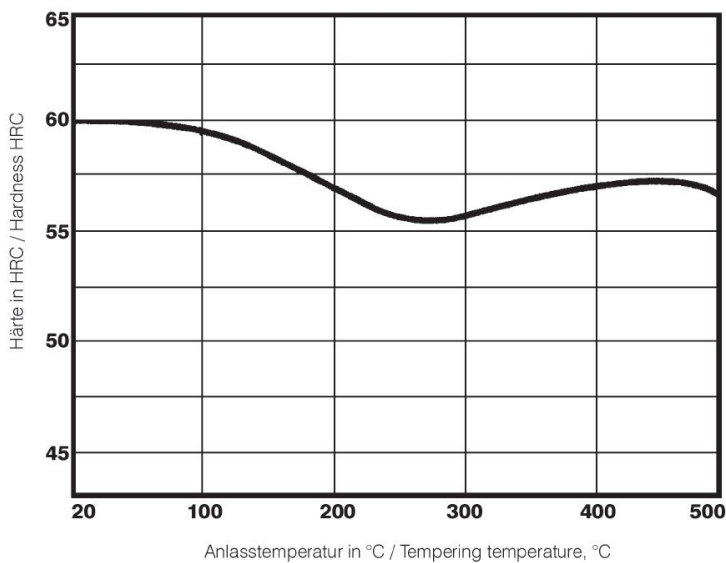
Stress relieving

Temperatura	650 °C	After through heating, keep at temperature for 1 to 2 hours in a neutral atmosphere. Slow furnace cooling
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Hardening and Tempering

Temperatura	1.000 do 1.050 °C	Holding time after complete soaking, max. 30 minutes / 25 mm cross section
Temperatura	150 do 350 °C	Tempering treatment required after hardening to the desired working hardness - see tempering chart. Tempering of min. 2h after complete soaking. Tempering shall be made immediately after hardening. After each tempering a cooling RT shall be done.

Tempering chart



Hardening temperature: 1030°C / 1886°F
Specimen size: square 20 mm

Hardness up to 57 - 59 HRC

Fizička svojstva

Temperatura (°C)	20
Gustoća (kg/dm ³)	7,7
Toplinska vodljivost (W/(m.K))	15
Specifični toplinski kapacitet (kJ/kg K)	0,43
Spec. Otpornik (Ohm.mm ² /m)	0,8
Modul elastičnosti (10 ³ N/mm ²)	215

Toplinska ekspanzija

Temperatura (°C)	100	200	300	400	500
Toplinska ekspanzija (10 ⁻⁶ m/(m.K))	10,4	10,8	11,2	11,6	11,9

For additional specifications and technical requirements, please contact our regional voestalpine BÖHLER sales companies.

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