

TOOL STEELS

HARDENABLE CORROSION RESISTANT STEEL

Application Segments

Plastic Mould

Cold Work

Beschikbare uitvoeringen

Stafstaal

Product omschrijving

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

Smeltroute

Airmelted

Eigenschappen

- > Taaiheid & Vervormbaarheid : goed
- > Slijtageweerstand : zeer hoog
- > Bewerkbaarheid : goed
- > Dimensionale stabiliteit : goed
- > Polijstbaarheid : goed
- > Corrosiebestendigheid : hoog

Toepassingen

- > Hot-runners (nl)
- > Moulds for plastic injection (PIM)
- > Foodindustry like extrusion screws, can closing rolls
- > Pharmaceutical industry like pill punches and -dies
- > Extrusion screws for plastic processing

Technische gegevens

| Materiaal aanduiding | |
|----------------------|------|
| 1.4112 | SEL |
| ~1.2361 | |
| X90CrMoV18 | EN |
| ~X91CrMoV18 | |
| ~440B | AISI |

Chemische samenstelling

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

Leveringsconditie

gegloeid

| | |
|-----------------|----------|
| Hardheid (Unit) | max. 265 |
|-----------------|----------|

Warmtebehandeling

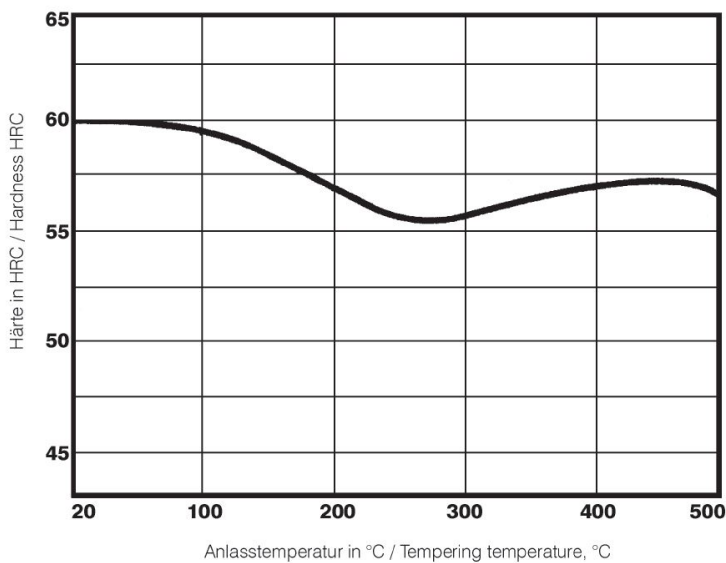
Stress relieving

| | | |
|-------------|--------|---|
| Temperatuur | 650 °C | After through heating, keep at temperature for 1 to 2 hours in a neutral atmosphere. Slow furnace cooling |
|-------------|--------|---|

Harden en ontlaten

| | | |
|-------------|---------------------|--|
| Temperatuur | 1.000 naar 1.050 °C | Holding time after complete soaking, max. 30 minutes / 25 mm cross section |
| Temperatuur | 150 naar 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

Fysische eigenschappen

| | |
|---|------|
| Temperatuur (°C) | 20 |
| Soortelijk gewicht (kg/dm ³) | 7,7 |
| Thermische conductiviteit (W/(m.K)) | 15 |
| Soortelijke warmte (kJ/kg K) | 0,43 |
| Specifieke elektrische weerstand (Ohm.mm ² /m) | 0,8 |
| Elasticiteitsmodus (10 ³ N/mm ²) | 215 |

Thermische expansie

| Temperatuur (°C) | 100 | 200 | 300 | 400 | 500 |
|--|------|------|------|------|------|
| Thermische expansie (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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