

PLASTIC MOULD STEELS

HARDENABLE CORROSION RESISTANT STEEL

Beschikbare uitvoeringen

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

Product omschrijving

BÖHLER M390 MICROCLEAN - Poedermetallurgisch vervaardigd staal voor kunststofmatrijzen met zeer hoge slijtvastheid voor gereedschappen waar zeer hoge standtijden vereist zijn.

Smeltroute

Powder metallurgy

Eigenschappen

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

Toepassingen

- | | | |
|-----------------------------------------------------------|------------------------------|-------------------------|
| > Comp. voor verwerking van levensmiddelen en diervoeders | > spuitgieten | > Schroeven en vaten |
| > Knippen / machinale messen | > Klantspecifieke handmessen | > Elektronica-industrie |
| > Levensmiddelenindustrie | > Medicinaal | > Verpakking |
| > Extrusie van kunststoffen | > Persen van poeders | > Pill punching dies |
| > Glasfibre reinforced plastics | | |

Chemische samenstelling

C	Si	Mn	Cr	Mo	V	W
1,9	0,7	0,3	20	1	4	0,6

Leveringsconditie

Soft annealed	
Hardheid (HB)	max. 280

Warmtebehandeling

Stress relieving

Temperatuur	650 °C	After through-heating, soak for 4 hours in a neutral atmosphere. Furnace cooling down to 300 °C (570 °F), followed by air. After hardening and tempering, stress relieving has to be performed 50°C (90°F) below last tempering temperature.
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Harden en ontlaten

Temperatuur	1.100 naar 1.180 °C	For hardening hold at temperature for 20 to 30 min (for hardening temperature 1180°C/ 2156°F 5-10 min). An optional sub-zero treatment at -80°C/-112°F can be applied after hardening. For highest corrosion resistance, temper once for a minimum of 2h at 200-300°C/ 392-572°F. For best wear resistance, temper twice for a minimum of 2h at 540-560°C/ 1004-1040°F (without sub-zero treatment) or 510-530°C/950-986°F (with sub-zero treatment). After each heat treatment step, material should be cooled down to approx. 30°C!
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Fysische eigenschappen

Temperatuur (°C)	20
Soortelijk gewicht (kg/dm ³)	7,54
Thermische conductiviteit (W/(m.K))	16,5
Soortelijke warmte (kJ/kg K)	0,48
Specifieke elektrische weerstand (Ohm.mm ² /m)	-
Elasticiteitsmodus (10 ³ N/mm ²)	227

Thermische expansie

Temperatuur (°C)	100	200	300	400	500
Thermische expansie (10 ⁻⁶ m/(m.K))	10,38	10,67	10,96	11,24	11,56

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.