

# PLASTIC MOULD STEELS

## HARDENABLE CORROSION RESISTANT STEEL

### Granulometria disponibile

Prodotti lunghi\*

Lamiere

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

### Descrizione del prodotto

BÖHLER M398 MICROCLEAN is a martensitic chromium steel produced with powder metallurgy. Due to its alloying concept this steel offers extremely high wear resistance and high corrosion resistance – the perfect combination for highly wear-resistant tools.

### Percorso di fusione

Powder metallurgy

### Proprietà

- > Durezza e duttilità : buono
- > Resistenza all'usura : molto alto
- > Lavorabilità : buono
- > Stabilità dimensionale : molto alto
- > Lucidabilità : molto alto
- > Resistenza alla corrosione : buono
- > Micropulizia : molto alto

### Applicazioni

- > Componenti per il trattamento degli alimenti
- > Lame industriali / Cesoie
- > Settore del trattamento degli alimenti
- > Estrusione della plastica
- > Stampaggio a iniezione
- > Lame manuali personalizzate
- > Medical
- > Pressatura delle polveri
- > Viti e cilindri
- > Settore elettronico
- > Imballaggio

### Analisi chimica

C	Si	Mn	Cr	Mo	V	W
2,7	0,5	0,5	20	1	7,2	0,7

### Condizioni di consegna

#### Soft annealed

Durezza (HB) | max. 330

## Trattamento termico

Alleviare lo stress		
Temperatura	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.

Tempra e rinvenimento		
Temperatura	1.120 a 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!

## Proprietà fisiche

Temperatura (°C)	20
Densità (kg/dm <sup>3</sup> )	7,46
Conducibilità termica (W/(m.K))	15,2
Capacità termica specifica (kJ/kg K)	0,49
Resistenza elettrica specifica (Ohm.mm <sup>2</sup> /m)	-
Modulo di elasticità (10 <sup>3</sup> N/mm <sup>2</sup> )	231

## Espansioni termiche

Temperatura (°C)	100	200	300	400	500
Espansione termica (10 <sup>-6</sup> m/(m.K))	10,4	10,6	10,9	11,2	11,5

**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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