

PLASTIC MOULD STEELS

HARDENABLE CORROSION RESISTANT STEEL

Rozměrový sortiment k dispozici

Tyčová ocel*

Plech

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

Popis produktu

BÖHLER M398 MICROCLEAN je korozivzdorná chromová martenzitická ocel vyrobená práškovou metalurgií. Díky své koncepci legování nabízí extrémně vysokou odolnost proti opotřebením a vysokou odolnost proti korozi - dokonalá kombinace vlastností pro vysoce namáhané nástroje.

Trasa tavení

Prášková metalurgie

Vlastnosti

- > Houževnatost a tažnost : dobré
- > Odolnost proti opotřebením : velmi vysoká
- > Obrobitelnost : dobré
- > Rozměrová stálost : velmi vysoká
- > Leštitelnost : velmi vysoká
- > Odolnost proti korozi : dobré
- > Mikročistota : velmi vysoká

Použití

- > Komponenty pro zpracování potravin a krmiva
- > Průmyslové nože
- > Zdravotnictví
- > Lisování tablet
- > Vstřikování plastů
- > Speciální zakázkové nože
- > Obalový průmysl
- > Glasfibre reinforced plastics
- > Šneky a komory
- > Elektronický průmysl
- > Extruze plastů

Chemické složení

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

Stav dodání

Měkké žihání

Tvrdość (HB) | max. 330

Tepelné zpracování

Žhání na odstranění vnitřního pnutí

Teplota	max. 650 °C	Soft annealed material: For stress relief annealing after mechanical processing, hold the material at temperature in a neutral atmosphere for 1-2 hours after complete heating, then slowly cool the furnace at 20°C [68 °F]/hour to 200°C [392 °F], then cool in air.
Teplota		Hardened and tempered material: The temperature for stress relief annealing should be approx. 50°C [122 °F] below the previously selected tempering temperature. Other procedure as for stress relief annealing of soft annealed material.

Kalení a popouštění

Teplota	1 120 na 1 150 °C	For hardening, hold the material at the specified temperature for 20-30 minutes after complete heating and quench quickly. Cool the material to approx. 30°C [86 °F]. Immediately afterwards, the material can be deep-frozen for 2 hours (at -80°C [- 112 °F]) for residual austenite transformation. Tempering should also be carried out immediately.
Teplota	1 151 na 1 180 °C	For hardening, hold the material at the specified temperature for 5-10 minutes after complete heating and quench quickly. Cool the material to approx. 30°C [86 °F]. Immediately afterwards, the material can be deep-frozen for 2 hours (at -80°C [- 112 °F]) for residual austenite transformation. Tempering should also be carried out immediately.
Teplota	200 na 300 °C	Tempering treatment: For maximum corrosion resistance, heat the material slowly and temper once for 1 hour/20 mm material thickness, but for at least 2 hours. Take slow heating into account and cool the material to approx. 30°C [86 °F] after each heat treatment step. Achievable hardness - see tempering diagram.
Teplota	540 na 560 °C	Tempering treatment: For maximum wear resistance (without sub-zero cooling), temper the material 3 times for 1 hour/20 mm material thickness, but at least 2 hours. Allow for slow heating and cool the material to approx. 30°C [86 °F] after each heat treatment step. Achievable hardness - see tempering diagram.
Teplota	510 na 530 °C	Tempering treatment: For maximum wear resistance (with sub-zero cooling), temper the material 3 times for 1 hour/20 mm material thickness, but at least 2 hours. Allow for slow heating and cool the material to approx. 30°C [86 °F] after each heat treatment step. Achievable hardness - see tempering diagram.

Fyzikální vlastnosti

Teplota (°C)	20
Hustota (kg/dm ³)	7,46
Tepelná vodivost (W/(m.K))	15,2
Měrná tepelná kapacita (kJ/kg K)	0,49
Měrný elektrický odpor (Ohm.mm ² /m)	-
Modul pružnosti (10 ³ N/mm ²)	231

Tepelná roztažnost

Teplota (°C)	100	200	300	400	500
Tepelná roztažnost (10 ⁻⁶ 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.

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.

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