PLASTIC MOULD STEELS

HARDENABLE CORROSION RESISTANT STEEL

Application Segments

Mucegai din plastic

Available Product Variants

Long Products* | Plates

* Datele prezentate se referă exclusiv la produsele lungi. Vă rugăm să respectați explicațiile detaliate de la sfârșitul fișei tehnice (pdf).

Product Description

BÖHLER M368 MICROCLEAN is a corrosion-resistant, martensitic chromium steel produced by powder metallurgy. Due to the alloy concept and the production route, the steel has a high wear resistance, high corrosion resistance and high toughness. In addition, BÖHLER M368 MICROCLEAN is approved for food and beverage contact.

Process Melting

Metalurgia pulberilor

Properties

- Rezistență și ductilitate : high
- Rezistență la uzură : high
- Machinability : good
- Stabilitatea dimensională : very high
- Poluabilitate : very high
- Rezistență la coroziune : very high
- Micro-curățenie : very high

Applications

- Componente pentru prelucrarea alimentelor și hrana animalelor
- Șuruburi și butoaie
- Componente pentru afișaje
- Matrițe de perforare a pastilelor
- Cuțite industriale
- Extrusion
- Wear Applications
- Turnare prin injecție
- Piese standard (matrițe, plăci, pini, perforatoare)
- Cuțite de mână personalizate
- Materiale plastice ranforsate cu fibră de sticlă
- Grinding
- Mineral Processing
- Vytláčanie plastov
- Industria ambalajelor
- Industria electronică
- Bunuri de consum - general
- Packaging
- Pumping

BÖHLER M368 MICROCLEAN

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	V	N
0.54	0.45	0.4	17.3	1.1	0.1	+

Delivery condition

Recoaptă moale

Hardness (HB)	max. 280

Heat treatment

Eliminarea stresului

Temperature	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.
Temperature		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.

Călire și revenire

Temperature	980 to 1,000 °C	For hardening, hold the material at the specified temperature for 15-30 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.
Temperature	250 to 350 °C	Tempering treatment: For maximum corrosion resistance, temper the material once for 1 hour/20 mm material thickness, but for at least 2 hours. Achievable hardness - see tempering diagram.
Temperature	505 to 520 °C	Tempering treatment: For optimum toughness and wear resistance (without sub-zero cooling), temper the material 3 times for 1 hour/20 mm material thickness, but at least 2 hours. After each heat treatment step, cool the material to approx. 30°C [86 °F]. Achievable hardness - see tempering diagram.
Temperature	490 to 505 °C	Tempering treatment: For maximum hardness (with sub-zero cooling), temper the material 3 times for 1 hour/20 mm material thickness, but at least 2 hours. After each heat treatment step, cool the material to approx. 30°C [86 °F]. Achievable hardness - see tempering diagram.

Physical Properties

Temperature (°C)	**20**
Density (kg/dm³)	7.7
Thermal conductivity (W/(m.K))	22.3
Specific heat (kJ/kg K)	0.46
Spec. electrical resistance (Ohm.mm²/m)	-
Modulus of elasticity (10^3N/mm²)	219

Thermal Expansions between 20°C | 68°F and ...

Temperature (°C)	**100**	**200**	**300**	**400**	**500**
Thermal expansion (10^{-6} m/(m.K))	10.8	11.6	11.9	11.56	11.87

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. 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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