

HIGH SPEED STEELS

Application Segments

Cutting Tools

Product Description

BÖHLER MC99 INTERMET - "Cutting Material at the Technological Frontier"

Powder metallurgical cutting material offering exceptional hot hardness and high temperature strength. It is engineered for cutting speeds and performance levels that were previously considered unattainable for iron based alloys.

Process Melting

Powder metallurgy

Properties

- > Toughness & Ductility : good
- > Wear Resistance : high
- > Compressive strength : high
- > Edge Stability : high
- > Grindability : good
- > Hot Hardness (red hardness) : very high

Applications

- > Gear Cutting, Shaving and Shaping Tools

Chemical composition (wt. %)

C	Mo	W	Co
0.06	8	18	24

Delivery condition

Annealed

Hardness (HRC)	48 to 50
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Heat treatment

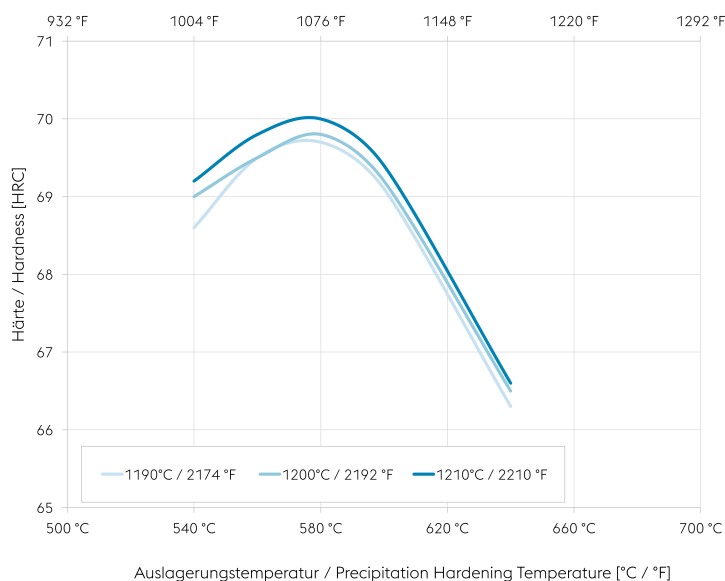
Solution annealing

Temperature	1,190 to 1,210 °C	With typical preheating times for high-speed steels. Holding time at temperature: minimum 10 minutes. Quench in a nitrogen atmosphere with a pressure of at least 6 bar.
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Precipitation hardening

Temperature	590 to 630 °C	Single precipitation hardening for 3 hours.
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Tempering Chart



Physical Properties

Temperature (°C)	20
Density (kg/dm ³)	9.19
Thermal conductivity (W/(m.K))	25.8
Specific heat (kJ/kg K)	0.367
Spec. electrical resistance (Ohm.mm ² /m)	-
Modulus of elasticity (10 ³ N/mm ²)	248

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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ONE STEP AHEAD.