HIGH SPEED STEELS

Available Product Variants

Long Products

Product Description

BÖHLER MC90 INTERMET is the revolutionary cutting material supporting enhanced requirements for improved productivity and highest quality in the gear cutting industry. Its unique alloying composition and properties build the basis for the next generation of tools competing in spheres, where up to now only cemented carbide was applied. Hardenability up to 68 HRC.

Process Melting

Powder metallurgy

Properties

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

Applications

- Gear Cutting, Shaving and Shaping Tools

Chemical composition (wt. %)

C	Mo	Co
0.06	15	25

Delivery condition

Annealed	
Hardness (HRC)	42 to 45

Heat treatment

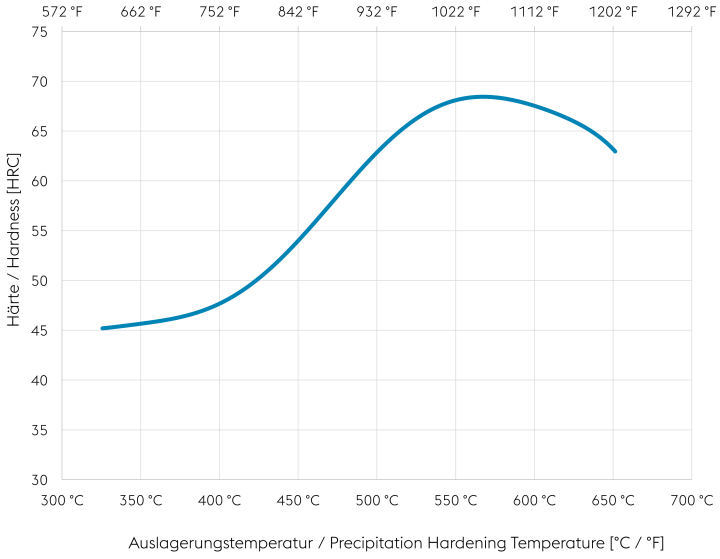
Solution annealing

Temperature	1,180 to 1,190 °C | 2,156 to 2,174 °F	Using normal preheating and holding times for high speed steels. Quenchening Oil or nitrogen atmosphere.

Precipitation hardening

Temperature	590 to 630 °C | 1,094 to 1,166 °F	Single precipitation hardening for three hours

Tempering Chart



Solution annealing: 1190°C (2174°F)

Physical Properties

Temperature (°C | °F)	**20 | 68**
Density (kg/dm^3 | lb/in^3)	8.2 | 0.3
Thermal conductivity (W/(m.K) | BTU/ft h °F)	21.8 | 12.6
Specific heat (kJ/kg K | BTU/lb °F)	0.386 | 0.0922
Spec. electrical resistance (Ohm.mm^2/m | 10^{-4} Ohm.inch^2/ft)	0.47 | 2.22
Modulus of elasticity (10^{3}N/mm^2 | 10^{3}ksi)	223 | 32.34

For additional specifications and technical requirements, please contact our regional voestalpine BÖHLER sales companies.

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voestalpine
ONE STEP AHEAD.