

EPUMENT® Mineral Casting in the Highest Accuracy Class

MC μ machining centers from BURKHARDT+WEBER lead the field in precision and customization – built on a machine bed cast by RAMPF Machine Systems

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Wangen (Göppingen), Germany, May 20, 2025. Maximum precision requires maximum vibration damping: The MC μ machining centers from BURKHARDT+WEBER are engineered for highest precision and tightest geometric tolerances. The ultra-stable and sustainable machine base is made from EPUMENT® mineral casting by RAMPF Machine Systems.

Key Facts

1. The MC μ machining centers from BURKHARDT+WEBER achieve top-level precision and the tightest geometric tolerances in the production and machining of large, complex components.
2. The machine base of the MC μ series is cast using EPUMENT® mineral casting made by RAMPF Machine Systems.
3. The epoxy resin-bonded material provides an extremely stable structure with up to ten times the damping capacity of gray cast iron.

MC μ by BURKHARDT+WEBER: Precision by Design, Not Compensation



The MC μ series from the renowned machine tool manufacturer BURKHARDT+WEBER in Reutlingen, Germany, is based on an innovative concept that achieves outstanding precision and tightest geometric tolerances through meticulous design, high-quality materials, and strictly controlled production process-

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es. The machining centers are specifically designed for the production and processing of large, complex components, such as those used in commercial vehicle manufacturing, the semiconductor industry, and in the construction of machine tools.

Michael Wiedmaier, Head of Competence Center Sales at BURKHARDT+WEBER – “At our company, customer input is the foundation of everything we build. Our machines are not off-the-shelf products, but custom-engineered solutions that reflect each client’s specific needs, implemented with precision and deep technical expertise. This ensures that our customers always receive the optimal machine for their application, delivering the highest quality and maximum performance.”

Staying Stable and Cool – with EPUMENT® Mineral Casting



The foundation for the long-term precision of the MCu lies in its inherent structural stability. This includes high guide bars and FEM-optimized structures cast with EPUMENT® mineral casting. The high-performance material from RAMPF Machine Systems ensures maximum stability in ultra-precise machines: Comparative measurements show that mineral casting offers up to ten times the material damping of gray cast iron and welded constructions.

The MCu’s market-leading precision is also supported by its outstanding thermal behavior and active temperature control. The high thermal inertia of mineral casting and the ability to integrate cooling channels directly into the casting significantly enhance thermal performance. This enables cost-effective and highly efficient bed temperature control.

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Kacper Lasetzki, Sales Manager at RAMPF Machine Systems – “With EPUMENT[®] mineral casting, we help achieve the outstanding precision of the MC μ series – while also lowering its carbon footprint. Thanks to cold casting, high casting accuracy, and ultra-precise replication technology, our process generates up to 80 percent fewer CO₂ emissions compared to conventional materials. Furthermore, EPUMENT[®] consists of over 90 percent natural minerals and stones and can be disposed of as standard construction waste. It can be shredded and reused as filler material in new machine base production – making mineral casting fully recyclable.”

- [More information on the MC \$\mu\$ series from BURKHARDT+WEBER](#)
- [More information on EPUMENT[®] mineral casting from RAMPF Machine Systems](#)

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RAMPF Machine Systems GmbH & Co. KG, based in Wangen (Göppingen), Germany, is the leading supplier and development partner for system solutions, trunk machines, and basic machines, as well as multi-axis positioning and moving systems based on high-precision machine beds and machine bed components made from alternative materials.

The portfolio of high-performance materials includes mineral casting, ultra-high performance concrete (UHPC), natural hard stone, mineral casting Ultralight Flow, and steel composite constructions. These materials provide a solid basis for ultra-precise and high-performance machine beds and machine bed assemblies.

The full range of services provided by the company includes everything from engineering to production, as well as assembly, system solutions, customer-specific multi-axis positioning and moving systems, and basic machines – from single-piece to series production in customized supply chain solutions.

Using innovative casting, grinding, and lapping processes, as well as high-performance assembly and testing equipment in temperature-controlled production environments, exceptional accuracy of machine bases and basic machines is guaranteed.

RAMPF Machine Systems is a company of the international **RAMPF Group** based in Grafenberg, Germany.

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