

RAMPF: Taking Machine Tool Construction to the Next Level

CIMT 2025: EPUMENT[®] mineral casting for machine beds with outstanding vibration damping and functional integration – Booth 762

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Nantong, China, April 14, 2025. German engineering and quality produced in China: RAMPF (Nantong) is presenting its market-leading EPUMENT[®] mineral casting technology for machine beds in machine tool construction at the China International Machine Tool Show, CIMT, in Beijing, April 21 to 26 – Booth 762.

Key Facts

1. EPUMENT[®] mineral casting delivers exceptional precision and dimensional accuracy, stability and rigidity, unparalleled damping properties, and a low carbon footprint.
2. The epoxy-based material is cold cast, allowing functional elements to be integrated before casting, which reduces post-processing and delivery time.
3. RAMPF (Nantong), the Chinese subsidiary of the German-based RAMPF Group, offers comprehensive services, including material-specific design, engineering, construction, production, and assembly.



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RAMPF's epoxy resin-bonded mineral casting material EPUMENT[®] is used across the globe in vibration-damping machine beds and machine bed components in machine tool construction. The main benefits:

- **Outstanding damping** – Mineral casting has a damping capacity that is up to ten times greater than metal materials such as gray cast iron and welded constructions. The machine bed structure thus has greater dynamic stability in ultra-fast and high-precision production machinery.
- **High degree of functional integration** – The cold-casting process of EPUMENT[®] enables sensors and actuators to be directly integrated into the machine bed, making these so-called “intelligent machine beds” an important prerequisite for the digitization of manufacturing processes.
- **Low carbon footprint** – Thanks to cold casting and extremely high casting accuracy, up to 75 percent primary energy is saved compared to gray cast iron, and CO₂ emissions are 4.5 times lower. In addition, EPUMENT[®] mineral casting can be recycled as normal construction waste for fillers or soil stabilization.

RAMPF provides its Chinese customers with a holistic service offering, including material-specific design and engineering, production, assembly, and the construction of customized multi-axis moving systems and basic machinery.

Leo Zhu, Head of Machine Systems Business Center at RAMPF (Nantong) – “Machine beds and machine bed components made from EPUMENT[®] mineral casting offer unparalleled damping properties and an unbeatable carbon footprint. This makes it the material of choice in both machine tool construction as well as electronics, semiconductor, and solar module production, laser, woodworking and textile machines, measuring, testing, and inspection technology.”

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<https://www.rampf-group.com/en-cn/>



RAMPF (Nantong) Co., Ltd., based in Nantong, China, develops and produces

- > Machine bases, machine frames, and other structural components made of mineral casting
- > Two-component polymer systems based on polyurethane, epoxy, and silicone
- > Board and liquid materials for model and mold engineering

RAMPF (Nantong) is part of the international RAMPF Group based in Grafenberg, Germany. The family-owned business has twelve branches on three continents with more than 900 employees.

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