

Top-tier Japanese manufacturers look to build on RAMPF's EPUMENT mineral casting

Laboratory tests confirm superior damping qualities in comparison to grey cast iron material

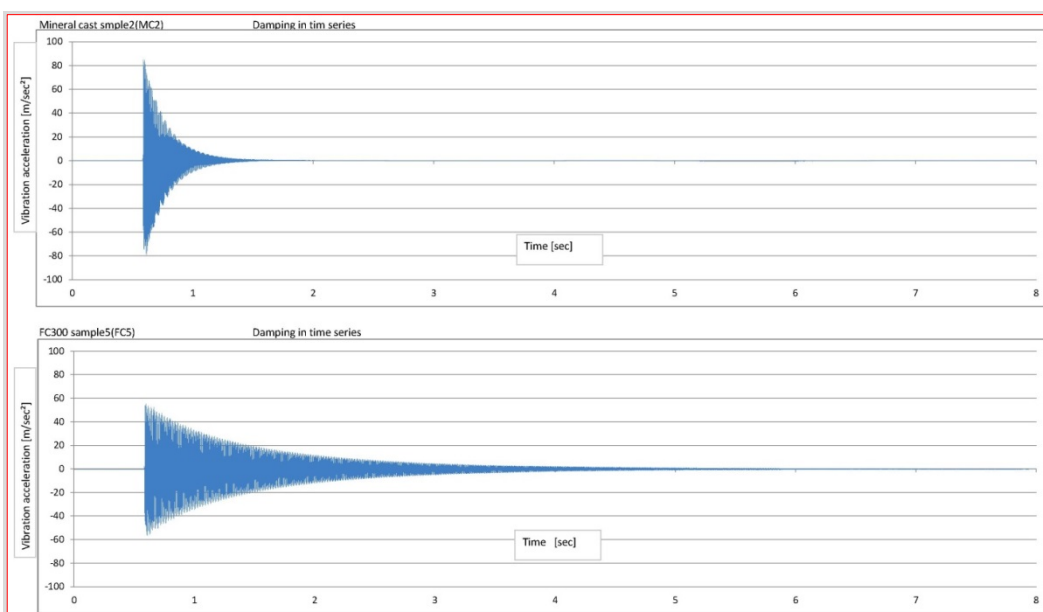
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Grafenberg, April 21, 2016. EPUMENT mineral casting from RAMPF is rapidly gaining popularity, also in the Japanese market. Leading manufacturers of cutting-edge machine beds and components are looking to use the epoxy resin-bonded material with its outstanding properties – especially unmatched vibration damping – as an innovative alternative to metallic materials.

Today's production equipment needs to satisfy growing demands in terms of process accuracies under static, dynamic, and thermal loads. In their quest for finding new and improved machine bed materials that can tackle these challenges, leading Japanese manufacturers have turned to RAMPF and its EPUMENT mineral casting material.

In a series of comprehensive laboratory tests carried out by Ono Sokki, a leading measuring instrument manufacturer, and commissioned by renowned Japanese manufacturers, the damping properties of EPUMENT mineral casting 145B were put to the test against grey cast iron material FC 300, which is comparable with HT 300 in China, No. 45 in the US, and GG 30 in Germany.

The result: the EPUMENT mineral casting from RAMPF exceeded expectations.



The comparison of decay curves for cast iron FC 300 and EPUMENT mineral casting clearly shows the superior damping properties of the epoxy resin-bonded material. The minimization of natural vibration in

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the machine significantly increases tool lifetime, workpiece surface measurability, as well as cutting speed and precision during the enlargement of the none-critical frequency range.

“Especially due to its excellent damping properties, mineral casting has established itself as a competitive alternative to cast iron and welded constructions for highly dynamic mechanical engineering applications and technologies,” Fabian Werner, Managing Director of RAMPF (Taicang), points out. The Chinese subsidiary of the international RAMPF Group has positioned itself as a leading end-to-end product and service provider for machine beds made of mineral casting in the Asian (including Japan) and North American markets, offering engineering, modeling, design, production, and assembly from a single source.

Excellent price-performance ratio

EPUMENT mineral casting – specially-selected stones and minerals, and high-quality binding agents based on epoxy resin – is a high-tech material that is very well-suited for primary machine bed functions such as precisely securing the geometric position of the individual machine elements as well as the static, dynamic, thermal, and acoustic absorption of forces and moments. The superior damping compared to metal materials significantly improves the dynamic stability of the machine bed structure in fast and accurate production machinery.

Furthermore, processing and assembly times are appreciably reduced by optimum accuracies and the high level of finishing, as guides and other machine elements are already fitted with high precision. Together with the high availability and short delivery times, this makes EPUMENT a machine bed material with an outstanding price-performance ratio.



Bed made from EPUMENT of a high-speed milling machine with precisionreplicated surfaces, guides fitted, and high-precision bonding of bed and gantry

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Professional and prompt service

Customers in Japan can expect even more prompt service with regard to all aspects of innovative machine beds. The product and service portfolio of RAMPF Group Japan, the RAMPF Group's subsidiary in Japan, now also includes high-precision machine beds made of mineral casting, hard stone, and metal shell constructions.

“In the Japanese market, EPUMENT has high potential to be used for highly dynamic and precise machine tools in numerous applications, amongst others in machine tool engineering, medical technology, and the semiconductor industry,” says Yoshiaki Naganuma, Managing Director of RAMPF Group Japan. “We believe that the result of the damping test will further enhance the reputation of EPUMENT mineral casting as a highly competitive construction material in the Japanese market.”

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RAMPF (Taicang) Co., Ltd., based in Taicang, China, is the Chinese subsidiary of the international RAMPF Group.

The product portfolio of RAMPF (Taicang) Co., Ltd. is comprised of:

- > High-precision machine beds made of mineral casting, hard stone, and metal shell constructions
- > Two-component plastic systems based on polyurethane, epoxy, and silicone
- > Materials and semi-finished goods for cutting-edge modeling and mold engineering

The RAMPF Group stands for **engineering and chemical solutions** and caters to the economic and ecological needs of industry.

The range of competencies includes:

- > production and recycling of **materials** for modeling, lightweight construction, bonding, and protection;
- > technical **production systems** for precise, dynamic positioning and automation, as well as technologies for complex composite parts production;
- > comprehensive range of **solutions and services**, particularly for innovative customer-specific requirements.

With this know-how, RAMPF helps its customers to achieve profitable and sustainable growth.

The Group secures its presence on the international markets with more than 700 employees and six core competencies:

- > **RAMPF Machine Systems** based in Wangen (Göppingen), Germany, develops and produces multi-axis positioning and moving systems, trunk machines, and basic machines based on high-precision machine beds and machine bed components made from alternative materials.
- > **RAMPF Production Systems** based in Zimmern o. R., Germany, develops and produces low-pressure mixing and dispensing systems for bonding, sealing, foaming, and casting a wide variety of materials. The company also offers a wide range of automation skills relating to all aspects of process engineering.
- > **RAMPF Composite Solutions** based in Burlington, Ontario, Canada, is a holistic composites supplier to companies in the aerospace, defense, and medical industries. The company offers a complete suite of services including composite part design and engineering, metal-to-composite conversion engineering, and composite manufacturing to very tight tolerances.
- > **RAMPF Eco Solutions** based in Pirmasens, Germany, develops chemical solutions for the manufacture of high-quality alternative polyols from PU and PET waste materials. This expertise is also put to use in the planning and construction of customer-specific facilities for manufacturing polyols.
- > **RAMPF Polymer Solutions** based in Grafenberg, Germany, develops and produces reactive resin systems based on polyurethane, epoxy, and silicone. Its product portfolio includes liquid and thixotropic sealing systems, electro and engineering casting resins, edge and filter casting resins, and adhesives.
- > **RAMPF Tooling Solutions** based in Grafenberg, Germany, develops and produces board and liquid materials and semi-finished goods for cutting-edge modeling and mold engineering. The range of skills includes made-to-measure services and products such as pastes, large-volume and full-size castings for Close Contour models, and prototyping systems.

RAMPF has subsidiaries in Germany, the U.S., Japan, and China.

All RAMPF companies are united under a holding company – RAMPF Holding GmbH & Co. KG – based in Grafenberg, Germany.

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