

# RAMPF supplies low-vibration basis for high-precision laser cutting machines

Swiss market leader SYNOVA uses EPUMENT mineral casting for its 5-axis machines

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**Wangen (near Göppingen), August 8, 2018. Ultra-fast and ultra-precise: The latest laser cutting system from Swiss company SYNOVA, the LCS 305, stands firm on a foundation of low-vibration EPUMENT mineral casting.**

Ultra-fast and high-precision – these are the key features of SYNOVA laser cutting machines. The Swiss company's Laser MicroJet<sup>®</sup> systems are used to cut a wide range of materials such as metals, ceramics, ultra-hard materials, hard metal substrates, and nonconductive materials, including SCD.



The latest laser cutting system from Swiss company SYNOVA, the LCS 305, stands firm on a foundation of low-vibration EPUMENT mineral casting.

To meet the demanding requirements on its new 5-axis machine in the LCS range in terms of process precision and speed, SYNOVA has opted for base machine modules from RAMPF Machine Systems.

At the heart of these base modules are EPUMENT mineral casting machine beds and carriage units that use EPULIGHT lightweight technology.

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With its minimal deformation under maximum loads, the vibration-damping machine bed material EPUMENT ensures the geometric position of the individual machine elements is secure, while also absorbing static, dynamic, thermal, and acoustic forces and moments.

And by using lightweight construction materials for the carriage units, the requirements in terms of dynamic values are also met in full.

EPUMENT mineral casting consists of selected minerals and stones and high-quality epoxy resin-based binding agents. From a materials point of view, the key advantage over gray cast iron and welded constructions is the considerably enhanced damping, which ensures the machine bed structure has greater dynamic stability in ultrafast and high-precision production machinery.

Comparative measurements of the logarithmic decrement as a damping parameter show that mineral casting has a material damping capacity that is eight to ten times greater than metal materials.

Further benefits of EPUMENT mineral casting:

- > High isotropy and homogeneity prevent load-related deformation of machine beds
- > High media resistance
- > Unconventional bed and variant structures thanks to flexible modeling, non-cutting replication, and innovative bonding technology
- > Lower machine cover/cladding costs thanks to the surface and design functionality

“As a result of these beneficial material properties, our machine bed material is used in numerous technological fields. Alongside conventional machine tool construction and the laser industry, these include applications in the semi-conductor, medical, and packaging industries,” says Thomas Altmann, Managing Director of RAMPF Machine Systems, the market-leading development partner and systems provider for complete machine bed solutions and machine systems, based in Wangen (Göppingen), Germany.

EPUMENT also takes account of the increasing requirements for more ecological production with its remarkable resource-efficient manufacture and environmentally friendly disposal and recycling:

- > EPUMENT is cold cast in molds made from wood, steel, or plastic. As a result, up to 30 percent less primary energy is consumed in its manufacture compared to other materials.
- > Its high casting precision, combined with the incredibly accurate RAMPF in-house replication technology, saves the transportation to external processors that would otherwise be needed, and reduces/eliminates the use of processing machinery.

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- > Over 90 percent of EPUMENT mineral casting consists of naturally occurring minerals and stones and a binding agent based on epoxy resin. This high proportion of minerals and the environmentally friendly resin compound mean that the material can be disposed of in the same way as normal construction waste.
- > Successful trials have been run on reducing mineral casting components to chippings in large-scale shredder plants and separating out integrated metal components. Chippings from mineral casting can be used as recycled construction material in road building, industrial construction, landfill surface sealing, and creating green spaces.

EPUMENT also poses no health risk and is therefore safe for effective antibacterial use in food-related areas such as the food and packaging industries.

EPUMENT is approved under the German Foodstuff and Consumer Goods Act (LMBG), Consumer Goods Ordinance (89/109/EEC and 90/128/EEC), and the Code of Federal Regulations, Food and Drugs (FDA).



**SYNOVA and RAMPF Machine Systems at AMB 2018 in Stuttgart, Germany – Hall 5 / Booth 5A72**

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**RAMPF Machine Systems GmbH & Co. KG**, based in Wangen (near 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, metal foam, and fiber composites. 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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