

# Replication technology – RAMPF sets new standards

Replication of a four-meter mineral casting bed with flatness and straightness both measuring 0.02 millimeters

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**Wangen (near Göppingen), December 3, 2018. When it comes to replicating mineral casting beds, RAMPF is setting new standards. With new materials and optimized production and processing methods, a flatness of 0.02 millimeters and a straightness of 0.02 millimeters over a replication length of four meters is achieved.**

“The new replication technology centers around the production process for the casting gauge and the reduction of dead weight while ensuring consistent or increased rigidity. Moreover, we are using new materials that have been tested in wide-ranging FEM calculations to ensure their suitability,” says Marc Dizdarevic, Director of Technics/Development at RAMPF Machine Systems.

The basic accuracy of the casting gauge is 0.005 millimeters over the entire length. This is achieved on a reliable basis due to the optimized manufacturing process.

“With this groundbreaking development, the many advantages of replication technology can now also be utilized for larger surfaces. Previously, replication accuracy in the hundredths of a millimeter range could only be reliably achieved with lengths up to 2.5 meters,” says Marc Dizdarevic.

### **Higher cost-efficiency, higher precision**

Thanks to this new replication technology, RAMPF Machine Systems can produce precision surfaces on machine beds in-house – in climate-controlled production shops without the need for machining work. The contour of high-precision gauges is transferred to the mineral casting blank by means of special lining systems (filled resins).

The key benefits:

- > Excellent cost-efficiency, especially for medium to large quantities, because there is no costly use of machining equipment.
- > The entire process is completed by RAMPF in-house – replicating in a climate-controlled workshop at 20°C; no external processors or transport required.
- > High reliability due to lack of influence from machines or tools.
- > There is only a very small number of milling and grinding contractors that can reliably provide such high-precision results. The new replication technology eliminates any dependency on these service providers (e.g. fluctuating capacities).

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“We have consistently built upon the replication technology developed by RAMPF over 20 years ago,” says Thomas Altmann, Managing Director of RAMPF Machine Systems. “Until recently, the biggest challenge was producing machine bed replications in lengths over 2.5 meters that still exhibited the precision that is needed for mechanical engineering applications. This is now possible with this new replication technology.”

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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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