

European Green Deal – RAMPF mineral casting the big winner

Alternative materials EPUMENT[®] und EPUDUR already meet planned environmental standards / CO₂ price increases affect machine beds made from gray cast iron and other metal materials

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Wangen (Göppingen), July 7, 2020. The overarching objective of the European Green Deal, a bill prepared by the European Commission, is to achieve climate neutrality by 2050. For decades, RAMPF Machine Systems has been playing a significant role in shaping a more sustainable economy with its EPUMENT[®] mineral casting – and more recently with the innovative material EPUDUR ultra-high performance concrete (UHPC). These alternative machine bed materials will therefore be unaffected by increasing CO₂ prices – in contrast to gray cast iron and other metal materials.

The EU Commission's European Green Deal outlines a new growth strategy that aims to pave the way toward state-of-the-art, resource-efficient, and competitive business practices. Among other things, the goal is to reduce net greenhouse gas emissions to zero by 2050 and to break the links between economic growth and resource consumption. To promote the transition to a cleaner, circular economy, the EU is considering measures such as introducing a CO₂ tax on goods imported from countries with lax climate protection policies.

In Germany, the federal government, as part of its climate protection program, has already decided that, as of January 2021, the initial price of CO₂ will be 25 euros per metric ton. This figure is due to gradually increase to 55 euros by 2025. A price corridor of at least 55 and at most 65 euros is planned for 2026.

In other words, it is already clear that, due to the large amounts of energy consumed during the manufacturing process, machine beds made from gray cast iron and other metal materials will become much more expensive in the near future.

However, this will not affect machine beds made from the RAMPF materials EPUMENT[®] mineral casting and EPUDUR ultra-high performance concrete:

- > EPUMENT[®] and EPUDUR are cold cast in molds made from wood, steel, or plastic. As the manufacturing process does not require any heat, it consumes up to 30 percent less primary energy than the smelting of gray cast iron and steel.
- > Precision meets green technology – high casting precision, combined with hexremely accurate RAMPF in-house replication technology, eliminates the need for transportation to external pro-

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cessors and reduces/avoids the use of processing machinery. CO₂ emissions are approximately 50 percent lower when precision surfaces are applied rather than milled.

- > Over 90 percent of EPUMENT[®] and EPUDUR consists of naturally occurring minerals and stones, with a binder based on epoxy resin for EPUMENT[®] and cement for EPUDUR. This means that the machine bed and frame materials can be disposed of in the same way as normal construction waste.
- > Successful trials have been run on the use of large-scale shredder plants to break down mineral casting components to chippings and on separating out integrated metal components. Chippings from mineral casting can be used as recycled material in road building, industrial construction, landfill surface sealing, and creating green spaces. Mineral castings are virtually 100 percent recyclable.

“Despite the upcoming legislative changes at national and European level, our alternative materials offer a high level of planning certainty. In addition to this, numerous mineral casting users, such as the EMAG Group and Hermle AG, are manufacturing the mineral casting beds for their machines in-house and thus becoming less reliant on external supply chains,” says Marc Dizdarevic, CEO of 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, 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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