

RAMPF presents materials and machinery for casting electrical and electronic components

productronica China 2017 – Electro casting resins with outstanding thermomechanical properties / Mixing and dispensing systems and automation solutions

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Taicang, China, March 7, 2017. At productronica China 2017 in Shanghai from March 14 - 16, the international RAMPF Group will be showcasing innovative materials and machinery for casting electrical and electronic components – Booth 2846, Hall E2.

With its Chinese subsidiary RAMPF (Taicang), the international RAMPF Group has established itself as a leading supplier of electro casting resins as well as mixing and dispensing systems on the Chinese market:

- > Electro casting resins based on PUR, epoxy, and silicone with exceptional mechanical and chemical properties and a high level of thermal conductivity. RAKU-PUR[®], RAKU-POX, and RAKU-SIL brand products are used in a wide range of electronic and electrical applications in the automotive, energy, automation, and household goods industries, to name just a few.
- > Mixing and dispensing systems for casting single-, dual-, and multi-component reactive resin systems. Project-specific automation concepts with integrated parts transport and heat treatment, assembly and joining technologies, as well as logistics and quality assurance solutions.

RAMPF will be showcasing the following product innovations at productronica China 2017:

RAKU-PUR[®] electro casting resins with optimum thermomechanical properties



Thermal shock – shock-like temperature fluctuations linked with the thermal expansion coefficient of materials – can lead to fractures in contacts and cables, cracks in the resin, and cause gaps to open up between the resin and plastic parts in sensitive and complex electrical and electronic components such as control units and sensors.

To increase the resistance of electrical and electronic components to thermal shock, German-based RAMPF Polymer Solutions has developed a comprehensive portfolio of high-performance polyurethane electro casting resins whose outstanding thermomechanical properties have been confirmed in dynamic-mechanical analyses (DMAs).

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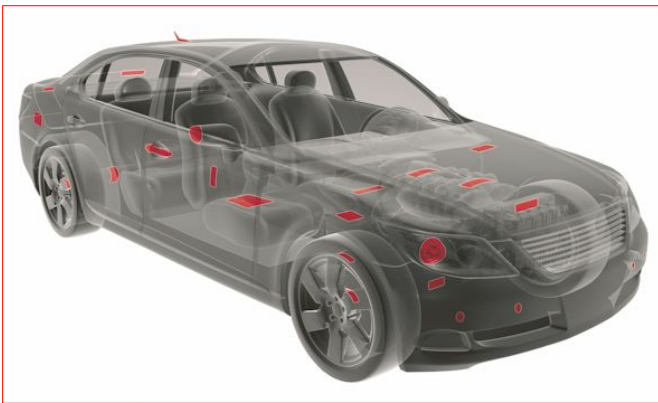
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The RAKU-PUR[®] portfolio of electro casting resins ensures a perfect and lasting resistance to temperature fluctuations in an application range from -40 to +130°C, with benefits including:

- > Low modulus of elasticity
- > Low Shore hardness
- > Low water absorption and good hydrolytic resistance
- > Low glass transition temperature
- > Low dielectric constants
- > Low shrinkage and stress during curing due to low exothermicity
- > Good curing at room temperature

Thanks to the use of non-abrasive fillers, the RoHS-compliant, RTI-listed polyurethane systems can be processed on standard 2-component mixing and dispensing systems. Resins are also available that are flame-retardant to UL 94 V0.

1- and 2-component electro casting resins with excellent thermal conductivity



1-component electro casting resins from RAMPF are used especially in the automotive industry, where they offer maximum protection for particularly sensitive electronic components.

RAMPF Polymer Solutions also has the perfect solution for keeping components at the ideal temperature for their long-term functionality. 1- and 2-component electro casting resins with high thermal conductivity of up to 2.2 W/(m*K) ensure that heat is efficiently conducted away from the component, thus reducing thermal loads.

Casting and automation of electronic and electrical components

The expertise of German-based RAMPF Production Systems ranges from the casting process to the relevant automation solutions.

The process expertise covers:

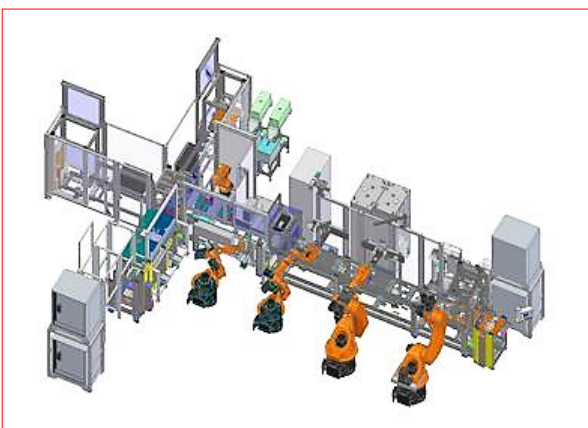
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- > Casting under atmosphere – casting without process forces is a stress-free way of providing lasting protection for sensitive electronic assemblies. Casting processes (single- or multi-step) designed by RAMPF can be used to manufacture products that are reliably protected from contact, moisture, and damage.
- > Casting in a vacuum – components with windings, narrow gaps or shapes that are difficult to vent can be cast without air bubbles in a vacuum. This creates products that meet high insulation requirements and work well for a long time, even in extreme conditions. The vacuum technology also enables the manufacture of optically transparent connections.

The automation expertise covers:



- > Handling and robotics (e.g. KUKA, ABB, FANUC, and DENSO)
- > Component transport (goods carriers, belt straps, and rotary indexing tables)
- > Control technology (e.g. SIEMENS, Beckhoff)
- > Recording all process parameters with MES connection
- > Constructing tools and equipment
- > Heat treatment (infra-red, circulating air, HF procedure)
- > Image processing and sensors

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> Contactless measuring technology

“In electrical and electronics production, we’re represented on the Chinese market with a unique portfolio of products and solutions,” says Fabian Werner, Managing Director of RAMPF (Taicang). “Whether it’s materials, machinery, processing or turnkey production systems, we ensure our customers optimum production processes and perfect results.”

Visit RAMPF at productronica China 2017 – Hall E2, Stand 2846!

www.rampf-gruppe.de/en/news/exhibitions-events/

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