

# RAMPF presents forward-looking solutions for electromobility

Battery Show Europe 2018 – Materials for sealing, casting, and bonding / High precision dispensing of thermal pastes

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**Grafenberg, May 3, 2018. Premium foam gaskets, electro casting resins, and cutting-edge process technology for thermal pastes – RAMPF Polymer Solutions and RAMPF Production Systems are presenting forward-looking solutions for electromobility at Battery Show Europe 2018 from May 15 - 17 in Hannover, Germany – Booth 252.**

**RAMPF Polymer Solutions – Electromobility solutions based on polyurethane, silicone, and epoxy**



The future of the automobile is electric. Leading experts are convinced of this prediction, and politicians as well as all major car manufacturers around the world are working intensely on its successful implementation.

The speed of the electric revolution is largely determined by the development of more powerful batteries and more efficient charging technologies. "With our foam gaskets and electro casting resins, we ensure that our customers from the automotive industry are in the fast lane," assures Dr. Klaus Schamel, Managing Director of RAMPF Polymer Solutions:

- > Foam gaskets made of polyurethane (RAKU<sup>®</sup> PUR) and silicone (RAKU<sup>®</sup> SIL) meet the strict requirements of the automotive industry, including emission regulations and NVH standards. The foam gaskets are used in a number of applications, amongst others in automotive interior, air conditioning systems, speakers, and other electromobility and automotive components.
- > Brand new silicone foam gasket RAKU<sup>®</sup> SIL 37-1210 that cures at room temperature within a few minutes after application. This allows for rapid assembling and saves an entire production step.

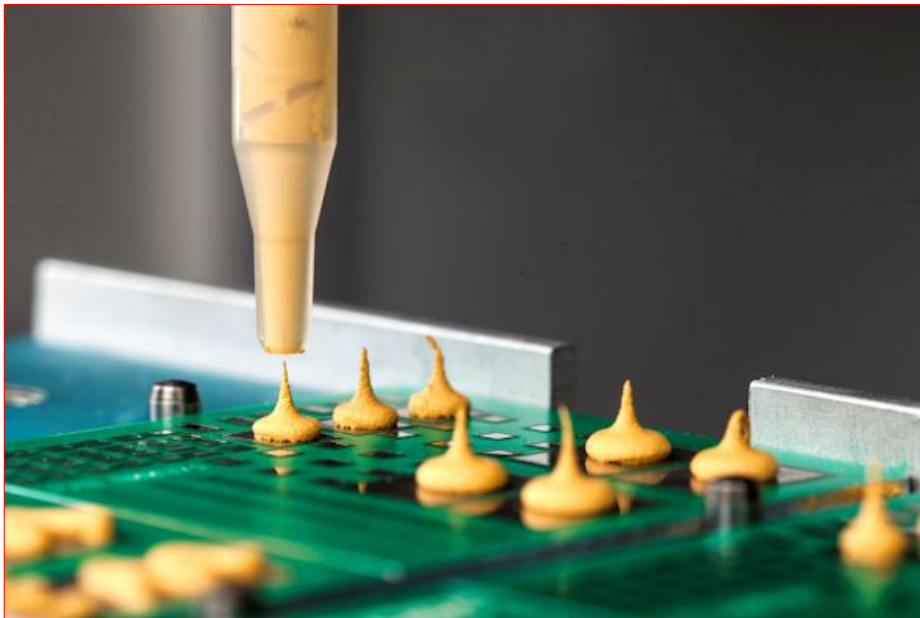
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RAKU<sup>®</sup> SIL 37-1210 is used especially for sealing battery covers and charging stations, charging connectors, and many more.

- > Electro casting resins made of polyurethane, silicone, and epoxy (RAKU<sup>®</sup> POX) with excellent thermal, chemical, and mechanical properties. These reliably and efficiently protect battery sensors and charging stations, charging connectors for electric vehicles, relays, transformers, and many more components against chemical substances and environmental influences such as heat, cold, and moisture.

**RAMPF Production Systems – High precision dispensing of thermal pastes**



Thermal pastes (gap fillers) are primarily used for power electronic components and in the battery industry. Among other things, they cool automotive electronics assemblies, optimizing heat transfer from component to heat sink.

Ever higher electrical power densities mean the thermal energy that needs to be transferred and thus the proportion of filler in the thermal greases is also increasing. Consequently, the highly filled pastes with up to 90 percent fillers place ever-greater demands on the pump system because they are prone to sedimentation and act aggressively on the dispensing component. This makes the choice of dispensing pump crucial to process reliability.

Low-wear KDP piston dispensing pumps for processing thermal pastes from RAMPF Production Systems meet these demands. The pumps benefit from minimal maintenance requirements and maximum precision. The universal systems can apply thermal pastes with a dispensing rate of over 10 g/sec. They

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are based on the principle of forced volumetric dispensing and operate independently of pressure and viscosity.

The servo-drive technology enables the speed of material discharge to be varied, which means any mixing ratio can be set for two-component materials. Optimum adaptation to the process conditions is rounded off by the servo-electric transmission principle.



E-KDP 250 piston dispensing pump with static mixer, developed and produced by RAMPF Production Systems.

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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 800 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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