

High-Performance Polymer Systems for Sealing, Potting, and Structural Applications in Electronics Manufacturing

RAMPF Advanced Polymers at productronica 2025 in Munich – Hall A3 / Booth 335

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Grafenberg, Germany, October 21, 2025. RAMPF Advanced Polymers is showcasing high-performance sealing systems, potting resins, and board materials for the fast and cost-efficient production of electrical and electronic components at productronica in Munich from November 18 to 21 – Hall A3 / Booth 335.



Key Takeaways

1. RAMPF sealing systems enable fully automated production processes with high output volumes, ultra-fast cycle times, and top-tier quality – also in control cabinet and sensor manufacturing.
2. RAMPF electro casting resins reliably and efficiently protect electrical and electronic components against chemical substances and environmental influences such as heat, cold, and moisture – ensuring maximum performance and service life.
3. RAMPF polyurethane board materials guarantee outstanding process stability, efficiency, and sustainability in the production of component carriers within fully automated manufacturing systems.

Sealing Systems – Maximum Performance & Process Reliability

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Two-component sealing foams based on polyurethane (RAKU[®] PUR) and silicone (RAKU[®] SIL) from RAMPF Advanced Polymers ensure reliable and long-lasting sealing in a wide range of industrial applications. The liquid to highly thixotropic sealing systems provide effective protection against moisture, dust, chemicals, and temperature fluctuations.

Automated application via FIPFG (Formed-In-Place-Foam-Gaskets) or FIPG (Formed-In-Place-Gaskets) ensures high reproducibility and process reliability. Manufacturers also benefit from accelerated production and assembly processes.

Trade Show Focus: Control Cabinets and Sensors

RAKU[®] PUR and RAKU[®] SIL sealing systems stand for high-volume, fully automated production processes with ultra-fast cycle times and outstanding quality. Leading manufacturers in control cabinet and sensor production worldwide rely on the high-performance and dependable sealing solutions from RAMPF Advanced Polymers. Whether for indoor or outdoor applications, complex geometries, or extremely small surfaces – RAMPF offers the best solution for every requirement. These systems impress with:

- High sealing quality (confirmed by IP tests)
- Excellent aging resistance
- Low hardness for improved comfort
- Minimal assembly forces
- Optimal adhesion to various substrates such as stainless steel, aluminum, powder coatings, and plastics
- Certifications including UL 50, UL 50e, and UL 94

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One- and two-component potting systems from RAMPF Advanced Polymers ensure maximum safety, performance, cost-efficiency, and durability of electrical and electronic components, providing reliable and efficient protection against chemical substances and environmental influences such as heat, cold, and moisture.

With their broad range of mechanical, chemical, and thermal properties, RAMPF resins are suitable for a wide variety of applications. Electro casting resins based on polyurethane (RAKU[®] PUR) and epoxy (RAKU[®] POX) are listed by leading manufacturers in the automotive and electronics industries.

RAKU[®] PUR potting systems are versatile and efficient:

- Wide range of Shore hardnesses (20A – 90D)
- Easy adjustment of reactivity
- Low shrinkage
- Low exothermic reaction
- Fast processing
- High shock resistance
- Excellent adhesion to plastics

Applications: Potting of PCBs, capacitors, inverters, sensors, chokes, EMC filters, and more.

RAKU[®] POX potting systems are robust and reliable:

Due to their high mechanical strength and excellent adhesion to metals, RAKU[®] POX resins are ideal for potting highly stressed components. Key benefits include:

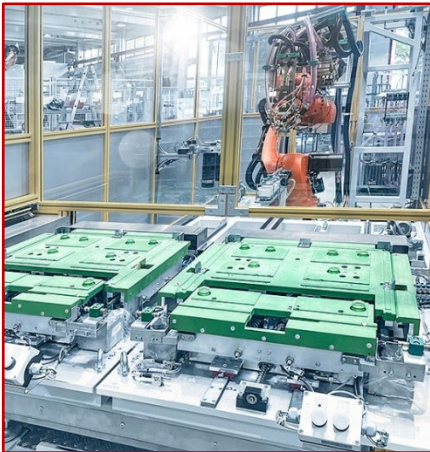
- Excellent chemical resistance
- Outstanding impregnation properties
- High abrasion resistance

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Applications: Potting of capacitors, motors, transformers, circuit boards, control units, and more.

RAKU TOOL Board Materials – Minimal Weight, Minimal CO₂ Emissions, Maximum Efficiency



A highlight at the booth of the international RAMPF Group is a highly automated system for sealing, potting, and bonding one- and multi-component polymer systems, developed and built by RAMPF Production Systems.

At the heart of the system is a dual sliding table that is autonomously loaded and unloaded by a mobile robot. Mounted on the table is an ultra-lightweight and extremely dimensionally stable component carrier made of RAKU[®] TOOL modeling materials from RAMPF Advanced Polymers, ensuring maximum process stability, efficiency, and sustainability.

The advantages of polymer materials compared to aluminum and steel:

- More cost-efficient and sustainable production with up to 90 percent lower CO₂ emissions compared to aluminum
- Energy-efficient handling thanks to significantly lower weight – approx. 60 percent lighter than aluminum and 85 percent lighter than steel
- Quick and easy modifications and repairs
- Gentler handling of sensitive component surfaces
- No imprinting on painted part surfaces
- Compatible with all joining techniques – force-fit, form-fit, material-bonded, and detachable
- Easy cleaning of grease and dust particles

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www.rampf-group.com



RAMPF Advanced Polymers GmbH & Co. KG based in Grafenberg, Germany, is a leading specialist in the development and manufacture of customized and sustainable solutions for formulating, sealing, casting, and design.

The product portfolio includes

- > Sealing systems, electro casting resins, engineering casting resins, edge and filter casting resins, and adhesives based on polyurethane, epoxy, and silicone, as well as silane-modified polymers
- > Board and liquid materials for model and mold engineering based on polyurethane and epoxy
- > Chemical solutions for the manufacture of customized recycled polyols based on polyurethane, PET, and PIR residues.

RAMPF Advanced Polymers is a company of the international RAMPF Group based in Grafenberg, Germany.

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