

Customized Performance: Bonding & Sealing with Silane-Modified Polymers from RAMPF

Versatile systems for demanding applications in mechanical and metal engineering, building technology, automotive and transport, household appliances, marine, and construction

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Page 1 of 4

Grafenberg, Germany, February 11, 2026. Strong adhesion, reliable sealing, and maximum formulation flexibility: Tailor-made silane-modified polymers from RAMPF Advanced Polymers deliver maximum performance and quality for demanding applications in mechanical and metal engineering, building technology, the automotive and transport sector, household appliances, marine, and construction.



Key Takeaways

1. Customized silane-modified adhesive and sealing systems from RAMPF Advanced Polymers are used in demanding applications across mechanical and metal engineering, building technology, automotive and transport, household appliances, marine, and construction industries.
2. SMP technology delivers strong technical advantages: high adhesion, excellent durability, and consistent quality with easy processing.

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3. Product highlights: One-component system RAKU® SEAL 45-1067 for maximum production efficiency and two-component system RAKU® SEAL 45-2067 for fast handling strength and short process times.

Silane-modified polymers (SMPs) are hybrid adhesive and sealant systems that combine the benefits of classical polymer technology with reactive silane groups. They meet the highest requirements for elastic bonding and sealing and offer:

- Excellent adhesion – AlMg1, AlMg3, steel, PVC, glass, PC, ABS
- Cost-efficient processing
- Outstanding mechanical properties – elongation at break up to 700%, Shore A hardness between 25 and 60
- High resistance and durability – hydrolysis and chemical resistance, UV and aging stability
- High temperature stability – continuous up to 100°C, short-term up to 120°C
- Excellent health and environmental compatibility – solvent- and isocyanate-free, no hazard labeling required
- Availability in all common packaging sizes – cartridges, tubular bags, pails, drums

Michael Wahl, Director Business Center Casting Resins & Elastomers (CASE) at RAMPF Advanced Polymers – “SMPs offer exceptional formulation flexibility. With our encompassing R&D capabilities, we develop products precisely tailored to our customers’ requirements, ensuring maximum performance and quality while maintaining easy processability. We support our customers from product development all the way through to series production.”

Customized SMP systems from RAMPF Advanced Polymers are used in a wide range of industries and applications, including:

- Building technology – sealing and bonding of cooling, ventilation, and air-conditioning systems
- Automotive and transport – bonding of control components; sealing of sensors, connectors, and electronic modules
- Household appliances – assembly of washing machine covers
- Construction – insulation elements, formwork elements

Product Highlights: RAKU® SEAL 45-1067 and RAKU® SEAL 45-2067

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RAKU[®] SEAL 45-1067 (one component) and RAKU[®] SEAL 45-2067 (two components) are solvent- and isocyanate-free adhesive and sealant systems based on silane-modified polymer technology. Key advantages of these high-performance systems include:

- Very broad adhesion spectrum, even without primer
- High elasticity
- Excellent aging and weather resistance
- High hydrolysis resistance
- Strong chemical resistance
- Operating temperature: -40°C to +100°C (short-term up to +120°C)

RAKU[®] SEAL 45-2067 – the ultra-fast two-component system

The two-component sealing system RAKU[®] SEAL 45-2067 offers rapid handling strength, enabling very short process times. With individually adjustable reactivity, the system can be precisely tailored to the customer's production process.

RAKU[®] SEAL 45-1067 – the efficient one-component system

The one-component sealing system RAKU[®] SEAL 45-1067 stands for maximum production efficiency. There is no mixing technology required, resulting in significant time and cost savings. At the same time, the system ensures reliable, consistently high quality.

For more information or personal consultation on silane-modified polymers from RAMPF Advanced Polymers, please contact Michael Wahl: michael.wahl@rampf-group.com.

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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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