

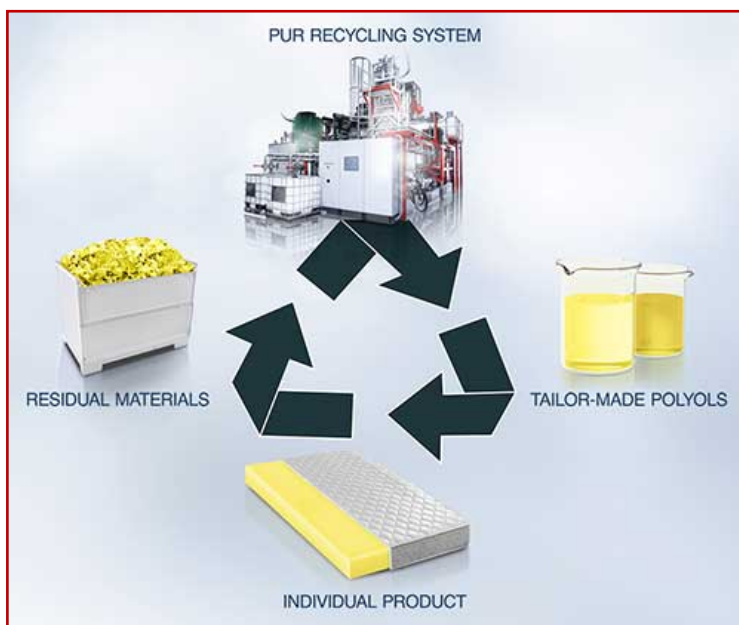
RAMPF – Conversion of Polyurethane Foam Wastes to Polyols

Foam Expo North America 2021 – Chemical solutions and multi-functional plants for the manufacture of high-quality polyols

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Wixom, MI, USA, July 7, 2021. RAMPF Group, Inc. has pioneered the technology to upcycle polyurethane (PU) wastes generated by foam manufacturers and converting them to polyols utilizing multi-functional plants for the upcycling process. This technology will be presented at Foam Expo North America from July 13 - 15 in Novi, MI – Booth 1903.



The international RAMPF Group has pioneered the recycling of polyurethane wastes – for more than three decades, the company has been developing chemical processes whereby post-consumer PU foam scraps from used mattresses, furniture, car seats, motorcycle seats, insulation materials, as well as fitness and leisure items are upcycled to high-quality polyols.

Using solvolysis (glycolysis, acidolysis, and aminolysis), recycled polyols are manufactured that are at the very least comparable with polyols otherwise obtained from virgin raw materials – both in terms of quality and technical properties. RAMPF recycled polyols are tailored precisely to the customer's production set-up and can therefore be used directly in the production process for new products.

Furthermore, RAMPF has developed chemical processes that enables PET/PSA, other polyesters (PLA, PC, PHB), and renewable or bio-based raw materials such as vegetable oils to be used as sources of raw materials for the manufacture of bio-based recycled polyols.

The company also offers comprehensive advice in polyurethane recycling and developing customized polyols. The formulation of polyurethane systems using a RAMPF recycled polyol and contract manufacturing of molded components are further offerings in the portfolio.

Multifunctional recycling plants

By combining its encompassing experience in chemical solutions in conjunction with the expertise of its partners in industrial plant construction, RAMPF has been very successful on the international markets

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with a unique product offering – the development of multi-functional recycling plants for their customers. Using their own customized in-house plants and polyurethane waste materials, PET, phthalic anhydride, and polyisocyanurate, companies can manufacture their own high-quality recycled polyols on site and use these in their production process. In doing so, they cut costs and contribute to the protection of the environment.

Shakti Mukerjee, R&D Manager at RAMPF Group, Inc. – “RAMPF chemical solutions and multi-functional plants guarantee for first-class products and reduce both the dependency on volatile markets and the consumption of raw materials and energy. Our technology stands for a circular cycle that delivers both environmental and economic benefits.”

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RAMPF Group, Inc., based in Wixom, Michigan, is the North American subsidiary of the international RAMPF Group. The product portfolio encompasses:

- > Mixing & dispensing systems for the reliable processing of polymers
- > Two-component polymer (or synthetic) systems based on polyurethane, epoxy, and silicone
- > Modeling and mold engineering materials, in particular for the automotive, marine, and aviation industries
- > Machine bases, machine frames, and other structural components made from mineral casting (polymer concrete)

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 approx. 900 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, China, Japan, and Korea.

All RAMPF companies are united under a holding company – **RAMPF Holding GmbH & Co. KG** – based in Grafenberg, Germany.

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