

Lightweight RAMPF Trio at JEC World 2023

Boards, Liquid Materials, and Engineering Services for Composite Manufacturing – Hall 5 / Booth Q13

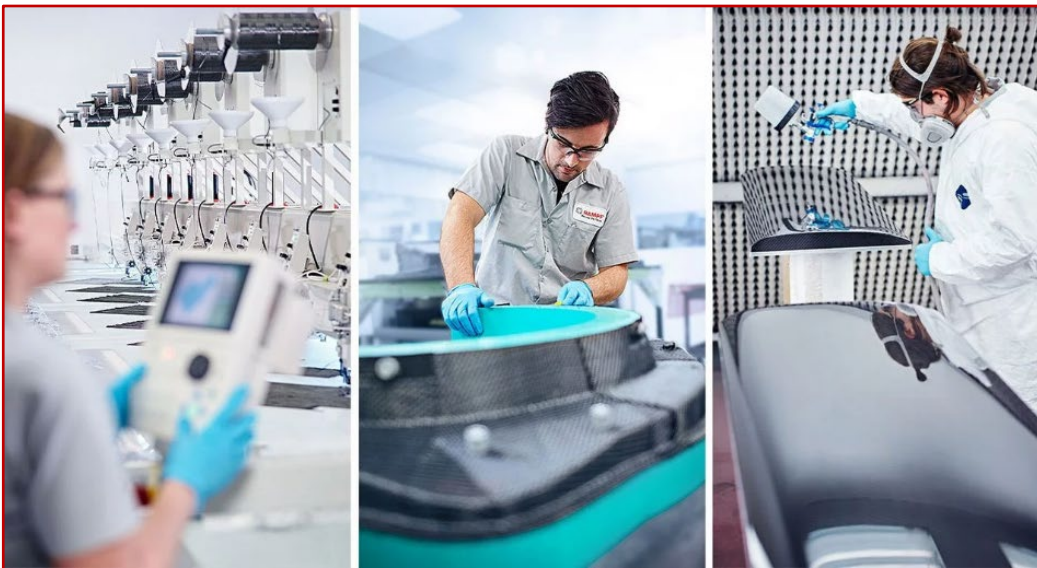
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Grafenberg, Germany, March 29, 2023. The companies of the international RAMPF Group are presenting high-performance polyurethane and epoxy tooling materials as well as innovative engineering services for composites manufacturing at JEC World from April 25 to 27 in Paris, France – Hall 5 / Booth Q13.

One booth, threefold composites competence – RAMPF Composite Solutions, RAMPF Tooling Solutions, and RAMPF Group, Inc. are presenting visitors to JEC World 2023 with a comprehensive product and service portfolio for the economical manufacture of high-performance composite parts.

RAMPF Composite Solutions: More Automation. Lower Costs.



Quicker time-to-market at lower costs – RAMPF Composite Solutions is presenting holistic engineered solutions for technologically advanced composite design in the aerospace, defense, transportation, medical, and green technology industries.

The company's experts make composites manufacturing more automated and less costly by using

- > Cutting-edge Tailored Fiber Placement (TFP) technology
- > Tooling materials with outstanding mechanical properties
- > High-performance liquid resin systems

Together with material qualification, built-in quality assurance, and automation processes, subsystems and fully scalable prototypes are manufactured within days or weeks of design stage via an innovative one-shot solution.

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RAMPF Tooling Solutions: The Fantastic Four!



Unparalleled high-performance epoxy boards for the production of prepreg lay-up tools and vacuum forming molds – RAMPF Tooling Solutions presents the four high-tech board materials RAKU[®] TOOL WB-0691, WB-0700, WB-0890, and WB-0950 for applications in racing sports, marine, aerospace, and medical technology. The benefits:

- > Wide temperature application range (HDT 110 - 200 °C)
- > Superior surfaces – reduced finishing effort, less sealer required, high edge strength
- > Fast and easy to process – excellent milling properties and minimal dust
- > Compatible with all paints, release agents, and epoxy prepregs in line with industry standards
- > Adhesives that match temperature resistance and hardness of boards

The product portfolio of RAMPF Tooling Solutions for composite manufacturing also encompasses liquid systems based on epoxy (infusion resins, laminating resins, gelcoats) and Close Contour materials (Close Contour Paste, Close Contour Castings, Close Contour Blocks).

RAMPF Group, Inc.: Taking off with liquid epoxy systems!

Minimal weight and maximum safety – RAMPF Group, Inc. is presenting its comprehensive range of epoxy liquid systems for composite production. These are used, amongst others, in special mission aircraft for surveillance, firefighting and air refueling, as well as in helicopters and individual and regional air mobility.

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The product highlights at JEC World 2023:

- > RAKU[®] EI-2508 – the low-viscosity, low-temperature processing, and fast-curing FST system is used for aircraft interiors, rail interiors, and many other applications where flame-retardant properties are required
- > RAKU[®] EI-2510 – the high-temperature, toughened epoxy system exhibits excellent hot-wet properties (dry Tg 210 °C, wet Tg 174 °C), high fracture toughness, and is used for a wide range of structural applications in high-temperature environments; the low-temperature processing 2-component resin requires less investment in tooling and infrastructure and no special storage
- > RAKU[®] EI-2511 – high-performance, flame-retardant structural resin with a high Tg (dry 165 °C, wet 137 °C); the epoxy system exhibits low viscosity at low processing temperature (200 mPas at 40 °C) and fulfills 12 and 60 sec vertical burn as well as the oil burner test for firewalls, engineer nacelle components, and cargo liners.
- > The combination of RAKU[®] EI-2510 and RAKU[®] EI-2511 with Close Contour Castings and high-performance tooling boards enables the cost-effective production of qualification-compliant components within days to weeks

With its comprehensive range of products and services, the US subsidiary of the international RAMPF Group has established itself as a technology and quality leader in the NAFTA markets.

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www.rampf-group.com



The RAMPF Group stands for **engineering & chemical solutions** and caters to the economic and ecological needs of industry with 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 such as mineral casting, ultra-high performance concrete, and hard stone.
- > **RAMPF Production Systems** based in Zimmern o. R., Germany, develops and produces production systems with integrated dispensing technology for bonding, sealing, foaming, and casting a wide variety of materials. The company also offers an encompassing range of automation solutions 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, defense, transportation, medical, and green technology industries. The company offers a complete suite of services including composite part design and engineering, and metal-to-composite conversion engineering.
- > **RAMPF Eco Solutions** based in Pirmasens, Germany, develops chemical solutions for the manufacture of high-quality recycled polyols from polyurethane and PET waste materials. This company also designs and builds customized multi-functional plants for customers for the manufacture recycled 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 more than 850 employees and subsidiaries in Germany, the United States, Canada, Japan, China, and Korea.

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

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