

RAMPF Presents Brand-New Flame-Retardant Epoxy Infusion System

CAMX 2024: High-performance tooling materials and engineered solutions for composite part manufacturing – Booth L31

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Grafenberg, Germany, September 6, 2024. RAMPF will showcase its new flame-retardant epoxy infusion system, RAKU[®] TOOL EI-2518/EH-2992, alongside its high-performance tooling boards, innovative Close Contour technology, and engineered composite manufacturing solutions at CAMX 2024 in San Diego, CA, from September 9 to 12 – Booth L31.

Key facts

- 1. RAMPF Group, Inc. is presenting its high-performance tooling boards, Close Contour materials, and liquid systems for high-quality and cost-effective modeling and mold engineering at CAMX 2024.
- 2. RAMPF Composite Solutions is presenting one-stop engineered solutions for technologically advanced composite manufacturing that reduce costs and accelerate time-to-market.
- 3. RAMPF is nominated for the CAMX Awards in the category Unsurpassed Innovation for "Developing and Deploying Capability Rapidly and Cost Effectively".

High-performance modeling and mold engineering materials



RAMPF Group, Inc., headquartered in Wixom, MI, is a leading developer and manufacturer of polyure-thane- and epoxy-based modeling and mold engineering materials for industries such as automotive, marine, and aerospace. The company provides customized solutions that support customers throughout the entire production process, from prototyping and model creation to mold and tool construction, as well as production.

The portfolio encompasses

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- > Tooling boards made from polyurethane and epoxy that feature excellent mechanical properties, fine surface structures, and high dimensional stability. They are easy to machine and compatible with standard prepregs, release agents, and paints.
- Close Contour materials that reduce material usage, production waste, and time for milling and finishing. The range includes Close Contour pastes (two-component epoxy applied manually or by CNC), Close Contour castings (semi-finished polyurethane castings), and Close Contour blocks (customized polyurethane or epoxy blocks).
- > Liquid polyurethane and epoxy systems for various manufacturing methods, including gelcoats, laminating resins, casting resins, infusion systems, and aerospace materials with FST properties.

At this year's CAMX trade show, RAMPF will present its brand-new flame-retardant infusion system **RAKU® TOOL EI-2518/EH-2992** for applications in FST aerospace, automotive, marine, transportation, interior, architecture, and many more. The epoxy system meets the flammability requirements FAR 25.853 and UL94, is temperature resistant up to 145 °C, and has low smoke density, very low viscosity for excellent infusion performance at room temperature, and a long pot life.

Engineered solutions for complex composite part manufacturing



RAMPF Composite Solutions based in Burlington, Ontario, Canada, designs and manufactures some of the world's most complex lightweight composite products. The full potential of composite technology is utilized for both low-volume production / early product development and series production by combining

- > Low-cost tooling and fixtures with outstanding mechanical properties
- > High-performance structural resins for effective and fast infusion

RAMPF discover the future

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- > Structural optimization via Tailored Fiber Placement (TFP) technology for maximum speed and accuracy
- > Low-cost component production using Vacuum Assisted Resin Transfer Molding (VARTM)

RAMPF Composite Solutions offers innovative, rapid turn-around manufacturing solutions, featuring material qualification, built-in quality assurance, and automated processes for components and subsystems. Prototypes can be delivered within weeks of design, with 25-30% cost savings compared to traditional prepreg methods.

These solutions are especially beneficial for components with high structural and geometric complexity (e.g. undercuts, compound curves, pockets) and functional requirements like EMI shielding, static discharge, impact resistance, and flammability compliance.

CAMX Awards – RAMPF is nominated

RAMPF is nominated for a CAMX award in the category Unsurpassed Innovation for "Developing and Deploying Capability Rapidly and Cost Effectively". By utilizing the significant benefits of RAMPF's groundbreaking Close Contour technology and high-performance epoxy resins, an 8-foot wing spar demonstrator was manufactured within just nine days.

Check out our LinkedIn post on our award nomination!

The demonstrator will be presented at the CAMX Award pavilion on

- > Tuesday, September 10, 3:30 pm 4:30 pm
- > Wednesday, September 11, 2:30 pm 4:30 pm
- > Thursday, September 12, 10:00 pm 11:00 pm

Visit RAMPF at CAMX 2024 from September 9 to 12 in San Diego, CA – Booth L31!



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The RAMPF Group stands for **Chemical & Engineering Solutions** and caters to the economic and ecological needs of industry with four 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 Advanced Polymers 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 and engineering casting resins, edge and filter casting resins, and adhesives based on polyurethane, epoxy, silicone, and silane-modified polymers; board and liquid materials for model and mold making based on polyurethane and epoxy; chemical solutions for the manufacture of customized recycled polyols based on polyurethane, PET, and PIR residues.

RAMPF has subsidiaries in Germany, the United States, Canada, China, Japan, and Korea.

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

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