

Cost-Efficient & Ultra-Fast Aerospace Composite Manufacturing

RAMPF Composite Solutions presents fully scalable, one-shot manufacturing solution at Aeromart Toulouse – Hall 3 / Booth G80

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Burlington, Ontario, Canada, November 29, 2022. Quicker time-to-market at lower costs – RAMPF Composite Solutions is presenting its holistic engineered solutions for technologically advanced aerospace composite design at Aeromart Toulouse from today, November 29, to December 1 – Hall 3 / Booth G80.



The aviation industry is working hard on mitigating its impact on the environment and climate. While the development of new propulsion technologies and alternative fuels is a long-term process, manufacturers can immediately reduce weight and increase fuel-efficiency by using composite parts – and a cost-competitive, one-shot manufacturing solution developed by RAMPF Composite Solutions.

The specialist company significantly increases speed-to-market and cost-efficiency of aerospace composite manufacturing by using

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

High-performance liquid resins – effective and fast infusion

Liquid resin systems (with/without FST properties) with low temperature processing characteristics, for example resin infusion at 40 °C, as well as excellent wetting properties guarantee the effective and fast infusion of components. This goes together with the automation of performance-critical process steps

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such as mixing, degassing, and dispensing. Furthermore, qualified material properties allow for an easy process transfer to new products, applications, and manufacturing sites.

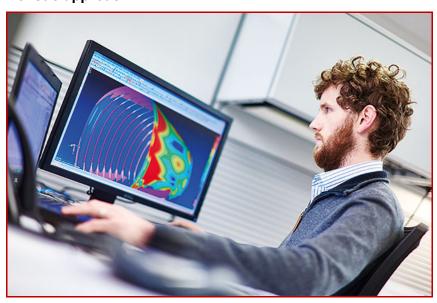
Tooling and fixtures – outstanding mechanical properties

RAMPF offers a wide range of tooling boards and Close Contour materials specifically designed for composite modeling and mold engineering. These feature outstanding physical and mechanical properties and are used for master patterns, direct tooling, trim and bond fixtures. Close Contour pastes and castings also significantly reduce the amount of production waste as well as material, milling, and finishing that is required.

TFP - maximum speed, maximum accuracy

The advantages of TFP for lightweight construction using composites are striking – mass-specific stiffness and strength are maximized by selectively placing and orienting the carbon fiber and fiberglass filaments where strength or weight optimization is required. The structural performance of the composite is optimized while also providing for greatest possible weight savings, reduced carbon fiber usage, and lower cost.

Holistic approach



The manufacturing and process solution addresses material qualification, built-in quality assurance, and automation aspects for both structural and interior applications. The benefits of this approach are maximized for components that exhibit high structural complexity such as undercuts, compound curvatures, and pockets, as well as high functional complexity, for example EMI shielding, static discharge, impact, and flammability compliance).



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Max Schultes, CTO of RAMPF Composite Solutions – "Using our materials and processes, subsystems and fully scalable prototypes are manufactured within days or weeks of design stages. Together with the affordable costs, this enables the aviation industry to pursue groundbreaking concepts on the path to carbon neutrality and increased sustainability."

Visit RAMPF Composite Solutions at Aeromart Toulouse from November 29 to December 01 – Hall 3 / Booth G80!



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RAMPF Composite Solutions, Inc. based in Burlington, Ontario, Canada, is a leading expert in the manufacture of carbon fiber and fiberglass composites parts for the aerospace and medical industries.

Core competencies include VARTM, metal plating, and value-added assembly.

The company is completely vertically integrated, offering project management, product development, tool design and manufacturing, as well as dedicated new production introduction.

Extensive R&D is the driver of innovation, and long-term relationships focused on close cooperation fuel the optimization of existing processes and the development of new products.

RAMPF Composites Solutions is a company of the international RAMPF Group based in Grafenberg, Germany.

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