Press Release

RAMPF – Cutting-edge materials and technologies for the composites industry

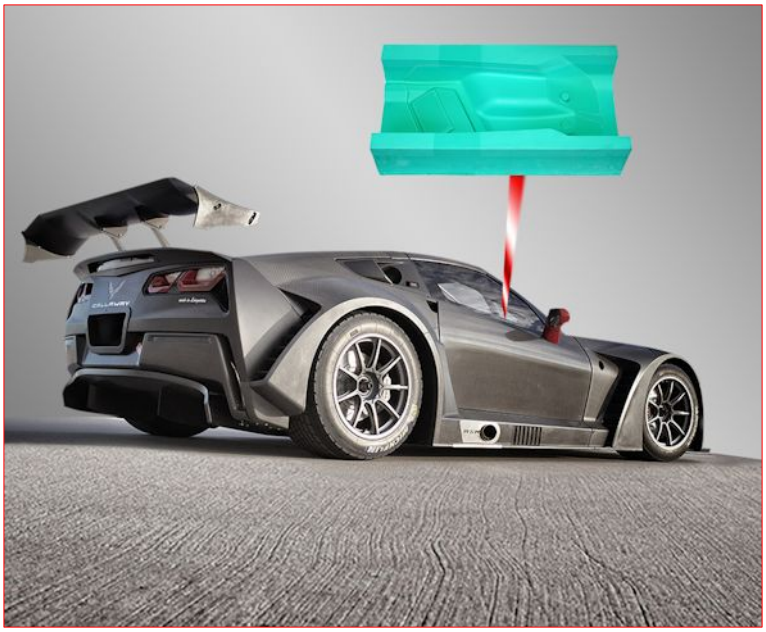
RAMPF Tooling Solutions and RAMPF Composite Solutions at JEC World 2017

Grafenberg, February 27, 2017. The international RAMPF Group is presenting its encompassing composites competencies at JEC World 2017 in Paris from March 14 - 16 in Hall 6, Booth T36. RAMPF Tooling Solutions will feature the newest board, paste, and liquid materials for maximizing the benefits of lightweight construction using composites. RAMPF Composite Solutions will demonstrate its comprehensive capabilities for the design, engineering, and manufacture of cutting-edge composites parts.

RAMPF Tooling Solutions offers a high-performance and high-quality range of materials specifically designed for modeling and mold engineering in the composites industry. This includes epoxy and polyurethane systems and covers a wide range of temperatures.

The highlights at JEC World 2017:

RAKU-TOOL® WB-0691 & WB-0700 – high-tech epoxy boards for high-tech applications



The central console of the Callaway Competition Corvette C7 GT3-R racing car was manufactured using molds made from RAKU-TOOL® WB-0700.

> specially suited for prepreg lay-up tools and vacuum forming molds in motorsports, marine, sports, and medical technology

> cover a wide temperature range of HDT 110 - 140 ºC

> easy and quick to machine

> require less bonding as they are available in 150 mm and 200 mm thickness

> very fine and smooth surfaces significantly reduce finishing

> compatible with all paints, release agents, and epoxy prepregs in line with industry standards

> “package solution” includes adhesive and repair paste that match color, temperature resistance, and hardness of the respective boards

RAKU-TOOL® boards and liquid systems – power for the racing industry

This high-quality and high-performance carbon fiber part for a racing motorcycle was produced using RAKU-TOOL® boards and liquid systems.

> RAKU-TOOL® MB-0670 board: fine surface structure, low coefficient of thermal expansion, good dimensional stability, easy to machine

> RAKU-TOOL® EG-2105 / EH-2950-1 gelcoat system: polishable, good temperature resistance

> RAKU-TOOL® EI-2500 / EH-2970-1 resin infusion system: temperature resistant up to 115 ˚C, flows well, unfilled, low viscosity

RAKU-TOOL® Close Contour Pastes – for the really big projects

This mold for producing wind turbine blades using the composite construction method was manufactured using Close Contour Paste RAKU-TOOL® CP-6060.

> Close Contour Pastes specially suited for economic large-scale modeling in the wind energy, marine, and automotive industry

> high temperature resistance

> large areas processed in single application

> less machining and less waste due to close contour shape

> very fine and homogeneous surfaces with outstanding mechanical properties

> Close Contour Paste application service by RAMPF Tooling Solutions (customers can concentrate solely on milling)

RAMPF Composite Solutions is a complete solution provider of innovative carbon fiber and fiberglass composites for the aerospace and medical industries based in Burlington, Ontario, Canada. At JEC World 2017, the company will showcase its capabilities in engineering, structural analysis, and manufacturing to optimize the balance of weight, stiffness, vibration, materials, cost, environment, flammability, toxicity, schedule, and manufacturability of cutting-edge composite parts and assemblies.

In the aerospace industry, both the engineering capabilities of RAMPF Composite Solutions and the materials of RAMPF Tooling Solutions are in high demand.

Amongst other exhibits, RAMPF Composite Solutions will be showcasing a camera gimbal for monitoring systems. All aspects of design, engineering, and manufacture of the part are carried out in house:

> manufactured in carbon fiber using the VARTM (Vacuum Assisted Resin Transfer Mold) process

> machined to very tight tolerances on a 5-axis CNC routing machine and painted to military specs

> nickel plating added for electromagnetic interference (EMI) protection

> final part checked for quality and measured by a AS9100 certified coordinate measuring machine (CMM)

This camera gimbal is mainly employed for monitoring systems and often fitted to helicopters. All aspects of design, engineering, and manufacture are carried out in-house by RAMPF Composite Solutions.

“At RAMPF Composite Solutions, we work closely with our customers and partners to truly understand their challenges”, says CEO Gerry Kavanaugh. “As a one-stop solution provider, almost every aspect of value chain is done in-house. This increases the efficiency of the development and production process and, ultimately, lowers the cost and maximizes the quality of the end product.”

Visit RAMPF Tooling Solutions and RAMPF Composite Solutions at JEC World 2017: Hall 6, Booth T36 (joint booth with the state of Baden-Württemberg)

www.rampf-gruppe.de/en/

The RAMPF Group stands for **engineering and chemical solutions** and caters to the economic and ecological needs of industry.

The range of competencies includes:

> production and recycling of **materials** for modeling, lightweight construction, bonding, and protection;
> technical **production systems** for precise, dynamic positioning and automation, as well as technologies for complex composite parts production;
> comprehensive range of **solutions and services**, particularly for innovative customer-specific requirements.

With this know-how, RAMPF helps its customers to achieve profitable and sustainable growth.

The Group secures its presence on the international markets with more than 700 employees and six core competencies:

> **RAMPF Machine System**s 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, Japan, and China.

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

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