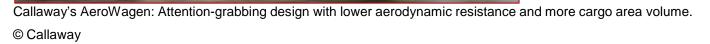
Sportive. Elegant. Callaway AeroWagen.

RAMPF board and liquid materials used for manufacture of carbon fiber parts for eye-catching sports car

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Wixom, MI, USA, August 27, 2017. An extremely powerful and awesomely designed sports car – that is the Callaway AeroWagen. The carbon fiber parts for the shooting brake conversion of the Chevrolet Corvette are manufactured using RAMPF's polyurethane board RAKU[®] TOOL MB-0600 and resin infusion system RAKU[®] TOOL EL-2203 / EH-2970.



U.S. company Callaway Cars is famous for its modification of Chevrolet cars. One of its flagship models is the Callaway AeroWagen, a shooting brake version of the Corvette sports car.

The AeroWagen hatch assembly is a part-for-part replacement of the original equipment Corvette rear hatch, using the original hardware and latching mechanisms. This results both in the sleek bodyline of the car and a significant increase in cargo area volume.

Package components include assemblies of bonded carbon fiber moldings, manufactured by Callaway Carbon using RAMPF's polyurethane board RAKU[®] TOOL MB-0600 for the models and resin infusion system RAKU[®] TOOL EL-2203 / EH-2970 for the mold and part production.

The master models for the mold are CNC machined from RAKU[®] TOOL MB-0600. Following the application of the sealer and release agent to the model surface, the production mold is produced using the epoxy





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resin infusion system RAKU[®] TOOL EL-2203 / EH-2970 and carbon fiber. The final composite parts are also produced via resin infusion with RAKU[®] TOOL EL-2203 / EH-2970.

The viscosity of RAKU[®] TOOL EL-2203 / EH-2970 and room-temperature processing allow for easy production via resin infusion and guarantee for an extremely consistent laminate thicknesses for minimal variables between production parts. Post-curing in batches aids high-volume production and does not tie up molds.

RAKU[®] TOOL MB-0600 – the advantages:



- > Fine surface structure
- > Good dimensional stability
- > Low coefficient of thermal expansion
- > Quick and easy build-up of models
- > Focus on CNC technology, easy to mill
- > Adhesive specially matched to board

RAKU® TOOL EL-2203 / EH-2970 – the advantages:



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- > Flows very well
- > Cures well at room temperature
- > Temperature resistant up to 120 °C
- > Excellent surface finish due to minimal material shrinkage which facilities easy post-processing and paintability

"Callaway and RAMPF have been working together for a long time and we value each other's passion for perfection", says Mark Davidson, Division Manager for Tooling Material at RAMPF Group, Inc. "We are ecstatic that we have been able to be part of this project and we look forward to future ones."



In Germany, RAMPF is also collaborating with <u>Callaway Competition</u>, the racing team based in Leingarten in the Baden-Württemberg region. For their current car, the <u>Corvette C7 GT3-R</u>, RAMPF's RAKU[®] TOOL board and liquid materials were used to manufacture various lightweight parts.



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RAMPF Group, Inc., based in Wixom, Michigan, is the North American subsidiary of the international RAMPF Group.

The product portfolio of RAMPF Group, Inc. is comprised of:

- > mixing and 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

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 800 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, 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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