

Lightweight construction in perfection

Carbon is omnipresent in the new Corvette C7 GT3-R from Callaway Competition – also thanks to RAMPF Tooling Solutions

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Grafenberg, April 13, 2016. The Callaway Competition Corvette C7 GT3-R is ready for the new racing season – packed with power, yet still lightweight. The car will turn heads thanks to both fast lap times and its pioneering design. RAKU-TOOL[®] board and liquid materials specially developed for the composites industry by RAMPF Tooling Solutions have also played their part in this.



Ready to race – the Corvette C7 GT3-R, designed and built by Callaway Competition. © Callaway Competition

“This is the most beautiful car we have ever built,” say Giovanni Ciccone and Ernst Wöhr, owners of Callaway Competition. There is certainly no denying it – the new Corvette C7 GT3-R from the company based in Leingarten in the Baden-Württemberg region of Germany is a real feast for the eyes. It exudes power, but also boasts elegant contours and sophisticated aerodynamics. And everywhere there is carbon.

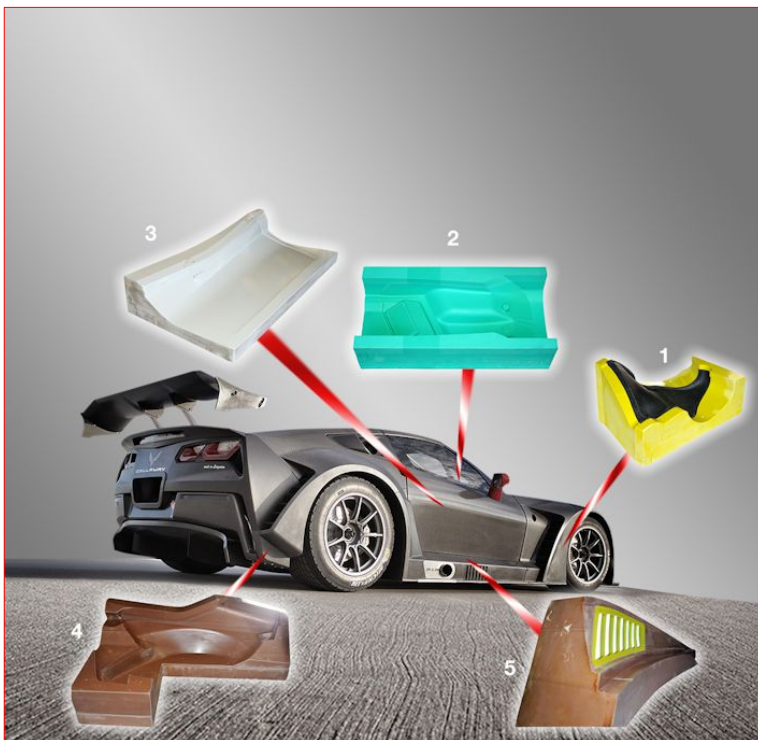
Callaway Competition has been racing for over 25 years, and is the longest-serving team in the ADAC GT Masters, the prestigious race series for GT3-class sports cars. There has never been a race in this series without a Callaway Corvette on the grid – with 23 race wins, the Callaway Corvette Z06.R GT3 is the most successful racing car in the history of the ADAC GT Masters.

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For the new Corvette C7 GT3-R, however, only the chassis and the up to 600 HP, water-cooled, 6.2-liter V8 engine were taken from the series model. The development of the vehicle – done completely in-house – began with the design of the technically-relevant parts in CAD in mid-2014. The vehicle design was finalized by the end of the year, and construction began in Leingarten in spring 2015.

The molds for the racing car were milled directly using the CAD data. RAMPF Tooling Solutions delivered high-quality RAKU-TOOL[®] board materials that were used to create molds for producing various lightweight parts for the C7 GT3-R. RAKU-TOOL[®] resin infusion was used for those parts that were not manufactured in prepreg.



1) The brake air duct was manufactured using molds made from the RAKU-TOOL[®] WB-1404 working board material. The epoxy infusion system RAKU-TOOL[®] EI-2500 / EH-2970 was used in the production of the carbon-fiber parts.

2) The central console was manufactured using molds made from the RAKU-TOOL[®] WB-0700 epoxy working board material.

3) The outer door panel was manufactured using molds made from the RAKU-TOOL[®] WB-0801 working board material.

4) The rear fender was manufactured using molds made from the RAKU-TOOL[®] MB-0600 modeling board material.

5) The front fender was manufactured using molds made from the RAKU-TOOL[®] WB-1404 working board material and the RAKU-TOOL[®] WB-0600 modeling board material.

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“RAKU-TOOL[®] WB-0691 and WB-0700 are particularly suited for lay-up tools, vacuum forming molds, and for processing prepregs,” explains Marcus Vohrer, Head of Application Engineering at RAMPF Tooling Solutions. “RAKU-TOOL[®] WB-1404 molds were used to manufacture carbon fiber parts with EI-2500 / EH-2970 resin infusion. The benefits this provides are an outstanding surface on the resin-infusion parts, excellent fit accuracies, and no damage to the molds during demolding.”

RAMPF Tooling Solutions offers a comprehensive range of liquid, paste, and board materials specifically for the composites industry. This includes epoxy and polyurethane systems, and ensures consistent product quality with excellent mechanical end properties. “These new plastics and technologies enable the greatest possible benefit to be achieved in lightweight construction using composites,” says Heinz Horbanski, Managing Director of the international modeling and mold engineering specialists from Grafenberg, near Metzingen.

Without a doubt, the new Corvette C7 GT3-R is a masterpiece. “As a private team, projects such as this present a particular challenge, as we cannot call on the financial and staffing resources of a large automobile plant. However, thanks to the tireless efforts of our staff and technology partners, we have been able to finish the vehicle in a comparatively short space of time,” says Ernst Wöhr.

The central contact for the composite manufacturing process was Esterlössl GmbH, from Rutesheim. The carbon-fiber components in the prepreg process were manufactured by Murr-based ubc GmbH and Brebeck Composites GmbH in the Czech Republic. Schäfer Modell- und Formenbau GmbH and Kegelmann Technik GmbH from Rodgau-Jügesheim were each responsible for doors, interior equipment, and the front hood.

Incidentally, it is not only racing enthusiasts in Germany who will have the pleasure of seeing the C7 GT3-R in action on the track. The car meets the specifications and safety requirements of the FIA, the world governing body for automobiles and motor sport, and can therefore be used in races around the world.

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RAMPF Tooling Solutions GmbH & Co. KG develops and produces board and liquid materials and semi-finished goods 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.

Based in Grafenberg (near Stuttgart), Germany, RAMPF Tooling Solutions is the world's largest producer of styling, modeling, and working board materials, which demonstrate excellent quality and the best mechanical properties.

High-quality Close Contour Pastes, Close Contour Blocks, and Close Contour Castings guarantee excellent and cost-effective solutions for modeling and mold engineering.

The company produces and develops pioneering systems for the composites industry that cover a wide variety of production procedures and a broad range of temperatures.

It goes without saying that RAMPF Tooling Solutions also provides expert advice, customer-specific service, and prompt technical support.

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

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