

Press Release

11/14/2014

2014 Materialica Design + Technology Awards

Accolade for Composite Roof Module

Working with a network of partners, KraussMaffei and Henkel have developed a process based on surface resin transfer molding technology (Surface-RTM) for the series manufacture of composite components offering a surface quality good enough for automobile exteriors – without the need for further treatment. The technology showpiece for this development project was the roof segment of the Roding Roadster R1 lightweight sports car. Now, that roof segment has garnered gold in the coveted 2014 Materialica Design + Technology Awards in the “Surface & Technology” category. The carbon reinforced plastic component based on the polyurethane matrix resin Loctite MAX 3 from Henkel can be directly coated as the fiber structure remains hidden below the surface.

More and more, the automotive industry and its partners are turning their attention to the optimization of lightweight components in terms of their surface quality and, in particular, their suitability for mass production. With its combination of matrix resin expertise, process know-how and an especially coordinated adhesives portfolio, Henkel is able to offer a broad range of composite solutions, both off-the-shelf and tailor-made. “We have optimized the properties of our Loctite MAX 3 matrix resin so that both paint coatings and adhesives can be applied to the as-manufactured composite surface without the need for any pretreatment,” says Frank Kerstan, Global Program Manager Automotive Composites, Henkel Adhesive Technologies. “Underpinned by the extensive adhesives portfolio from Henkel, this gives rise to a complete system solution enabling the manufacture and integration of composites in automobiles.”

Series manufacture of paintable components

The highly competent partner network around KraussMaffei, to which Henkel as a specialist for matrix resins also belongs, has now succeeded in developing a fully



LOCTITE BONDERITE TECHNOMELT TEROSON AQUENCE Ceresit

automated process capable of producing composite components that exhibit a surface quality suitable for immediate painting. This saves on laborious rework that can account for up to 60 percent of the cost per component. It has all become possible thanks to the development of Loctite MAX 3: This three-component polyurethane-based matrix resin system from Henkel contains not only the resin and hardener but also a high-performance releasing agent aligned to a self-releasing polyurethane lacquer manufactured by Rühl Puromer GmbH. The roof module of the Roding Roadster R1 provides proof positive that, following demolding, a component can have a surface suitable for immediate coating or bonding. Enabling manufacture of external and visible components of outstanding surface quality, the advent of this technology facilitates increased automation and thus all the speed and efficiency of mass production.

Awards for products of exceptional design and technological quality

Each year, gold and silver Materialica Design + Technology awards are conferred in four categories for products exhibiting outstanding design and technology credentials. The award ceremony is held during the Materialica trade fair in Munich, which took place this year from October 21 through 23 under the banner slogan "Lightweight Design for New Mobility."

Loctite is a registered trademark of Henkel and/or its affiliates in Germany and elsewhere.

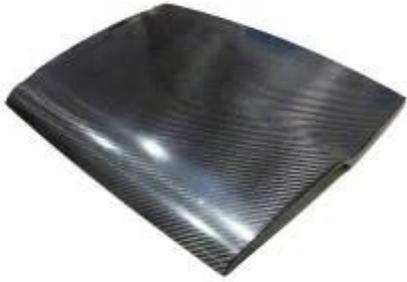
Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Beauty Care and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions in both the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 47,000 people and reported sales of 16.4 billion euros and adjusted operating profit of 2.5 billion euros in fiscal 2013. Henkel's preferred shares are listed in the German stock index DAX.

Photo material is available at <http://www.henkel.com/press>

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The following material is available:



The carbon roof segment of the Roding Roadster R1, winner of the 2014 Materialica Design + Technology Award.