

Press Release

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Meeting composite needs in automotive

Henkel driving automotive innovations at JEC 2016

Driven by legislation to reduce carbon-dioxide emissions, automotive manufacturers are on a mission to cut every unnecessary gram of weight out of vehicles. The push for lighter vehicles is driving the adoption of advanced composites, which offer weight savings versus traditional metal components.

At the upcoming JEC World 2016, Henkel will highlight how it creates highly customized, integrated solutions to meet the challenges of lightweight vehicle construction, particularly in relation to cost efficiency and high-volume production. On its stand in Hall 6, booth J31, the company will exhibit a portfolio of products and applications not only for automotive, but also for its aerospace customers.

Enabling automotive lightweight serial applications

Automotive OEMs are constantly seeking cost-effective processes that are suitable for high-volume production of greater than 10,000 parts per year, along with tailored adhesives, and fast-curing and reliable resins for use in short production cycles. They also want reliable partners with in-house test capabilities. That's why Henkel recently opened its new Composite Lab in Heidelberg, Germany, a test center for customer trials using HP-RTM equipment.

Henkel offers matrix resins and tailor-made adhesives for production and assemblies of composite parts, including hybrid concepts incorporating metal components. For instance, **Loctite MAX 2**, a two-component polyurethane composite matrix resin system, enabled automotive composites specialist Benteler-SGL to develop an innovative, glass-fibre-reinforced leaf spring. The composite spring is manufactured in RTM, designed for a production output of over 100,000 parts per year.

The leaf spring is now used by Volvo on the XC90, its premier crossover SUV and enables a weight savings of 4.5 kg per axle. Based on the SPA architecture platform, this leaf spring concept is also used for the Volvo S90 and V90.

At JEC, Henkel will also present a new lightweight door for the Roding R1 that was manufactured with different adhesive solutions and with **Loctite MAX resin**, demonstrating its excellent flow characteristics on very complex geometrical shapes.

Industrial adhesives for bonding multi-material assemblies

Automakers increasingly are turning to fibre-reinforced plastics to replace steel, and this creates a growing need to find effective ways to bond these types of mixed materials to one another. For overcoming the different coefficients of thermal expansion (CTE) in modern, lightweight bodies, the market needs an adhesive that offers both high strength and high elasticity at the same time.

Henkel developed the new adhesive **Loctite UK 2015**, which is based on two-component polyurethane technology. This adhesive is ideally suited for use on structural body parts, regardless of whether they are made of fibre-reinforced plastics, e-coated steel or e-coated aluminium.

New binder technology

At JEC, Henkel will introduce a new binder technology, **Loctite FRP 2000**, which has excellent compatibility with polyurethane and epoxy matrix resins. In the preforming process, only small amounts of the binder are needed due to its high mechanical strength, and it is well suited for complex-shaped parts.

The firm also will showcase selected products in its **Loctite Frekote** mold range, including mold cleaners, sealers and release agents. All are best suited for the use with **Loctite MAX** resins in closed-mold processes such as RTM.

Henkel is targeting a variety of applications in automotive and other industrial sectors with its high-performance composites matrix resins and adhesives. These include structural parts such as body components, exterior paintable parts such as a roof, and chassis and powertrain components, including wheels and drive shafts.

Henkel presentation at JEC

Henkel will deliver a technical presentation for automotive during the show, in Hall 5A. On Tuesday, March 8, at 12.30 p.m., Frank Kerstan, Global Program Manager - Automotive Composites will discuss progress with matrix resins and adhesives for automotive large-scale production.

Henkel operates worldwide with leading brands and technologies in three business units: Laundry & Home Care, Beauty Care and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions, both in the consumer and in the industrial businesses, with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 50,000 people and reported sales of 18.1 billion euros and adjusted operating profit of 2.9 billion euros in fiscal 2015. Henkel's preferred shares are listed in the German stock index DAX.

Photo material is available at www.henkel.com/press.

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The following material is available:



The rear axle of the new Volvo XC90 features a new transverse leaf spring, made of lightweight composite material. BENTELER-SGL mass-produces the composite leaf springs for the rear suspension using Loctite Matrix resin from Henkel. (Photo: Henkel, PR008)



A fiber-reinforced composite leaf spring is being used in the chassis of the new Volvo XC90, a premium crossover SUV of which the innovative rear axle concept is to serve as a platform for other model series as Volvo S90 and V90. (Photo: Henkel, PR008)

This press release and relevant photography can be downloaded from www.PressReleaseFinder.com.

Alternatively for very high resolution pictures please contact Kevin Noels

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