Henkel Excellence is our Passion

Press Release

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Henkel at “Engine Expo 2014” in Stuttgart, Germany

Sustainability Takes on Key Role in the Automotive Industry

Within the automotive industry, increased use of lightweight technologies and sustainable products has become a key developmental aim coupled with the ever-present desire for more efficient production processes. Consequently, innovative solutions involving adhesives, sealants and functional coatings are also attracting increasing attention. Appearing at “Engine Expo 2013” – Europe’s most important international trade fair for engine technologies – in Stuttgart from June 24 to June 26, Henkel will be showcasing its latest products for the manufacture of power trains – focusing particularly on electro mobility – and solutions for the assembly and lamination of vehicle interior components.

A central theme running through the Henkel presentation is the aspect of sustainability – as integrated in every stage of the company’s development process. With tailor-made solutions based on products and technologies from Henkel – and the outstanding quality they provide in terms of service life, safety and sustainability – customers around the world can increase the value they generate in relation to their environmental footprint.

Product Solutions for All Process Stages in Power Train Manufacturing

To meet the increasing demands being place on the performance and service life of drive components, Henkel offers solutions for every stage of the value chain: cleaning, cooling and lubrication in the manufacture of power train components, plus surface treatment, functional coating, bonding and sealing during assembly.

Under the brands Loctite and Bonderite, for example, Henkel is able to offer a select range of electro ceramic coatings (ECC) for various engine and exhaust system applications. Suitable for aluminum, titanium, magnesium and their alloys, these coatings enable such lightweight metals to also be used in the manufacture of constructions that would normally require steel, thus greatly reducing vehicle weight. With beneficial tribological properties leading, in particular, to reduced wear, Henkel's electro ceramic coatings also contribute significantly to increasing engine component efficiency and saving fuel. They combine outstanding corrosion protection with high resistance to extreme thermal loading, satisfying the prime prerequisites for, say, exhaust system and turbocharger component longevity.

These days, engine development effort is geared not only to sustainability aspects such as reduced fuel consumption and lower CO_2 emissions, but also to increasingly compact dimensions. With this general trend, the ensuing small yet powerful engines give rise to very high joint stresses. However, Henkel can now offer a solution in the form of Loctite 5189, a new, exceptionally flexible liquid gasketing compound. Gaskets are used in the production of engine components in order to prevent gas or liquid escape. The "form-in-place" (FIP) flange gasket product developed in close cooperation with Ford as a cost-efficient solution is already being applied in a number of different Ford engines, offering a reliable means of significantly reducing both high blow-out rates and production process costs.

Electro Mobility Central to Sustainable Transport

Automobile manufacturers are working hard to develop vehicles with drive systems based on alternative energies as a means to achieving sustainable, climate-friendly and environmentally compatible mobility – without CO_2 emissions and with reduced dependence on petroleum-based fuels. Henkel is actively involved in these developments as a supplier of innovative product solutions capable of meeting the various challenges associated with electro mobility. The company's portfolio contains a range of especially adapted – for example electrical and/or thermally conductive – adhesives together with formed-in-place, cured-in-place and mould-in-place gaskets for housing and casing applications. Typical components for which Henkel products are used are connectors, sensors, inverters, converters, control units, secondary batteries, and electric motors. The miniaturization of in-vehicle electrical and electronic components has helped to reduce both volume take-up and weight, but because of the increasing power densities involved, it has also led to higher local temperatures needing to be dissipated. For these applications, too, Henkel supplies an array of specialized potting and encapsulation compounds based on epoxy, silicone and urethane technology, offering thermal conduction combined with electrical insulating properties.

On the battery front, Henkel offers conductive primer coatings for the aluminum cathode of lithium-ion secondary batteries, which improve both conduction in, and the service life of, the cell. These products are also used for shielding plastic enclosures to prevent electromagnetic interference. To meet the application requirements of fuel cells, adhesives and sealants have to offer certain specific properties such as low permeability to hydrogen and oxygen molecules. Here again, Henkel offers a wide range of tailored products for use in different process environments, such as those encountered in screen printing and injection molding.

Focusing on Sustainability: Innovative Raw Material Mix for New Hotmelt

When considering the issue of sustainability, the automotive industry not only looks at alternative drive concepts and lightweight technologies but also the wider range of products employed and the ingredients they contain. Working closely with its customers on various laminating and bonding applications for vehicle interiors, Henkel has developed a range of innovative hotmelt adhesives that are based on up to 60 percent renewable and recycled raw materials, while delivering results which, in terms of performance, are on a par with more conventional products. Customers have been successfully using these hotmelts in a number of development projects. In keeping with the principles of responsible resource management, Henkel utilizes ingredients based on renewable raw materials to optimize product properties where viable from an ecological, economic and social standpoint. Thanks to a combination of renewable, recycled and conventional raw materials, Henkel's new Technomelt 9800 series of hotmelts sets new standards in terms of both sustainable development and strength of performance. The Technomelt 9800 series can be applied in various processes, extending from the press and vacuum lamination of interior linings, to a wide range of manual assembly operations.

Adhesives offering short curing times are used, for example, to reduce cycle times in vehicle interior applications, resulting in greater production process efficiency. With Technomelt PUR 9720, Henkel will also be featuring a polyurethane-based hotmelt offering fast processability that has been proven under series production conditions. The product, which can be applied under conventional laminating conditions, is characterized by exceptional strength values right from the cooling phase. Technomelt PUR 9720 is characterized not only by its very good application and wetting properties on plastics, but also by its good chemical resistance, particularly to plasticizers, which makes the adhesive highly suitable for the lamination of PVC films on plastic substrates.

During "Engine Expo" in Stuttgart from January 24 to 26, 2014, Henkel experts will be available at Stand 3620 to provide guidance and advice on the wide spectrum of products and system solutions that the company has to offer the automotive industry.

For more information, visit our website www.henkel.com/automotive.

Loctite, Technomelt and Bonderite are registered trademarks of Henkel 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 both in 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:

Highly stressed engine joints on Ford 1.0 and 1.6 liter EcoBoost engines are sealed with an anaerobic gasketing compound from Henkel.

Henkel offers a select range of electro ceramic coatings suitable e.g. for the coating of IC engine pistons.

Henkel develops tailor-made solutions for various applications in electric motors through close cooperation with its customers.

Henkel offers a wide range of product systems for various applications in the production of vehicle interiors.