



Press Release

Construction of Race and Road Cars Takes Turn for the Better with Henkel **Team McLaren Mercedes Taps Hidden Strength of Henkel at Every Turn of Turkish Grand Prix**

At speeds of up to 320 km/h on a 14-curve course that rises and descends over four ground levels, the twists and turns of the Istanbul Park Racing Circuit wreak havoc on a Formula One car's chassis. But an invisible force within helps the Team McLaren Mercedes MP4-20 withstand torsion levels that would rip a standard road car at its seams. In the continual transfer of aerospace and automotive innovation, Henkel products and technologies are pushing the limits in Formula One racing and redefining the way today's road cars are built.

The newest track on the Grand Prix calendar takes an unusual approach: it is one of only three circuits on which the cars run counter-clockwise. Just as Formula One racing continually demands new strategies and car set-ups, the same applies to the general automotive industry. To make road cars lighter for more fuel efficiency yet stronger for better safety, car makers are taking new manufacturing approaches that share a common element with race car construction: innovative products from Henkel.

As Official Supplier to Team McLaren Mercedes, Henkel offers a diverse range of products that are essential in the construction of the Team McLaren Mercedes MP4-20. From the nose cone, front and side monocoques to the advanced rear wing assembly, Henkel and its aerospace group provide solutions that help the team design and construct the robust yet light-weight moulded carbon fibre components that make up more than 80 percent of the race car.

For example, SynSpand® EA 9899 structural adhesive is used to fill the spaces in the 'honeycomb' structures that reinforce larger moulded components such as the nose cone. SynCore® 9823 syntactic film is used to strengthen thin components such as the fixing that keeps the driver's seat firmly in place. Three times lighter than carbon fibre

materials, the product creates a synergistic effect with each layer of composite material, increasing the structure's endurance to extreme torsion levels without significantly adding weight.

"In Formula One racing, having the right technologies and Partners is as integral as having the right drivers and team," said Martin Whitmarsh, CEO, Formula One, Team McLaren Mercedes. "Henkel is a leader in its field and brings to our program a broad range of expertise, new ideas and solutions that help us get an edge on the competition. Without structural adhesives like those provided by Henkel, it would not be possible to make a Formula One car that could withstand the intense stress, strain and vibrations without compromising weight, aerodynamics and performance."

At the Crossroads of Formula One and Road Car Innovation

Technology transfer plays a large role in Henkel's close working relationship with Team McLaren Mercedes, where Henkel's aerospace products and technologies carry over into applications on the MP4-20 – in essence, a supersonic jet on wheels. And while Formula One innovations generally filter down to road car production, Henkel is looking into general automotive applications that could benefit racing. One such example is Terocore® structural foam, which does for the frames of road vehicles what Syncore adhesives do for the Formula One car's moulded parts: adding structural strength while reducing production costs, weight and manufacturing complexity.

Made of organic materials based on epoxy resins, Terocore is inserted into structural cavities to increase stiffness in critical areas of the car body, helping improve crash safety by absorbing impact energy. The product is used by car makers to widely replace traditional fasteners, supports and many of the average passenger vehicle's 1,400 welds – lowering production costs by up to \$80 per vehicle. With its potential for increasing the resistance of conventional structures by up to 500 percent, Terocore is also used to increase stability and load capacity in heavy-duty vehicles such as transporter vans and lorries.

Henkel's advanced bonding technologies recently enabled construction of the world's first school bus using structural adhesives as the primary fastening method, replacing the majority of screws and rivets. With every component from the roof to the side sheets structurally bonded to the frame using Loctite® H9000, the next-generation bus delivers superior impact resistance, cost effectiveness and corrosion performance.

Another Henkel product, Terophon®, improves driving comfort in nearly all of today's

production cars, whether compact, mid-range or high-end. Launched in the 1990s, this '3D pillar filler' is inserted into cars' structural cavities to prevent road noise from bouncing throughout otherwise hollow pillars and reaching the passenger's ears. This advanced technology has proved so successful that a million pillar fillers leave Henkel production plants each year. Increasingly replacing standard sound damping materials in vehicles' floorboards, Terophon is also applied to cars' undersides as a double-purpose spray-on: a sound deadener that also improves resistance to chipping from road debris.

"Many of the things today's road car drivers take for granted would still be wishful thinking if not for innovative products and technologies from Henkel," said Heinrich Gruen, senior vice president, Henkel Technologies. "While drivers may not have heard of products such as Terocore and Terophon, such Henkel breakthroughs have represented major steps forward for the automotive industry. Our close partnership with Team McLaren Mercedes provides an optimal platform to drive further innovation and derive new synergies across the various industries we serve."

Henkel – A Driving Force in the Racing World

Around the world, Henkel has an extensive commitment to motorsports. In 2004, the Henkel logo appeared for the first time on the rear-wing of the Team McLaren Mercedes race cars, thereby continuing the technical association with the team, which began in 1995 through the Loctite brand. As Official Supplier, Henkel provides a wide variety of innovative solutions to the team. More than 100 different applications of Henkel products have been incorporated into the Team McLaren Mercedes MP4-20 for its challenge in the 2005 FIA Formula One World Championship. In North America, Henkel's NASCAR sponsorships include several brands with the No. 66 Ford Taurus from Brewco Motorsports – driven by Greg Biffle, a rising NASCAR star boasting three career NEXTEL Cup Series wins – and the Loctite brand with Robert Yates Racing and the No. 38 M&M'S® Ford. For the three-week, 10,000-kilometer 2005 Dakar Raid through gruelling desert terrain, Henkel provided each racing team with an essential mechanical emergency kit containing a wide range of adhesives, sealants, maintenance products, cleaners and bonding tapes. In addition, a Henkel engineer accompanied the Raid, providing each team with technical back-up and support at each of the bivouacs.

About McLaren:

McLaren Racing, the company behind the Team McLaren Mercedes team, was formed in September 1980 as a result of a merger between Team McLaren and Project Four, a British company owned by Ron Dennis, now Chairman and CEO of the McLaren Group. McLaren has won eleven Formula One Drivers' Championships and eight Formula One Constructors' Championships including the 1998 and 1999 Drivers' World Championship. McLaren has competed in Formula One since 1966 and has proven to be one of the most successful Formula One teams of all time with 143 Grands Prix wins. To date, McLaren has raced in 590 Grands Prix. The McLaren Technology Centre in Woking, England, the McLaren Group's new headquarters has been developed on a 50 hectare site. The facility includes design studios, laboratories, research and testing facilities, electronics development, machine shops and production facilities for the Team McLaren Mercedes Formula One cars and the Mercedes-Benz SLR McLaren. www.mclaren.com

About Henkel:

The Henkel Group operates in three strategic business areas: Home Care; Personal care; and Adhesives, Sealants and Surface Treatments, which serves the transportation, electronics, aerospace, metal, durable goods, consumer goods, maintenance and repair and packaging industries, and offers a broad range of products for the craftsman and consumer. With brands and advanced technologies, Henkel makes people's lives easier, better, and more beautiful. More than 50,000 employees work for the Henkel Group worldwide. People in 125 countries around the world trust in brands and technologies from Henkel – "A Brand like a Friend".

Photo material is available under www.press.henkel.com

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