

## Press Release

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Loctite launches reference application in Henkel Headquarters in Düsseldorf

### **Henkel and its partner XERVON demonstrate the Loctite Composite Repair System in real life**

Loctite, the solution provider for adhesives, sealants and protective coatings within the Henkel Group, and the German maintenance service provider XERVON have repaired pipelines in the home factory at Henkel's headquarters in Düsseldorf (Germany) using the new Loctite Composite Repair System. The innovative system increases pipe lifetime by up to 20 years. Another advantage is that pipelines can be repaired without interrupting operations, thus avoiding the often high costs associated with unplanned shutdowns.

The Henkel plant in Düsseldorf is criss-crossed by 18 kilometers of piping bridges and 300 kilometers of pipelines. Maintaining these steel pipelines and repairing any leaks quickly, safely and sustainably is a top priority for the operator. The LOCTITE Composite Repair System restores even heavily corroded pipes to an as-new condition and can extend their lifetime by up to 20 years.

#### **The magic number 20**

"20 years is the target timescale – also for competitor products. But we are confident that the Loctite Composite Repair System can last far beyond that period," says Carsten Sperlich, who heads the Technical Infrastructure department at the Düsseldorf site and is thus responsible for ensuring the pipe bridges are in perfect working order. "This new system is very interesting for us because it means that we can repair corroded pipelines without interrupting operations, which eliminates the costs that would be generated by unplanned shutdowns of production facilities."

#### **Repair rather than replace**

For the pilot project, a ten-meter long section of piping was repaired with the Loctite composite system. Traditionally, the user would have to replace that pipe section as

soon as the wall thickness decreased below the minimum amount or leaks began to appear. “With the innovative repair system from Henkel, the piping is as good as new,” says Bernd Hammer, Global Market Development Manager for Oil & Gas and Refineries at Adhesive Technologies. For plant operators, replacement means stopping production, removing the damaged pipe section, welding in a new section and restarting the production facility. “That’s where we come in with our cost-effective alternative.”

### **How it works**

The first step is cleaning: This is done by sandblasting the surface of the defective pipe section to a cleanliness level of SIS SA 2.5. The blasting also produces a roughness of 75 micrometers peak-to-valley height in the steel surface, and the resulting surface texture ensures physical anchoring in addition to the adhesive bonding with the coating material. Next, Loctite SF 7515 is applied as a temporary corrosion inhibitor to prevent flash rust. The backbone of the repair system is laid by wrapping the pipe with several layers of high-strength glass-carbon fiber tape Loctite PC 5085 which has been pre-impregnated with the two-part epoxy resin Loctite PC 7210. Finally, several layers of topcoat Loctite PC 7255 are applied as corrosion protection.

### **Certified system**

The Loctite Composite Repair System has been certified by DNV GL in accordance with the global quality standard ISO 24817. This standard defines the criteria for use of composite systems in petrochemical, oil and gas industries. The method has also been approved by Lloyds Register, in conformity with the ASME PCC-2 standard, and by TÜV Rheinland. “Certification is a very complex procedure. We consider ourselves to be the only supplier in the market that is certified by three inspection authorities. This gives customers the assurance that the system really delivers what it promises,” explains Hammer.

### **Penetrating markets together**

The XERVON company applied the LOCTITE Composite Repair system to the pipelines in the Henkel plant. This enterprise, headquartered in Cologne (Germany) operates on an international scale. It offers a broad portfolio of industrial services, including vast expertise in building and maintaining piping and valving systems in the process industry. Before beginning the project, XERVON employees received extensive training in comprehensive seminars held at the dedicated Competence Center which Henkel has set up in Garching near Munich.

XERVON is one of a select number of service providers that Henkel works with in its “Henkel Certified Applicator” network. Companies wishing to emulate XERVON and achieve this status first have to pass an extensive qualification process. Henkel and its partners jointly offer surface coating products and applicator services from a single source. “I consider the Loctite Composite Repair System to be an excellent solution. Our joint project at the Düsseldorf site is an ideal way to demonstrate the effectiveness of this innovation to industry,” says Thomas Peter Wilk, managing director of XERVON Instandhaltung GmbH.

### **Huge potential**

The Loctite Composite Repair System is being used worldwide in refineries, petrochemical plants, power plants and water treatment systems. Regarding the core applications in the oil and gas industry, the system can be used in all upstream, midstream and downstream areas. Since existing production plants all around the globe are reaching an age when they require a general overhaul, the interest in the repair system is correspondingly high. “That’s why it was so important to apply the system in our own Henkel plant. We can present this in-situ reference project to our customers and also monitor it over the long term, allowing everyone to see for themselves the level of quality this repair provides,” says Bernd Hammer from Henkel.

**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 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 16.4 billion euros and adjusted operating profit of 2.6 billion euros in fiscal 2014. 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 Henkel plant in Düsseldorf is criss-crossed by 18 kilometers of piping bridges and 300 kilometers of pipelines.



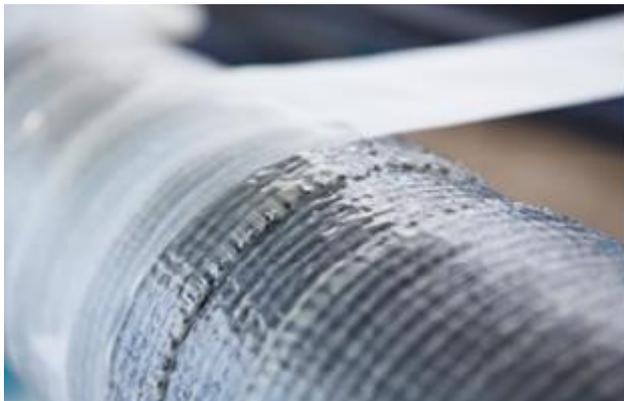
The Henkel team with a piping bridge of the Düsseldorf main plant in the background. This section is being maintained using the LOCTITE Composite Repair System.



Experts from Henkel, Loctite and XERVON inspecting the repair work.



Application of the first layer of Loctite PC 5085 glass-carbon fiber tape.



The tape is pre-impregnated with the two-part epoxy resin Loctite PC 7210. After application, the layers are wrapped around with a peel ply tape to enhance both the performance and the appearance.



The execution of the repair work is closely inspected for quality.



The final step in the Loctite Composite Repair System is the application of Loctite PC 7255 as corrosion protection.



The protective topcoat of Loctite PC 7255 must be at least 500 micrometers thick.



The pipeline is protected against corrosion for at least 20 years.



The Loctite Composite Repair System