

# Case Study Henkel KGaA / Cognis Deutschland GmbH & Co. KG

Internationale Fachmesse  
für industrielle Instandhaltung

**M,O,C, München**  
**17.-19. Oktober 2006**

International Trade Fair for  
Industrial Maintenance

M,O,C,  
Messe München GmbH  
Lilienthalallee 40  
81823 München  
Germany

Telefon (+49 89) 3 23 53-189  
Telefax (+49 89) 3 23 53-197  
info@maintain-europe.com  
www.maintain-europe.com



## Coating of a Chemical Tank with an Effacable Ceramic Anti-corrosive Coating on Basis of a Two-component Epoxy Resin Brimmed with Silicon Carbide

### Categories

1. Maintenance services
2. Plant optimization and modernization
3. Adhesives and anti-corrosives
4. Special techniques in technical cleaning

### Market Sector

Speciality Chemicals

### Short description

- Maintenance service for a storage facility for detergents production in a speciality chemical plant within a limited period of time.
- Optimizing production equipment in chemically aggressive environment exacts special techniques for technical cleaning of storage tanks and demands special care with regard to chemicals' condition resistance.
- Reconstitution of corroded surface of a chemical tank and shielding of the tank's bed after repair through Loctite® *resistance to wear coating*.

### Task

Customer's inquiry demanded regeneration and reconstituting of the inner surface of a storage tank to protect it from chemical abrasion. Determination of the job specification by the extraordinary environment included requirements concerning a wear resistant and chemically stable material.

### Preparation

During the first inspection and to determine the special requirements of this order, case-specific data was retrieved and application products were selected. Loctite® *resistance to wear coatings* exhibit exactly the characteristics (due to their physical profile) necessary for executing the order. The next step was calculation of material costs and planning the time schedule including delivery times and job preparation phases. Furthermore, preliminary work for coating (surface preparation – blasting work) was arranged and necessary steps initiated. Finally, all necessary steps during the coating process and work execution by a coating specialist were determined.

### Implementation

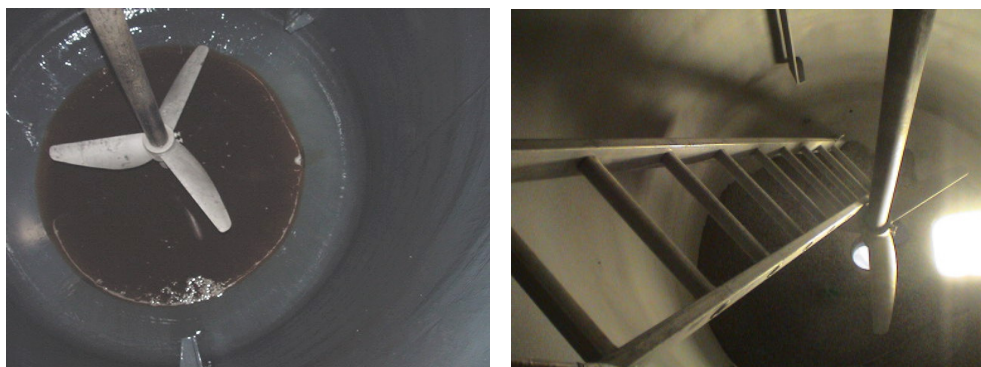
*Speciality chemicals producer Cognis Deutschland GmbH & Co. KG needed a contractor, who offered a specific coating technique, which evaded longer down times during the necessary repair of a chemical storage tank. At the end of a selection procedure Cognis asked Henkel KGaA to execute the implementation:*

A Henkel engineer supervised preparatory works during the start-up phase and later on oversaw the coating itself. Time schedule was determined by the customer's production process needs limited to a weekend. Thus, start-up of work was fixed for Friday evening. Blasting work was commenced in accordance with the agreed-upon rules. These works were completed before dawn-breaking on Saturday.

Sunday morning the inner surface of the tank was cleaned with Loctite® 7063. Thereafter all surfaces were intensely examined. After this examination phase it was considered to be safe to continue with coating. This actually meant that there was no grime, smudge or dust on the tank surface, which could have affected the coating in a negative way.



The coating of the chemicals' tank with Loctite® 7227 was undertaken in complete adherence to time limits agreed upon, thus enabling the coating to gain sufficient time to harden until Monday morning.



Technical details of the work process:

- Surface preparation  
Grit blasting with corundum in accordance with SA 2,5 – 3 (75µ - surface finish)
- Product - Loctite® Cleaner 7063  
Cleaning of tank bed – Removal of grime and dust
- Product - Loctite® Spreadable Ceramics 7227  
primer coating as adhesive,  
top coat as corrosion-inhibiting coating – superfinish
- Dispensing of material by commercially available paint roller/brush
- Personal protective equipment – gloves, goggles etc.

- |                                  |   |
|----------------------------------|---|
| <p><b>Customer's Benefit</b></p> | <ul style="list-style-type: none"> <li>➤ Permanent savings through use of Loctite® <i>ceramics coating</i> made by Henkel.</li> <li>➤ Avoidance of production losses through longer-period plant shut-down by employing Loctite® 7227. Products offered by third parties would have necessitated production interruption of at least a week.</li> <li>➤ Increase of availability of facilities by coating of storage tanks with Loctite® 7227: sustainable protection and therefore longer service life.</li> </ul> |
|----------------------------------|---|

## Ordering Party

**Cognis Deutschland GmbH & Co. KG** is a leading specialty chemicals company and the world's leading global supplier of oleochemicals. Cognis develops innovative products and solutions for personal care, home care and modern nutrition, as well as high-performance products for numerous industrial markets in the four strategic business units: Care Chemicals, Nutrition & Health, Functional Products, and Process Chemicals. The product portfolio serves industrial sectors as diverse as industrial coating and cleaning, leather, textile, mining and oil industries, as well as lubricants manufacturers and food industry. Cognis became independent as a Henkel Corporation spin-off in 2001. Since then it is owned by American private equity funds. Cognis supports research and development plants in approximately 30 countries. Most important customers come from the laundry, home care, and cosmetics industries. Cognis is headquartered in Monheim/Rhine. In 2004 Cognis employed a staff of 8.100 and posted world-wide sales of 3.026 billion euros.

Internet: <http://www.cognis.com>

## Contractor

**Henkel KGaA**, founded in 1876, operates in three strategic areas of competence - Home Care, Personal Care, and Adhesives, Sealants and Surface Treatment. These strategic business areas are organized into four globally operating business sectors within Henkel: Laundry & Home Care, Cosmetics/Toiletries, Consumer & Craftsmen Adhesives, and Henkel Technologies. Henkel has a staff of 50.000 employees world-wide and posted sales of 12 billion euros in 2005. Through its Adhesives business sector, Henkel develops, produces and markets adhesives for use in the household and office, as well as for craftsmen. As the world leader in adhesives, Henkel supplies more than 3,000 different adhesives and sealants with brands such as Pritt, Pattex, Duck, Loctite, Ceresit und Dufix. The broad spectrum of products manufactured by Henkel Technologies primarily consists of adhesives and sealants as well as products designed for surface treatment by Henkel's industrial customers. It offers the broadest line of acrylics, anaerobics, cyanoacrylates, epoxies, hot melts, silicones, urethanes and UV/light curing adhesives. In the industrial maintenance, repair and overhaul sector, Henkel's portfolio includes epoxy-resin-based adhesives by Loctite®. These products yield cost-effective solutions for the repair and protection of wear-susceptible equipment in the mining, water treatment and power generation industries. Loctite® products are also used in markets such as electronics, automotive, aerospace, and machine building. The product range includes solutions for industrial production and maintenance. Supplementary Loctite® product lines include lubricants, mould release agents, cleaners and other speciality products useful for making bonded joints. A complete line of standard equipment includes both automated and manual dispensing and curing systems; custom equipment can be designed, built and integrated to meet specific processing needs.

Internet: <http://www.loctite.de>

**Contact:** Andreas Engl, Market Manager Distribution Loctite / Teroson  
Henkel KGaA, Munich branch office, Marketing Dep., Arabellastrasse 17, 81925 Munich  
Tel.: (+49 89) 9268-1225  
Fax: (+49 89) 9268-1235  
E-mail: [andreas.engl@henkel.com](mailto:andreas.engl@henkel.com)

## Maintain 2006

The 2nd International Trade Fair for Industrial Maintenance will be staged from October 17<sup>th</sup> to 19<sup>th</sup>, 2006 at the M,O,C, trade fair centre in Munich. As MAINTAIN is the only specialized international trade fair for industrial maintenance in the world, it gives visitors a look at the latest trends in all sectors and furnishes them with information about state-of-the-art solutions that can be used to repair, maintain, inspect and improve their production facilities. For decision-makers and experts, that makes it the most important business gathering that deals with all aspects of industrial maintenance. Special fora on maintenance as a core factor for production and up-to-date information on MAINTAIN's web pages add to the event itself.

**Contact:** Sonja Kreitmeier, Public Relations Manager Maintain  
Messe München GmbH, Messagelaende, 81823 Munich  
Tel.: (+49 89) 949-20717, Fax: (+49 89) 949-9720717  
E-mail: [sonja.kreitmeier@messe-muenchen.de](mailto:sonja.kreitmeier@messe-muenchen.de)  
Internet: <http://www.maintain-europe.com>