LOCTITE®

Loctite® Nordbak®
Wearing Compounds

Henkel

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Extend the service life of industrial plant and equipment

To tackle the toughest industrial repair jobs, Henkel offers a complete range of Loctite® Nordbak® Wearing Compounds. These polymer composite products utilize the superior wear properties of ceramic and the convenience of two-part epoxies to rebuild and protect machinery and equipment in harsh industrial environments.

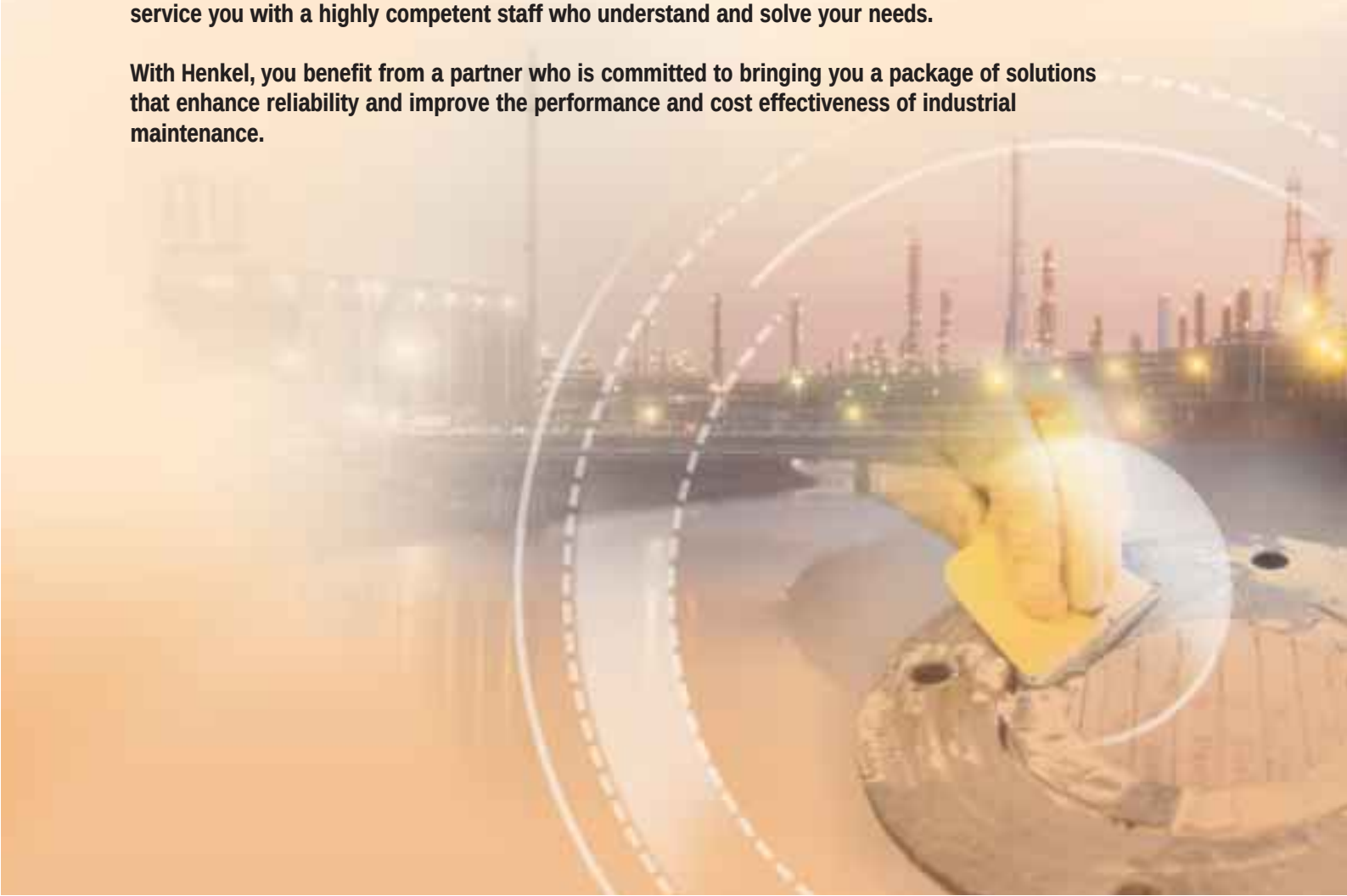
The products are ideal for all those large-scale repairs that have to last. They are available in trowelable and brushable formulations with special fillers for tough conditions.

Loctite® Nordbak® products can bring solutions in every major industrial plant. Applications include equipment, pipes and ducting, pump housings, hoppers and chutes, condensers and heat exchangers, and many other components in power plants, chemical plants, refineries, pulp and paper mills, in the petrochemical, steel, marine, mining and other industries.

Henkel – Your Professional Partner for Industry Maintenance Solutions

Henkel is recognized as one of the world's leading suppliers of proven industrial maintenance technologies. Our success is based on the diversity of our portfolio and a history of providing effective solutions to specific problems in a wide range of industrial maintenance environments. Henkel has a worldwide network of subsidiary companies, agents and partners who are ready to service you with a highly competent staff who understand and solve your needs.

With Henkel, you benefit from a partner who is committed to bringing you a package of solutions that enhance reliability and improve the performance and cost effectiveness of industrial maintenance.



Wearing Compounds

- Restore worn surfaces
- Wear resistant coating
- Use on new parts to extend life
- Available in both trowelable and brushable forms

Repair or rebuild worn surfaces

	Rebuild badly worn surfaces	Large particle wear up to 120 °C	High temperature up to 230 °C	High impact
			Coarse	
Solution	**7222**	**7218**	**7230**	**7219**
Colour	Grey	Grey	Grey	Grey
Maximum Temperature	107 °C	120 °C	230 °C	120 °C
Mix Ratio by Volume	2 to 1	2 to 1	4 to 1	2 to 1
Working Time	30 min.	30 min.	30 min.	30 min.
Cure Time	6 hrs	7 hrs	7 + 2 hrs* Post Cure	6 hrs
Recommended Layer Thickness	min. 6 mm	min. 6 mm	min. 6 mm	min. 6 mm
Pack Sizes	1.4 kg	1 kg, 10 kg	10 kg	1 kg, 10 kg

* Require post heat cure at 150 °C for maximum temperature resistance

Application Examples

Loctite® Nordbak® 7222 Wear Resistant Putty
Protects against: corrosion, cavitation & abrasion. Can also be used as a first re-profile before applying a top coat wearing compound.

Loctite® Nordbak® 7218 Wearing Compound
Ceramic filled two part epoxy to protect, rebuild and repair high wear areas. Outstanding resistance to abrasion and corrosion. Use to rebuild and protect chutes, pump housings, elbows, cyclones and material handling equipment.

Loctite® Nordbak® 7230 High Temperature Wearing Compound
Ceramic filled two part epoxy to protect, rebuild and repair high wear areas. Use to rebulid and protect chutes, pump housings, elbows, cyclones and material handling equipment in hot environments.

Loctite® Nordbak® 7219 High Impact Wearing Compound
Rubber modified epoxy that provides a combination of wear resistance and impact resistance not usually found in epoxies. Use for lining and protecting flumes, troughs, elbows, hoppers, chutes, and other surfaces exposed to both wear and impact.

- **Protects equipment from corrosion, abrasion, chemical attack, and other wear encountered in hard industrial environments**
- **Loctite® Nordbak® products are effective under a variety of conditions**

Fine, coarse or badly worn surface abrasion?

Fine

Pneumatic abrasion

Chemical resistant

Thick layer

Thin film

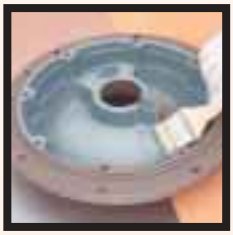
Ultra smooth

Low friction

High temperature up to 230 °C	Fine particle wear up to 120 °C	Temperature resistance 205 °C	Temperature resistance 90 °C	Chemical resistant Use up to 65 °C
7229	**7226**	**7234**	**7227/7228**	**7221**
Grey	Grey	Grey	Grey/White	Grey
230 °C	120 °C	205 °C	95 °C	65 °C
4 to 1	4 to 1	2.6 to 1	2.75 : 1/2.8 : 1	2.3 to 1
30 min.	30 min.	30 min.	30 min./15 min.	20 min.
6 + 2 hrs* Post Cure	6 hrs	8 + 3 hrs* Post Cure	6 hrs/5 hrs	16 hrs
min. 6 mm	min. 6 mm	min. 0.5 mm	min. 0.5 mm	min. 0.5 mm
10 kg	1 kg, 10 kg	1 kg	1 kg	5 kg

Loctite® Nordbak® 7229 High Temperature Pneu-Wear
A two component epoxy, filled with small ceramic beads for protecting processing equipment from fine particle abrasion in hot environments. Trowelable epoxy is recommended for rebuilding, repairing and protecting pump housings, chutes, elbows, cyclones and other equipment against pneumatic abrasion.

Loctite® Nordbak® 7226 Pneu-Wear
A two component epoxy, filled with small ceramic beads for protecting processing equipment from fine particle abrasion. Trowelable epoxy is recommended for rebuilding, repairing and protecting pump housings, chutes, elbows, cyclones and other equipment against pneumatic abrasion.



Loctite® Nordbak® 7234 High Temperature Brushable Ceramic
Ultra-smooth, ceramic reinforced epoxy that provides a high gloss, low friction coating to protect against turbulence, abrasion and cavitation in hot environments. Also works as top-coat over Nordbak® Wearing Compounds for applications requiring surface rebuilding and lasting protection.

Loctite® Nordbak® 7227 Brushable Ceramic Grey
Loctite® Nordbak® 7228 Brushable Ceramic White
Ultra-smooth, ceramic reinforced epoxy that provides a high gloss, low friction coating to protect against turbulence, abrasion and cavitation. Also works as top-coat over Nordbak® Wearing Compounds for applications requiring surface rebuilding and lasting protection.

Loctite® Nordbak® 7221 Chemical Resistant Coating
Protects equipment against extreme corrosion caused by chemical exposure.

Hints & Tips

- **The following tips facilitate the process of working with Loctite® compounds**
- **Proper surface preparation is critical to the long-term performance of these products**

Surface preparation steps are as follows:

- Degrease, steam clean, remove visible and non-visible contaminants and heavy flakey rust
- Abrasive blast with specified grit to obtain specified profile. Loctite® specifies a surface cleanliness SA 2.5 to SA 3 and a minimum 75 microns surface profile

Working time and cure time depend on temperature and mass:

- The higher the temperature, the faster the cure
- The larger the mass of material mixed, the faster the cure

To speed the cure of epoxies at low temperatures:

- Store epoxy at room temperature
- Pre-heat repair surface until warm to the touch

To slow the cure of epoxies at high temperatures:

- Mix epoxy in small masses to prevent rapid curing
- Cool resin/hardener component(s)

How to apply

Loctite® 7218, 7219, 7222, 7226, 7229, 7230

1. Pre-treatment

A Cleaning:

- Thoroughly clean and abrade surfaces, grit blast
- Finally clean with Loctite® 7063

B Mixing:

- Measure out the necessary amount of resin and hardener or transfer the entire kit onto a clean and dry mixing surface
- Mix together until uniform in colour

2. Application

- Apply fully mixed product to prepared surface
- Initially apply as thin film to wet the surface, then build up the desired thickness (min. 6 mm). Avoid air entrapment
- For working time and cure time see selection table on previous pages

Note: *Mix in small masses to prevent rapid curing.*

Loctite® 7221, Brushable Ceramic Loctite® 7227, 7228, 7234

1. Pre-treatment

A Cleaning:

- Thoroughly clean and abrade surfaces, grit blast
- Finally clean with Loctite® 7063

B Mixing:

- Mix the entire contents of resin and hardener
- If smaller amounts are required, mix resin and hardener by volume or by weight

2. Application

- Apply fully mixed product to prepared surface
- It should be brushed on 0.5 mm thick using two coats
- For working time and cure time see selection table on previous pages

For detailed information, please see Technical Datasheet or contact your local Henkel Technical Department.

Loctite® Maintenance Workshops help to drive down costs

Loctite® Maintenance Workshop Training from Henkel provides maintenance personnel with the necessary skills, knowledge and tools to reduce plant down time and drive down maintenance costs.

The workshops are suitable for all levels of personnel and include training materials. Conducted at the customer's premises, training can be tailored to meet individual needs through a plant tour and pre-survey. The Training lasts for two hours and includes a review of the common causes of plant and equipment failure and their prevention.

The hands on training covers threadlocking, gasketing, pipe and thread sealing, retaining, metal rebuilding, lubrication, surface treatment and rust prevention, flexible sealing and bonding. Additional training is available covering the cleaning and degreasing of components if required.

On completion of the Loctite® Maintenance Workshop training, delegates will be able to apply their knowledge to save costs by completing repairs more quickly and effectively. Scheduled and unscheduled stoppages will be reduced resulting in enhanced production quality and increased output costs. Energy costs will be reduced and plant safety improved by eliminating personal safety hazards.

The Loctite® range of speciality, high-technology products is used throughout the training. These advanced adhesives, sealants, lubricants and cleaners will provide the spares required to make immediate repairs. Loctite® products help maintain, repair, rebuild and restore damaged parts and get equipment back into service quickly.

Contact Henkel now for more details or to arrange training for your maintenance team.

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