

# *Lanat*®

## TOMORROW'S PLASTIC TODAY

- Durable
- Flexible
- Chemical resistant
- Noise reduction
- Vibration reduction
- Environmentally friendly

***solutions for concrete  
floors***

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## **Table of contents**

1. Pre-Application: Cleaning and Preparing Concrete Floors
2. Applying Lanat to Oily Floors
3. Applying Lanat to Damp Floors
4. Possible problems and the Lanat solution
5. Good Chemistry: A closer Look at Lanat Plastics

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# 1. Pre-Application: Cleaning and Preparing Concrete Floors

The preparatory work is essential to achieve a good result and it is necessary to remove all impurities. A clean, dry surface is a prerequisite for a successful application with the Lanatsystem.

Common impurities :

- laitance
- old paint
- thermosetting plastic > 1 mm
- concrete putty
- PVA paint
- thermoplastics
- oily floor

New concrete floors should be sanded or blasted to remove laitance. The amount of moisture should always be checked in new concrete floors, see Section 3: Applying Lanat to Damp Floors. On earlier painted floors, the paint should be removed . Old paint which has good adhesion can be sanded until the surface has become dull. Thicker coatings, for example, thermosetting plastic and concrete filler should be cut or blasted away. The table below summarizes some different methods.

Method	Result
Carbide Sanding	Results in maximally smooth, even surfaces Suitable before painting and before application of thick coating > 1 mm.
Diamond sanding	Results in clean, even surfaces. Suitable before painting and before application of thick coating > 1 mm.
Cutting	Removes all impurities. Results in clean, uneven surfaces. Suitable before application of thick coating > 1 mm.
Blasting	Has high capacity. Results in clean, rough surfaces. Suitable before application of thick coating > 1 mm.

When the top surface coating is to exceed 6 mm, cutting or blasting is always recommended. In order to minimize the amount of dust that may escape into the air during pre-application cleaning, a vacuum device may be attached to the machine.

## 2. Applying Lanat to Oily Floors

No matter how well we clean, we can't get at oil which has seeped deep into a concrete floor. However, experience shows us that the illustrated procedure enable Lanat Plastics to coat, seal and grip – even on oil-damaged concrete.

### **Cleaning and Preparation**

Diamond-sand the floor until at least 90% of the surface is well abraded. Se figure 2.1 and 2.2.

Before sanding:

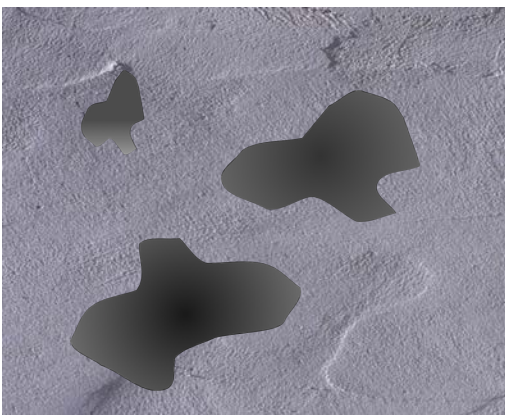
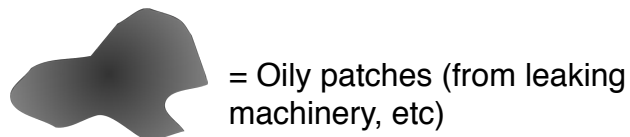


figure 2.1



After sanding:

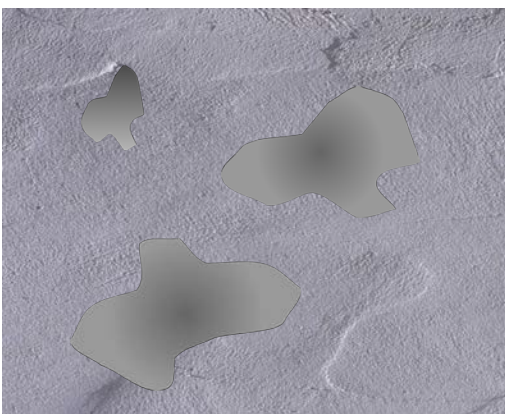
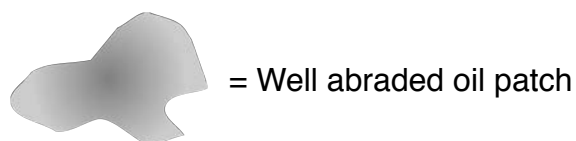


figure 2.2



Marks from the oil-damaged patches remain, but Lanat Resistent will grip the entire surface, and adhere as well as it does do undamaged concrete.

Experience has proven that an application of Lanat Resistent to this *well-sanded surface* will penetrate oil remaining on the concrete surface and adhere to the rock particles in the concrete.

See figure 2.3 which shows a grain of sand immersed in oil in the upper layer of the concrete.

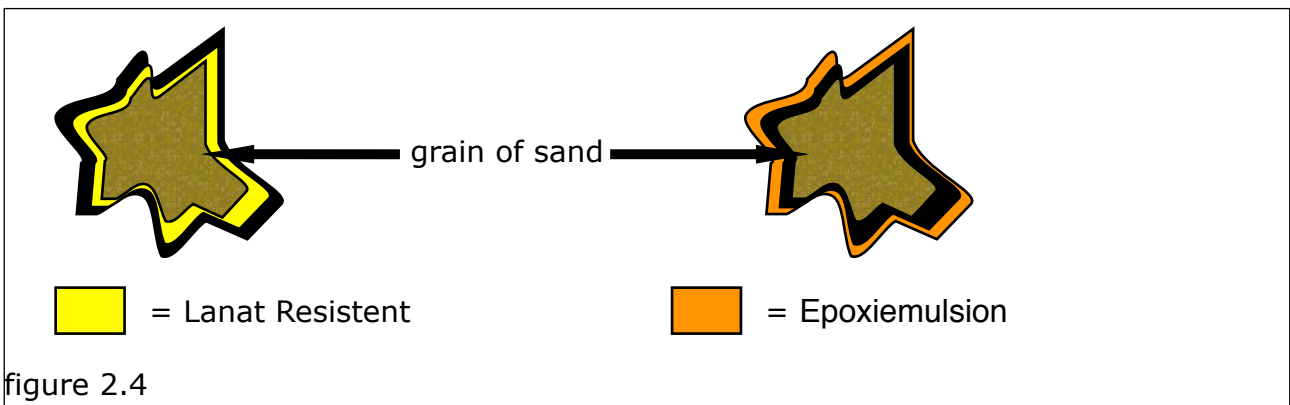
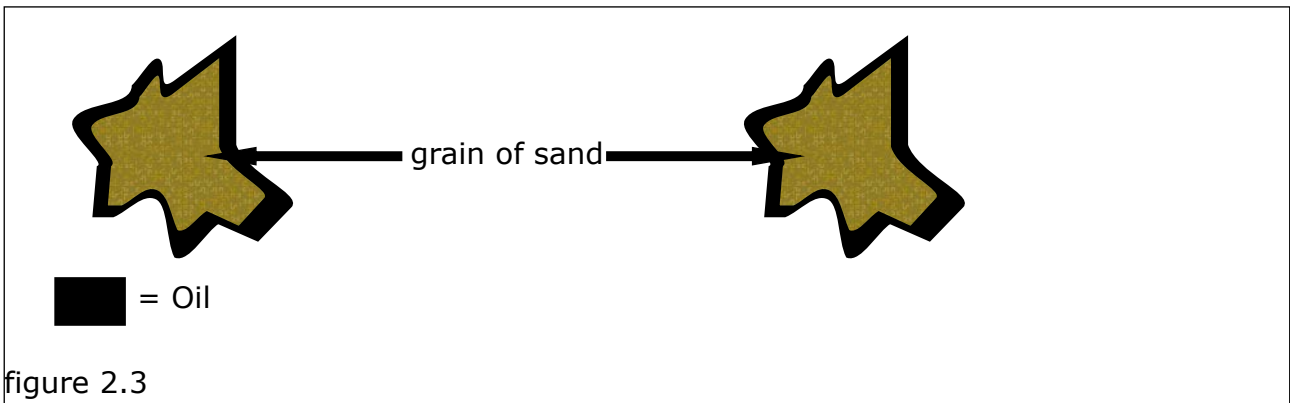


Figure 2.4 shows that with Lanat Resistent the oil is repulsed and lifts away from the rock particles, leaving the Lanat on the stone surface. Note that the oil is forced above the Lanat lacquer.

The oil membrane diminishes with each application of Lanat, and does not usually cause slipperiness. To prevent this completely, add approximately 5-25 g/m<sup>2</sup> of anti-skid agent #2 to the final treatment.

Lanat Resistent is a product well suited to the treatment of concrete floors suffering from oil damage. However, our forty years of experience with this process convinces us that these results are reached only when the floor has first been diamond sanded.

### 3. Applying Lanat to Damp Floors

If the concrete floor to be treated absorbs ground moisture, Lanat Plastics will not retain their characteristic long-lasting adhesion so well. Unfortunately, both dry and wet concrete slabs look identical if the air circulating above them is dry and warm. The upper layer of concrete (floor B, figure 3.1) emits moisture into the the air, wich can lead to a misleading idea of the dryness or dampness of the floor.

One example of this problem is that it is difficult to judge whether a cellar floor can be covered with plastic or not.

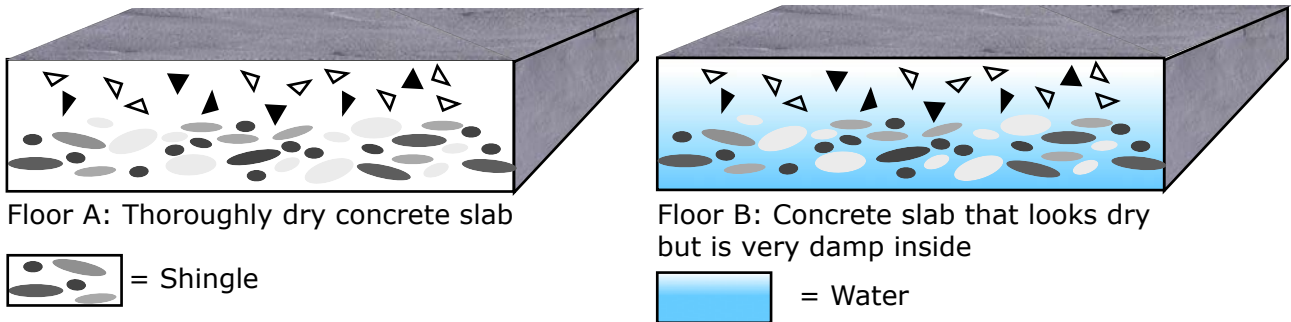


figure 3.1

If the floor is covered with 2 mm of plastic, the following will be the results (figure 3.2).

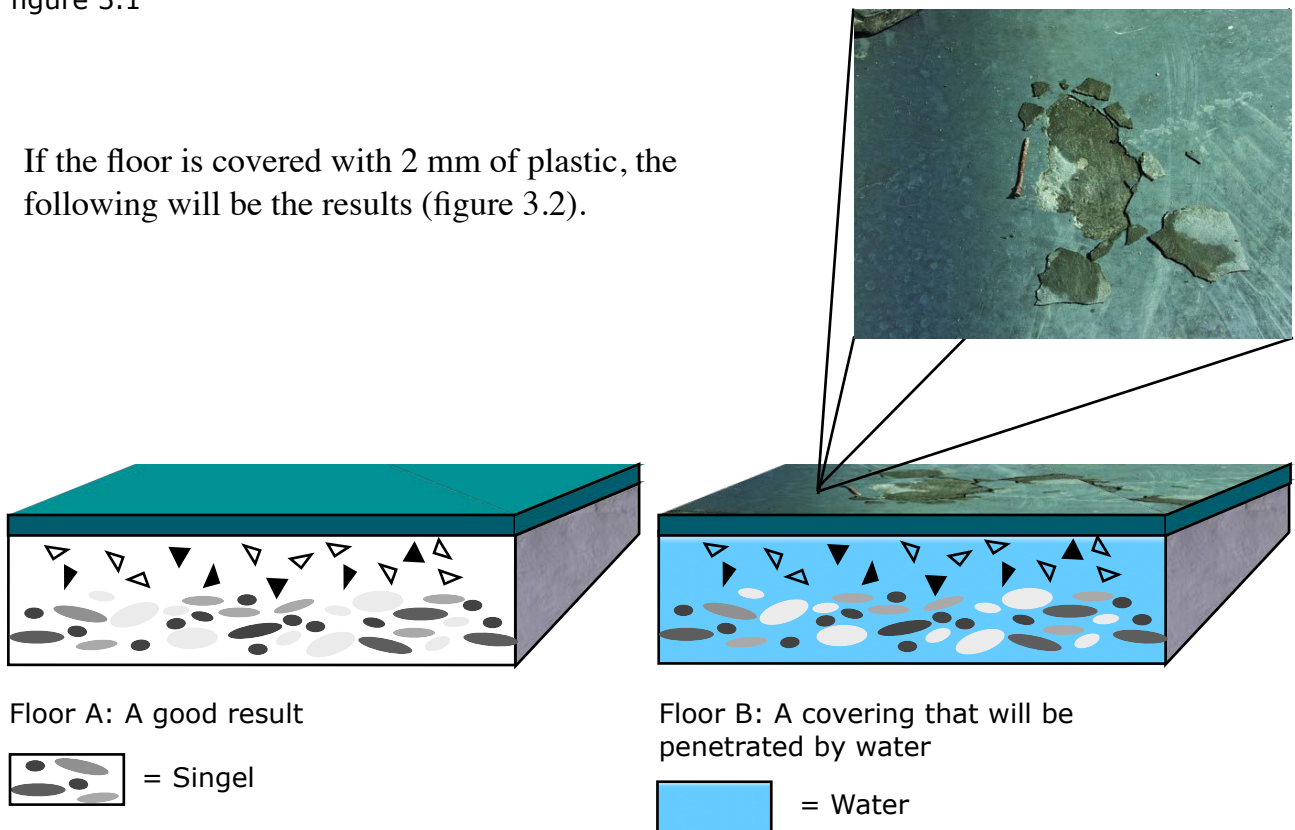


figure 3.2

The moisture in the layer between plastic and concrete increases in the case of floor B. When this volume exceeds 10%, the plastic constricts as shown in figure 3.2, floor B. The damage to floor B is first indicated by rising bubbles which will eventually cause the plastic to flake off.

To avoid misjudging the dampness of a floor, you are recommended to lay 0.2 mm diffusionproof plastic wrap over 2 m<sup>2</sup> of the floor. After one week any accumulated dampness under the plastic-wrap can be measured using the *calcium-carbide method*. If there is a notable increase in the level of dampness, the floor should be treated with a single coat of Lanat Resistent. This simple treatment, wich gives a layer of 40 µm when dried, will protect the concrete from dust, and is easily cleaned and cared for. This treatment allows floor-dampness to pass through the single layer of floor coating, which still remains durable.

Laying several layers of plastic coating on damp floors can result in the type of damage described in figure 3.2. Today's floors are usually of such high constructional quality that this type of problem rarely occurs, although, *one should always be aware of the damage that confined dampness can cause*.

In figure 3.3 floor B is covered with one coat of Lanat Resistent (40 µm dry). Dampness can easily permeate it.

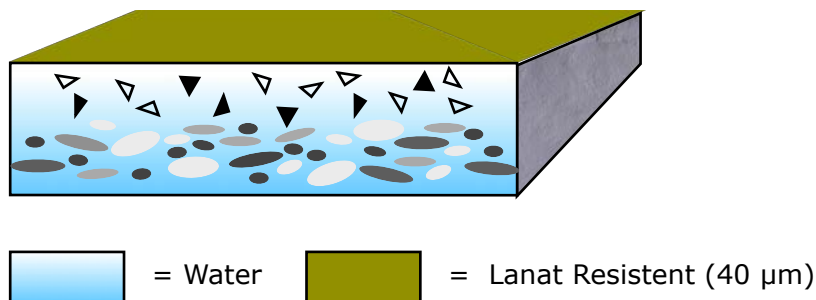


figure 3.3

If, because of significant corrosion in the outer concrete layer, a concrete floor with a high moisture content must be covered with a Lanat layer thicker than 40 µm, a layer of hard-quality Lanat plastic (app. 15 mm) can be applied.

Although the damp concrete underneath the plastic will have the undesirable effect of diminishing the adhesion of the plastic to the floor, this thicker coating will withstand industrial traffic for many years.

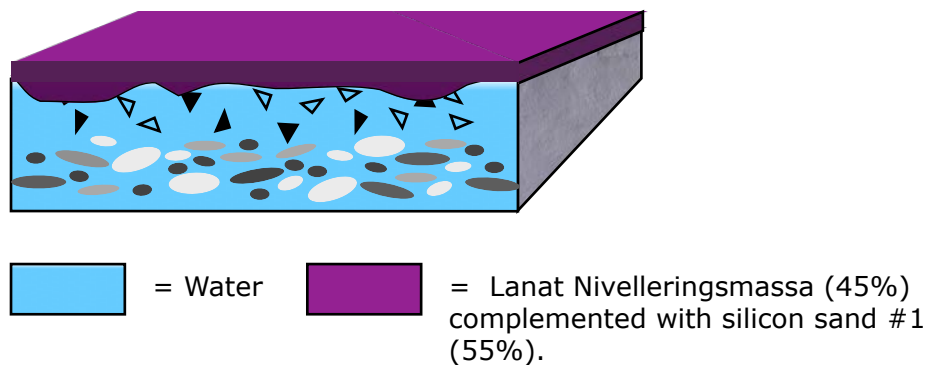


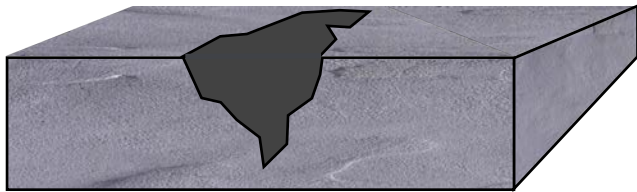
figure 3.4

## 4. Possible problems and the Lanat solution

The following illustrations demonstrate how Lanat repairs and withstands damage caused to concrete by chemicals, fork-lift trucks and other vehicles, as well as other physical strain.

Today's warehousing methods, which utilize both manual and automatic guided vehicle systems, require sealed, even flooring, while operators of manual driven fork-lift trucks, reduce the risk of back and leg injuries when joints, cracks and holes are repaired.


### Problem

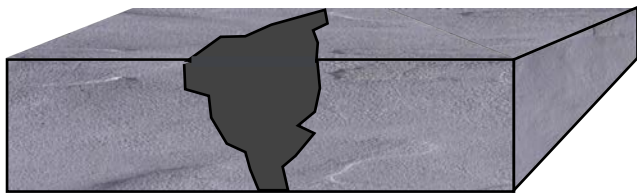


Worn concrete causes cracks that are not completely open.

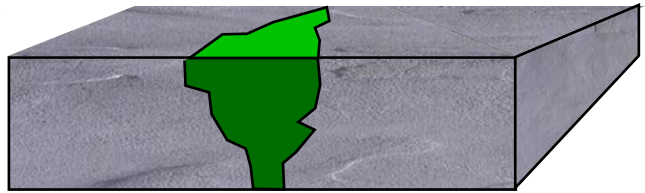
### Solution



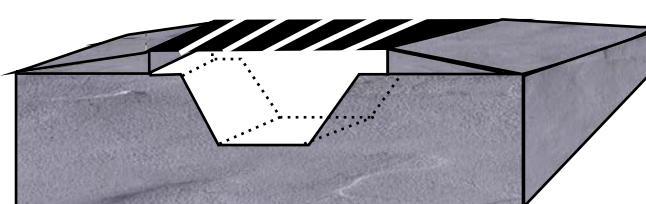
Base: Lanat Resistent  
Supplement:  =Lanat Nivelleringsmassa



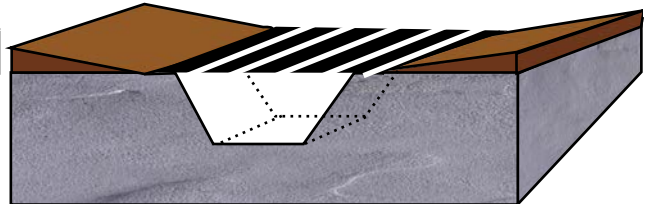
Worn concrete causes cracks that are completely open.




Base: Lanat Resistent  
Supplement:  =Lanat Spackel



Water flows away from the drain rather than towards it.

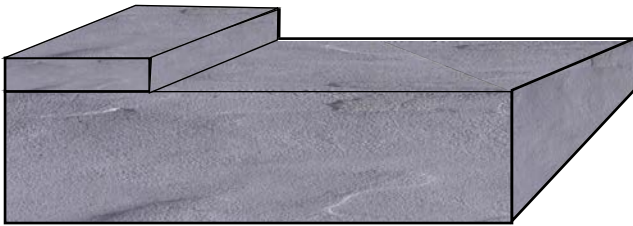


Base: Lanat Resistent  
Supplement:  =Lanat Gjutmassa

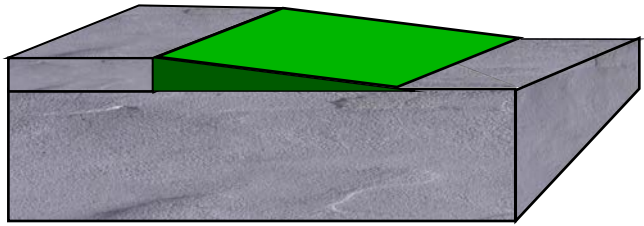


## Problem

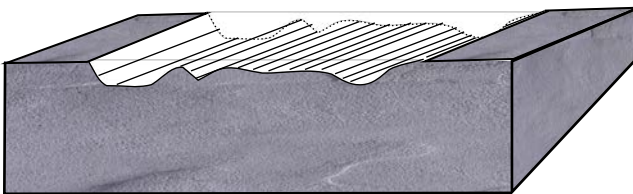
## Solution



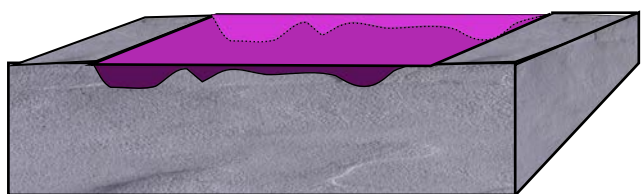
Uneven levels - less than 3 cm




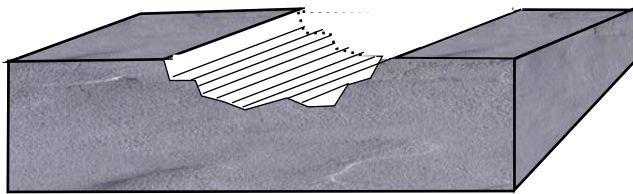
Base: Lanat Resistent  
 Supplement:  =Lanat Spackel



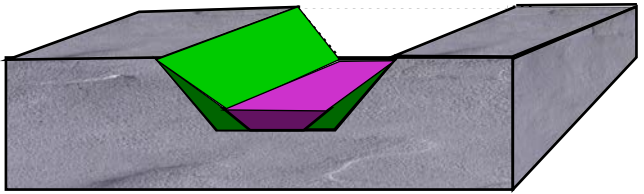
Worn truck paths.





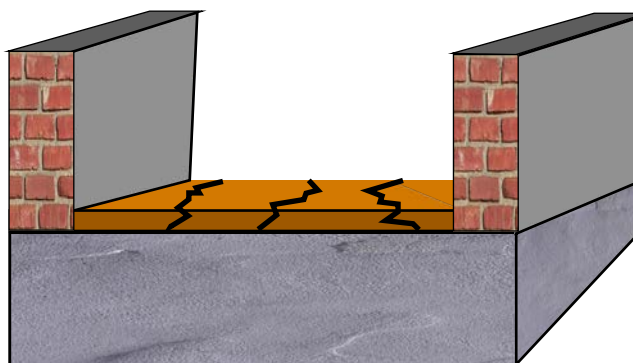
Base: Lanat Resistent  
 Supplement:  =Lanat Nivelleringsmassa



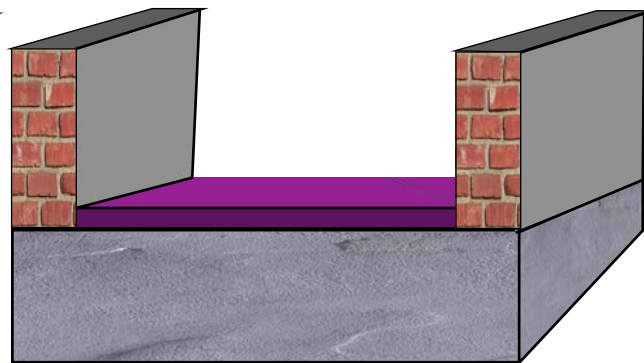
Damaged transport grooves for acidic or alkaline aqueous solutions.




Base: Lanat Resistent  
 Supplement:  =Lanat Nivelleringsmassa  
 Supplement:  =Lanat Spackel  
 Top: Lanat Resistent

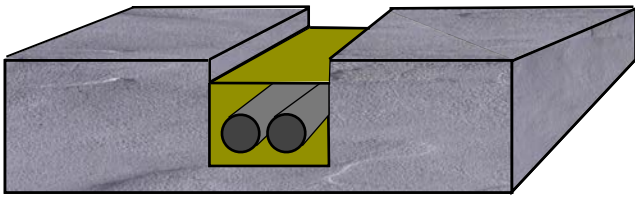


Plastic-coated drying room floor (20-80°C) on which cracks have occurred because the plastic is either too hard or too soft.



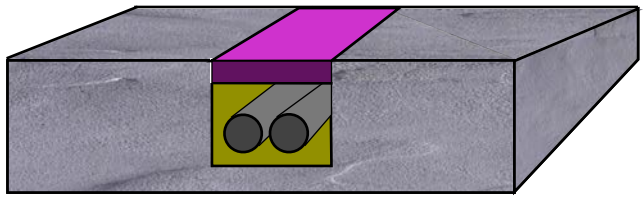
Base: Lanat Resistent  
 Supplement:  =Lanat Nivelleringsmassa

## Problem




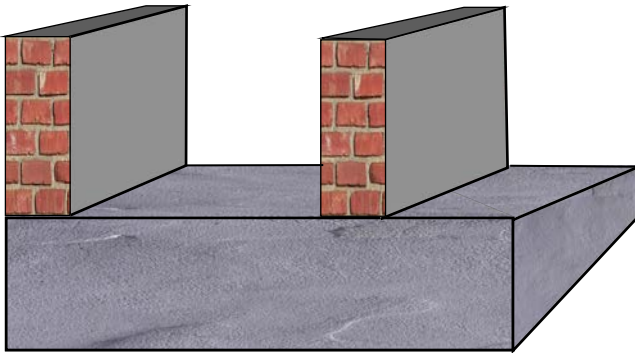
Repair above sunken wires.

## Solution

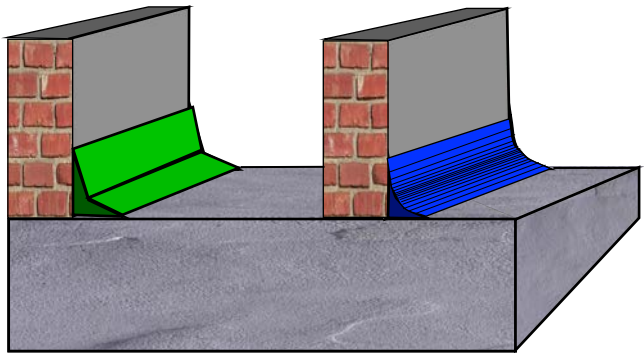


Base: Lanat Resistent

Supplement:  =Lanat Nivelleringsmassa



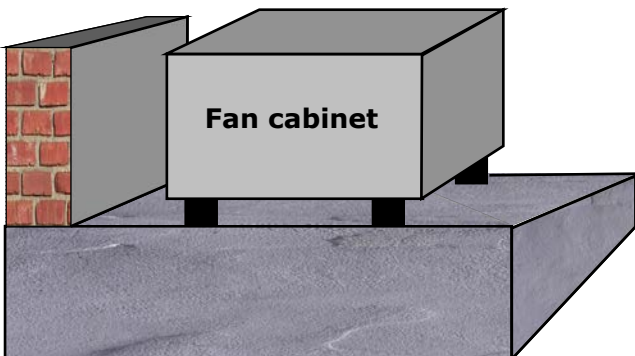
Scaling against a wall.



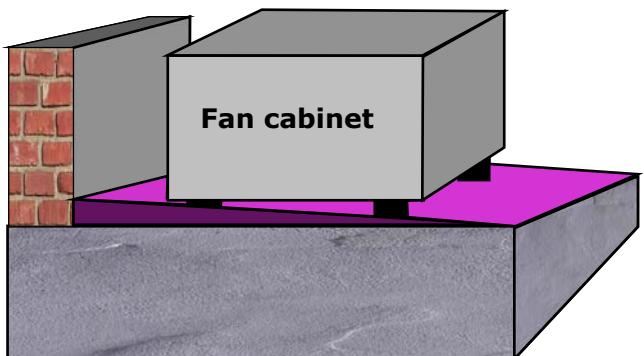
Base: Lanat Resistent

Sealant:  =Lanat Spackel


Sealant:  =Lanat Fog Tix



Leakage into the concrete from, for example, a fan room. The fan cabinets are so low that there is no room to repair the damage by any other method.

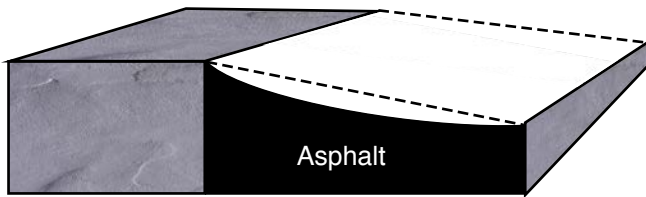


Base: Lanat Resistent

Sealant:  =Lanat Nivelleringsmassa

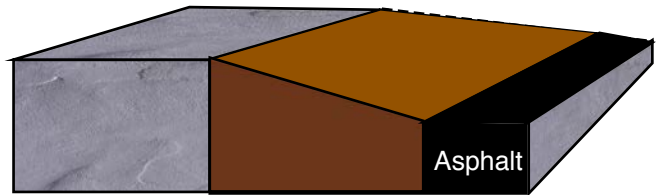
Pour Lanat Nivelleringsmassa from the side. Since it penetrates into concrete, it seals cracks and fissures.


## Problem

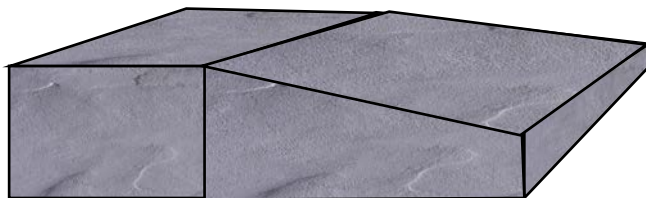


When asphalt tapers horizontally.

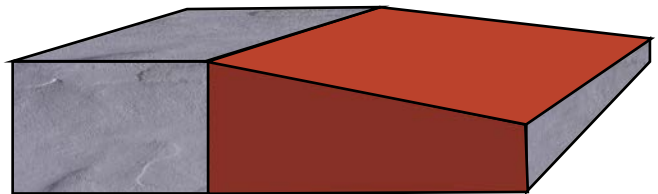
## Solution



Supplement:  = Lanat Gjutmassa och Lanat Sand #1



Slipery ramps.



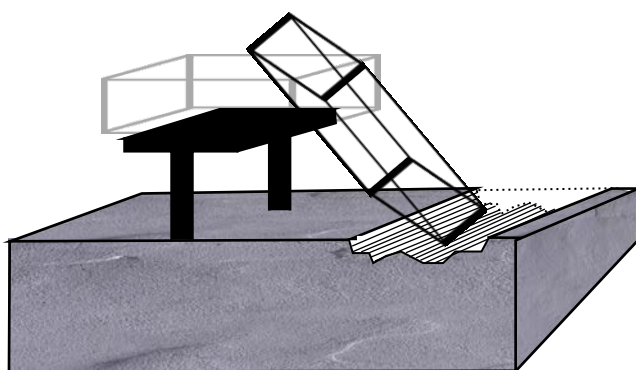
Base: **Lanat Resistent**



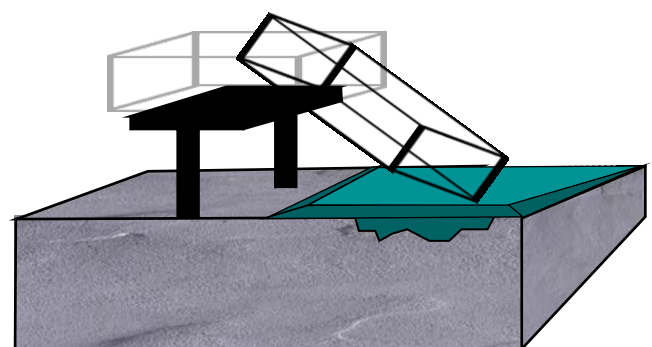
Alternative 1- Additional **Lanat Resistent** and anti-skid agent #2

Alternative 2 - **Lanat Nivelleringsmassa** and a generous amount of silicon sand #2


Top: Lanat Resistent



Surfaces which must endure high-impact stress



Base: Lanat Resistent

Supplement:  =

**Lanat Nivelleringsmassa** (45%) complemented with **silicon sand #1** (55%).

The sand adds elasticity to the plastic, which acts to cushion against stress.

## 5. Good Chemistry: A closer Look at Lanat Plastics

The following table answers some questions about the chemical properties of Lanat Plastics and gives guidance on their applications.

<b>Basic properties:</b>	<b>Lanat Resistent</b>	<b>Lanat Nivellerings-massa</b>	<b>Lanat Spackel</b>	<b>Lanat Fog Tix</b>	<b>Lanat Gjutmassa</b>
Type of urethane material	1-comp	2-component	2-component	2-component	2-component
Requires a clean and dry surface	yes	yes	yes	yes	yes
Results in maximum adhesion to untreated concrete	no	no	no	no	no
Results in maximum adhesion to treated concrete	yes	yes	yes	yes	yes
Can be applied directly to the concrete	yes	not recommended	not recommended	not recommended	not recommended
Can be applied directly on to Lanat Resistent	yes	yes	yes	yes	yes
Drying time for Lanat Resistent before composition may be applied	-	3-10 h	3-10 h	3-10 h	3-10 h
Drying time between applications (if several coats)	8 h	1-8 h	1-8 h	1-8 h	1-8 h
Drying time (at 20°C) before a fork-lift truck can be driven on floor	10 h	8 h	8 h	8 h	8 h
Maximum allowable wet-coat application	60 µm	no limit	no limit	no limit	no limit
Sensitivity to water during application	great	great	great	great	great
Sensitivity to water two hours after application	great	none	none	none	none
Thixotropy without the addition of sand	-	none	moderate	great	none
Flowing, without the addition of sand	-	great	low	none	low
Flowing, after the addition of sand	-	great	-	-	low
Can be used to repair completely open seams	-	no	yes	yes	yes
Can be used to repair closed joints and damage	sparingly	yes	yes	yes	yes
Must be used within ___ minutes after adding curing agent	-	15 min	15 min	20 min	15 min

<b>Basic properties:</b>	<b>Lanat Resistent</b>	<b>Lanat Nivellerings-massa</b>	<b>Lanat Spackel</b>	<b>Lanat Fog Tix</b>	<b>Lanat Gjutmassa</b>
Apply with _____	brush, roller	trowel	10 cm putty knife	putty knife with round top	trowel
Delivered with curing agent	1 liter 10 liter	2 liter 4,5 liter 12 liter	1 liter	1,5 liter	3,7 liter 1,64 liter
Possible volume increase with addition of sand #1	-	60%	-	-	250%
<b>Sensitivity to light:</b>					
Yellows in ultra-violet light	yes	yes	yes	yes	yes
Yellows indoors	somewhat	somewhat	somewhat	somewhat	somewhat
Yellows outdoors	very much	very much	very much	very much	very much
<b>Flammability:</b>					
Contains solvents	Xylene/ MPA*	none	none	none	none
Dry percentage (weight)	50%	100%	100%	100%	100%
Flashpoint	26°C	>200°C	>200°C	>200°C	>200°C
Cleaning with thinner #4 (flash point > 26°C)	yes	yes	yes	yes	yes
<b>Recommended safety precautions to be taken during application:</b>					
Protective gloves	yes	yes	yes	yes	yes
Protective eyewear while mixing in curing	-	yes	yes	yes	yes
Protective eyewear while applying	yes	-	-	-	-
Breathing protection	charcoal filter	no	no	no	no
Breathing protection in poorly ventilated areas	fresh-air mask	fresh-air mask	fresh-air mask	fresh-air mask	fresh-air mask
In case of skin contact, wash with ___	soap & water	soap & water	soap & water	soap & water	soap & water
In case of eye contact, rinse with ___	plenty of water. Seek medical advice	plenty of water. Seek medical advice	plenty of water. Seek medical advice	plenty of water. Seek medical advice	plenty of water. Seek medical advice