



# RESTORATION INDUSTRIAL FLOORS

Specifications





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## Restoration industrial floors

BECOSAN® Report.

The present report is issued in order to clarify individual restoration works mentioned in our quotes. The intention is to provide a more precise description for easier understanding of the surfaces that needs to be refurbished, independently from the priority assigned to the facility.





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We are specialists in the repair and refurbishment of industrial concrete floors.



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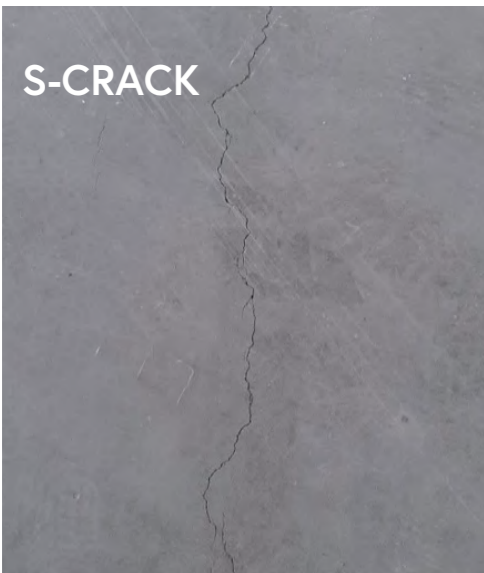
GROUTING

# 1

## CRACKS

### TYPE OF CRACKS

S-CRACK



**Minor crack (<2mm)** that can be straight, curved or zigzag-shaped. It needs to be repaired to prevent crumbling, which generally converts an S-Crack into an L-Crack.

L-CRACK



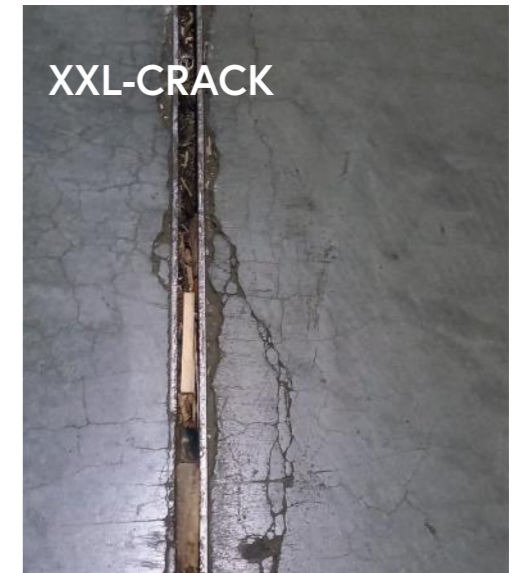
**Medium sized crack (2-9mm)** that can be straight, curved or zigzag-shaped. It needs to be repaired as the existing crumbling will lead into a detachment of concrete parts within the crack. The consequence will be major damage of the surface due to concrete spalling.

XL-CRACK



**Large crack (≥10mm)** that usually appears close to contraction or construction joints. It needs to be repaired as otherwise it will be difficult or even make impossible traffic of forklifts, AGV's, etc. It will lead into severe surface erosion of the surface and considerable damage of the concrete floor will be the consequence.

XXL-CRACK



**Very large crack (≥30mm)** as a consequence of a not timely repaired XL-Crack to prevent further surface damage. These areas are very dangerous as they can cause heavy accidents. Areas with XXL-Cracks should not be used at all in warehouse or logistics operations.



# 1

## CRACKS

### REPAIR OF DIFFERENT CRACKS

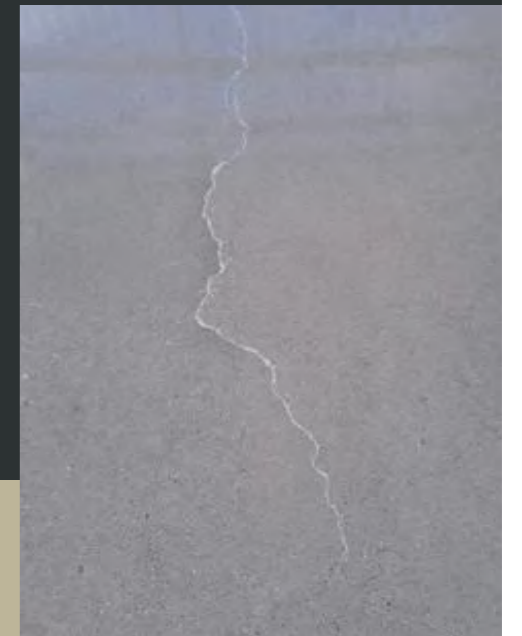
Repair works for S-Cracks consist in cleaning on their whole length and filling with BECOSAN® J+C Repair Kit. All other cracks need to be cut vertically prior to the filling with BECOSAN® J+C Repair Kit.

### USED REPAIR MATERIALS

BECOSAN® J+C repairs kit is a two-component epoxy resin filler with reduced viscosity, some flexibility and without solvents, with cycloaliphatic hardener. It prevents crumbling once dry and has a high sealing performance combined with excellent penetration capacities into the capillaries and porosity of the substrate. It can be pigmented to disguise their presence. Only recommended for interior areas.

### RESULT

Repaired cracks will still be visible but further surface deterioration is prevented. It needs to be considered that it's still possible to grow in its length at its ends and further repairs may be necessary in the future.



# 2

## PATCHES

### TYPE OF PATCHES

S-PATCH



Minor patch (>10X10cm) with different shapes, round or squared. Patches can result from impact of goods on the floor or in areas where large cracks intersect. It makes the traffic of people and machines more difficult grows into a larger patch if not repaired on time.

L-PATCH



Medium sized patch (>10X10cm) with different shapes, round or squared. These patches makes traffic of industrial vehicles almost impossible as the balance may be compromised if driving over these areas.

XL-PATCH



Large patch (>20X20cm) that disallows to use a large area in a warehouse as it is impossible to drive through this area with industrial vehicles.

XXL-PATCH



Very large patch (>50X50cm) which obliges warehouse owners to close whole areas as the risk of an accident is more than probable.



# 2

## PATCHES

### REPAIR OF DIFFERENT PATCHES

Patches are dangerous for industrial vehicles that carry heavy loads, especially if these are carried at major heights. They need to be properly fixed to guarantee a long-term result. Repair works consist in cutting the whole patch area with a certain depth. Subsequently the patch area is sealed with a specific mortar.

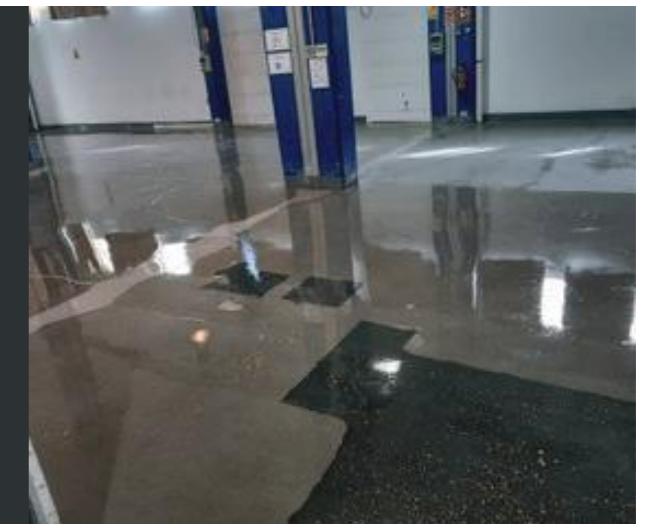
### USED REPAIR MATERIALS

We use high thixotropy, high strength and fast setting mortars, specially designed for the repair of cracks, fissures or spalling in concrete floors with high strength and durability requirements, such as areas exposed to heavy traffic or industrial areas.



### RESULT

A repaired patch will still be visible but safe traffic of vehicles in industrial buildings is granted again.



# 3

## LEVELING

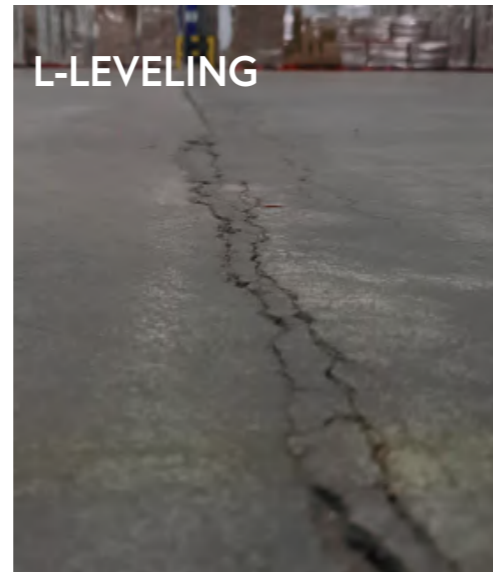
### TYPE OF LEVELINGS

S-LEVELING



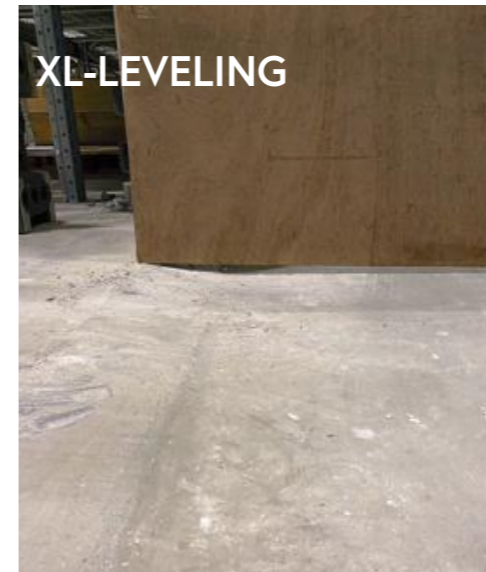
A small unevenness (height difference  $\leq 3\text{mm}$  and grinding width  $< 10\text{cm}$ ) at construction joints or at passage doors that connect 2 warehouses harms industrial vehicles and makes driving of industrial vehicles uncomfortable.

L-LEVELING



A medium sized unevenness (height difference  $> 3\text{mm}$  and grinding width  $> 20\text{cm}$ ) at construction joints or at passage doors that connect 2 warehouses harms industrial vehicles and makes driving of industrial vehicles dangerous as these may start balancing when driving at certain speed.

XL-LEVELING



A severe unevenness (height difference  $> 10\text{mm}$ ) causes large cracks and important surface damage due to impact of industrial vehicles into concrete border at the uneven area.

XXL-LEVELING



Very heavy unevenness (height difference  $> 20\text{mm}$ ) that in some cases makes it impossible to access the opposite area. Repair works can consist in worst case to cut out and rebuild entire parts of the slab of the affected area.



# 3

## LEVELINGS

### REPAIR OF DIFFERENT LEVELING

Level differences between 2 warehouses or door passages are dangerous for industrial vehicles carrying heavy loads. Some uneven places sometimes are not visible at first view and can cause accidents. Repair works are major interventions. The higher part needs to be lowered on a surface large enough, so that the balance is granted to forklifts, AGV's etc. when passing over them. Repair works consist in lower the concerned area of a slab. Subsequently the treated area is, depending on the size of the area, either grinded or sawed and rebuilt with concrete or mortar to the desired height.



### USED REPAIR MATERIALS

Materials used during this procedure may vary and depend on the applied technique.

#### 1 weberfloor 4045 and webertec traffic

A high thixotropy, high strength, fast setting mortar, specially designed for the repair of cracks, crazing or spalling, in concrete floors with high strength and durability requirements, such as areas subject to road traffic or industrial areas with heavy traffic.

#### 2 BECOSAN® J+C repair kit

Is a two-component epoxy resin filler with reduced viscosity, some flexibility and without solvents, with cycloaliphatic hardener. It prevents crumbling once dry and has a high sealing performance combined with excellent penetration capacities into the capillaries and porosity of the substrate. It can be pigmented to disguise their presence. Only recommended for interior areas.

### RESULT

A leveled area will allow industrial forklifts to enter smoothly from one warehouse section into another without hitting construction joints and without causing damage to the vehicles.





# 4

## BOLT REMOVAL



### REPAIR

Bolt from previous racks need to be removed properly should be removed as they can obstruct the smooth traffic flow of vehicles with rigid wheels. Furthermore, in the event of racking replacement hundreds of bolts are visible on the floor and have a negative impact on aesthetics of a warehouse.

Repair works consist in drilling a hole next to the bolt so that it can be lowered into the floor. Subsequently the hole is sealed with BECOSAN® J+C Repair Kit.



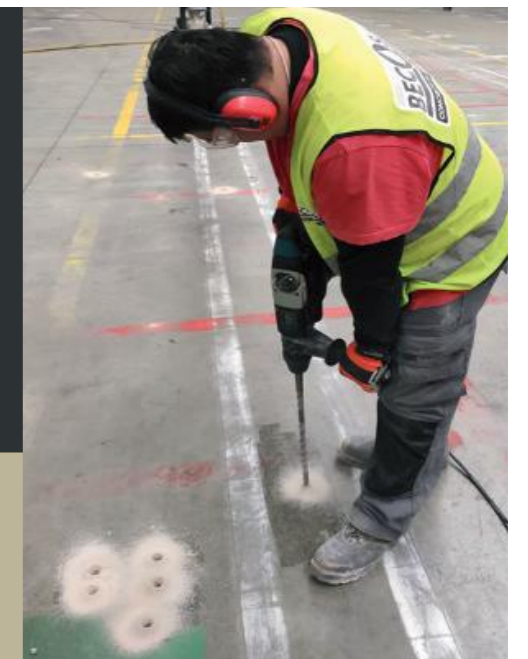
### USED REPAIR MATERIALS

BECOSAN® J+C repairs kit is a two-component epoxy resin filler with reduced viscosity, some flexibility and without solvents, with cycloaliphatic hardener. It prevents crumbling once dry and has a high sealing performance combined with excellent penetration capacities into the capillaries and porosity of the substrate. It can be pigmented to disguise their presence. Only recommended for interior areas.



### RESULT

A bolt will still be visible but safe traffic of vehicles in industrial buildings is granted again.





# 5

## HOLES



## USED REPAIR MATERIALS

BECOSAN® J+C repairs kit is a two-component epoxy resin filler with reduced viscosity, some flexibility and without solvents, with cycloaliphatic hardener. It prevents crumbling once dry and has a high sealing performance combined with excellent penetration capacities into the capillaries and porosity of the substrate. It can be pigmented to disguise their presence. Only recommended for interior areas.

## REPAIRING OF HOLES

Holes in concrete floors can result from removed bolts, crumbling due to crazing or objects present in the concrete during pouring (e.g. pieces of wood). They should be repaired as traffic of forklifts, AGV's, etc. could cause further crumbling of the surface and cause major holes. The affected area needs to be clean and dry before filling with BECOSAN® J+C Repair Kit.



## RESULT

No dirt can enter a repaired hole. Further surface degradation in areas with holes is stopped.





# 6

## GROUTING

### REPAIR

Several pin holes due to detached aggregate of due to foreign objects in the upper layer of a concrete floor may difficult smooth traffic with industrial vehicles and lead into major damage if they are not repaired on time



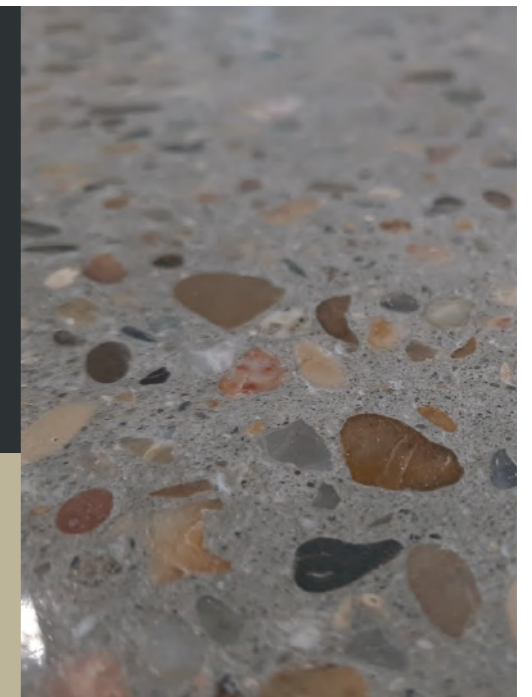
### USED REPAIR MATERIALS

BECOSAN® Grouting is a high thixotropy, high strength, fast setting mortar, specially designed for the repair superficial holes, also known as pinholes, in concrete floors with high strength and durability requirements, such as areas subject to road traffic or industrial areas with heavy traffic.



### RESULTS

The small holes will be sealed and the surface will be functional again.





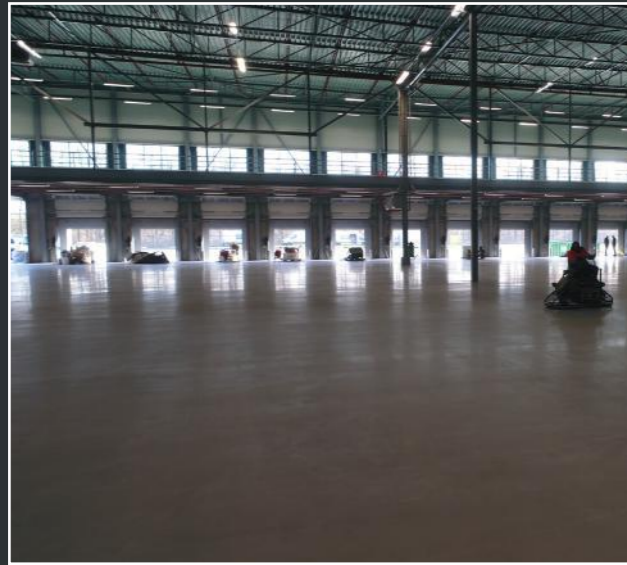
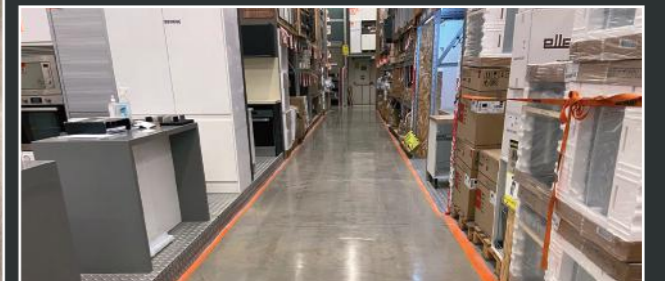
# BECOSAN®

Experts in concrete floors.

Specialists in the repair and refurbishment of industrial concrete floors.












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