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Multi-storey and underground car park coatings

Today, the image of multi-storey and underground car parks has changed fundamentally: user requirements are now integrated into the planning of modern parking facilities right from the start.

Anyone who thinks of a car park these days generally has in mind a "covered garage" that is friendly, bright and clean. It’s not the fees that decide whether or not to drive in, but rather the feeling of well-being that prevails.

Enough light, quality flooring, cleanliness and low odours contribute to this feel-good and safety perception.

In order to implement these factors and provide customers with high-quality parking spaces, great efforts are already being put into planning.

If a bright, sophisticated floor covering is planned for, this is exactly where modern car park cleaning comes into play: because sufficient lighting together with a light-coloured floor requires particularly regular and coordinated cleaning measures.

Ongoing cleaning and maintenance of KLB coating systems for accessible surfaces and parking lots ensures that structural components are well protected. This is because the most expensive and dangerous damage to car parks and underground garages as concrete structures often occurs in areas that are not directly visible and can have a considerable impact on the load-bearing capacity and durability of the building.

In this context, KLB surface protection systems offer special properties for durable and reliable protection. Multi-storey car parks and underground garages are exposed to extreme mechanical, chemical or thermal loads. The constant vehicle traffic causes mechanical stress and oscillations or vibrations, which can lead to crack formation in the concrete. Harmful chemicals from cars, such as de-icing salts, fuel, oil and antifreeze, among others, can attack the coating and damage the building structure underneath. Optimum, regular cleaning and maintenance of the coatings helps them retain their value and has a lasting protective function for the substrate.

In addition to protecting the building, surface protection systems also play a major role in safety and accident prevention for road users. A robust, slip-resistant texture of the covering ensures controlled accessibility on the coated surfaces and prevents slipping, even when the floor is wet or dirty.

For pedestrians, safe footing is likewise guaranteed through continuous cleaning, especially in the cold and wet season. However, an attractive appearance and high durability are also expected from the surface. Regular inspections by the cleaning staff enable damaged areas in the coating to be detected at an early stage and preventive repair measures to be put in place.

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Cleaning intervals

The frequency of cleaning depends very much on usage, weather conditions and the location of the parking surfaces in the building. Whether daily, weekly, monthly or annual cleaning – dry or wet – can be flexibly determined for each car park according to its structural environment.

As far as possible, an optimum cleaning schedule should only be drawn up after assessing these circumstances. In the case of existing floor coatings, damage such as cracks cannot be recognised without thorough cleaning.

We therefore recommend cleaning the surfaces carefully, ideally before, but at the latest after the winter period. A visual inspection of the car park's current condition should also be carried out and the results be documented and photographed.

Cleaning dirt

The soiling that can occur in parking facilities must be defined in advance. These generally include: rubber abrasion from tyres, fine dust, litter, cobwebs, dried chewing gum and, unfortunately, still urine. Additional dirt from weather influences must also be considered, especially in the entrance and exit areas: rainwater seeps in all year round, in autumn there are dead leaves and during the cold season snow, road salt or grit is brought in. This also means that the drains for the run-off water need to be cleared regularly from soiling.

To ensure optimum safety for pedestrians and vehicles, the car park coatings are scattered with quartz sand to prevent slipping. Due to their roughness, however, they cannot be cleaned by wiping. Even the use of cleaning pads (super pads) under the machines does not provide sufficient thorough cleaning. Priority should be given to using soft disc or roller brushes and cleaning the surfaces mechanically. In the entrance areas of stairwells and adjoining rooms, we recommend installing a clean-run zone that retains coarse soiling and minimises dirt ingress.

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Mechanical cleaning

Once the type of dirt has been defined, it's easy to choose the cleaning machine best suited.

Not only is it important to be able to clean as large an area as possible, but also to select the right equipment: a cleaning machine that is adapted to the requirements of the car park will help the cleaning staff to achieve optimum results. It is therefore necessary to decide whether to use, for example, a walk-behind sweeper, a scrubber-dryer or, depending on the area performance, a ride-on sweeper or ride-on scrubber-dryer.

After all, the choice of machines is heavily dependent on the location and size of the surfaces to be cleaned as well as on the spatial conditions, e.g. driveways, passage heights or slopes.

Example of mechanical cleaning on heavily soiled floors

Carrying out cleaning:

1. *Before wet cleaning, remove coarse, loose dirt by vacuuming or sweeping, if necessary by machine.*
2. *Also remove superficial contamination from water drains and gutters.*
3. *Apply the cleaning liquid with a scrubber-dryer and a smooth disc brush, then wet the floor generously with it. Do not yet vacuum off the detergent. The exposure time is approx. 10 - 15 minutes. Follow the manufacturer's indications for contact times and dosages. Do not allow the cleaning solution to dry up. Large surfaces are usually cleaned in sections.*
4. *This is followed by another pass with the automatic scrubber dryer to scrub the surface and absorb the liquid dirt by vacuuming. If necessary, rinse the floor again with clear water.*

Important note:

- Concentrated and prolonged exposure to cleaning agents should always be avoided. This can otherwise lead to matt surfaces, increased dirt accumulation, discolouration or tyre marks.
- Avoid using hard circular brushes for intensive dry cleaning, such as sweeping.
- Depending on the different requirements and conditions of your car park project, it is strongly recommended to test each machine, process and cleaning product individually for their suitability.
- In car parks, we recommend wet cleaning and dirt removal at least once a year: if possible before, but at the latest after the winter period.
- Hard dirt such as grit should be swept away promptly, and road salt residues removed after the frost season.
- Manufacturers' recommendations for cleaning agents can be requested from KLB Kötztal Lacke + Beschichtungen GmbH.

- If necessary, we always recommend carrying out a test in a hidden area.
- Damage to the surface during snow removal must be avoided. Care should be taken to ensure that no sharp edges are drawn over the coatings that could impair them. The use of plastic lips underneath snow removal equipment is therefore recommended.
- Our cleaning tips and recommendations are based on our own experience. They are intended to help preserve the value of the coating.

We hope that this has provided you with sufficient information on how to maintain and clean our multi-storey or underground car park coatings and wish you much pleasure with your flooring.

By handing over these cleaning and maintenance instructions, the floor installer fulfils his obligation according to DIN-VOB 18365 Flooring works. The recognised rules of craftsmanship as well as the current state of the art shall apply.

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