

Electrically/ESD-conductive commercial and industrial flooring

Reactive resins are used to produce resistant floors, especially in commercial or industrial areas. In this context, KLB coatings offer a multitude of advantages, e.g. jointless, smooth to textured and slip-resistant surfaces, impermeability to liquids, chemical resistance, etc.

In certain environments, however, the floorings must be prevented from becoming electrostatically charged. This applies especially in areas where, for example, ignitable gas-air mixtures can arise or where sensitive electrical components and equipment needs to be protected. Here, special coverings are applied that are conductive or ESD-compatible for microelectronics.

Such areas can be found, for one thing, in the medical sector (e.g. operating theatres), clean rooms, computer centres, control and monitoring rooms, telecommunications facilities, rooms in which explosive substances are handled (so-called "Ex rooms") or with explosive atmosphere, in electronics production, i.e. so-called ESD areas (Electrostatic Discharge Sensitive Devices) and to some extent also in offices. To ensure that the floor remains sufficiently dissipative in the long term, conductive pigments or fibres are added to the material so that the target values of electrical conductivity are achieved.

Different usage requirements mean that floor coverings in heavily frequented industrial halls, for example, have to meet other standards than those in facilities that are subject to less mechanical stress.

The regular cleaning of dissipative floorings is of utmost importance. This is because dirt usually has an insulating effect and therefore impairs conductivity. Cleaning reactive resin coatings is easy if the right method is chosen. It should be noted that additional measures become necessary if, in addition to the function, special requirements are also placed on the appearance.

For cleaning, we would like to give you the following recommendations:

Preventive measures

If possible, floor coverings should only be installed after all other trades. Otherwise, the coating must be protected from damage while construction work is still in progress.

Clean run zones and dirt trap mats in front of entrances or in the door area can keep out much of the usual dirt. These must be planned for as part of the cleaning process. Because the less the coating is soiled, the less cleaning effort is required.

Please note that only mats without plasticiser content may be used.

Ongoing maintenance cleaning

Manual cleaning

Carrying out cleaning:

Maintenance cleaning is carried out in two steps, the frequency of which depends on the amount of soiling that gets onto the surface.

Manual cleaning is done as follows:

- 1. Loose dirt is removed by vacuuming, sweeping or wiping to bind dust (with gauze, fleece cloth).*
- 2. Adhering, dried soiling can be cleaned by wet wiping, e.g. by the 1-step or 2-step wiping method.*

For this purpose, we recommend using neutral to slightly alkaline floor and universal cleaners (up to a pH value of ≤ 10.5) without any care components. It is important to use cleaning products that do not leave a residue on the floor and dry well so as not to impair conductivity. If the soiling is mainly greasy or oily, an alkaline industrial cleaning agent is preferable. Alkaline cleaners are particularly effective in removing such residues. Please work with high-performance damp mop covers such as microfibre or cotton loop microfibre combination wipe covers. The dosages recommended by the detergent manufacturers must be observed. Both over- and under-dosing lead to undesirable cleaning results.

Mechanical cleaning

During mechanical maintenance cleaning, the surfaces are regularly cleaned with an automatic scrubber dryer. Such machines, which scrub the floor and then pick up the liquid dirt or vacuum it straight away, are increasingly being used for large areas. They replace time-consuming wet mopping with bucket, mop cover and press. With machines, it is important to consider wisely which pad or brush to use. When applying KLB reactive resin coverings, we recommend a super pad up to a maximum of the colour red with soft to medium-hard brushes (e.g. polyester brush).

For machine maintenance cleaning, we also suggest neutral to slightly alkaline automatic cleaners (up to a pH value of ≤ 10.5) without any care components.

It is important to use cleaning products that do not leave a residue on the floor and dry well so as not to impair conductivity.

Intermediate / intensive cleaning:

This is a special measure, e.g. to remove build-up residues of disinfectants or dirt and surfactants.

These soils are usually loosened with intensive or special cleaners (up to a pH value of ≤ 10.5) in a higher concentrated cleaning solution.

Carrying out cleaning:

After picking up the loose dirt by vacuuming, sweeping or mopping, larger particles such as dust or sand should have been cleared away. Spread the cleaning product with a red pad or soft brush and the single-disc machine, then scrub the surface. The removed dirt is sucked up either manually with the mop or mechanically with the wet vacuum cleaner. Clean the area with clear water using the 2-step wiping process.

During intermediate cleaning with the automatic scrubber dryer, the cleaning liquid is first distributed on the surface without suctioning. Only after an exposure time of approx. 5 - 10 minutes and another pass over the wet floor will the liquid dirt be absorbed.

It is important to use cleaning products that do not leave a residue on the floor and dry well so as not to impair conductivity.

Basic cleaning

A basic cleaning is carried out in case of heavy and extreme contamination or if a maintenance treatment has been done that needs to be renewed.

Carrying out cleaning:

First, remove coarse and loose dirt by vacuuming, sweeping or wiping to bind dust.

Dilute the basic cleaner (up to a pH value of ≤ 10.5) according to the manufacturer's instructions and wet the floor generously with it. Apply the cleaning liquid with a single-disc machine (water tank) or alternatively with a bucket and a wide mop. Make sure that the entire surface is wetted.

Let the cleaning solution soak in for approx. 5 - 15 minutes and ensure that it does not dry up. Scrub the floor covering with a suitable super pad up to a maximum of the colour blue in even, overlapping lanes and small circular movements. Turn the pads regularly or renew them if necessary. Edges, corners, borders and places that are inaccessible to the machine must be finished manually with a hand pad.

Remove the liquid dirt with a wet vacuum cleaner and ensure that it does not dry up. The floor is rinsed with sufficient clear water, as alkaline basic cleaners require thorough neutralisation. To do so, distribute the water from the water tank of the single-disc machine on the surface again or alternatively, use a bucket and wide wiper. The area must be rinsed with enough water!

The last layers of dirt can be removed by scrubbing with clear water and a fresh pad. Repeatedly vacuum up the liquid soiling carefully. Then mop the floor once again in 2 steps with clear water.

Finishing / Surface protection

In general, the application of a care sealer is not suitable for higher mechanical stress. If it is a commercial area where no floor conveyors are used, or if demands are also made on the appearance, and the reactive resin floor needs to retain its attractive, decorative look in the long term, additional care measures are required for cleaning. Applying a finish can turn down wear caused by heavy use, repel dirt or rubber abrasion from shoe soles, and significantly improve the visual quality of the surface by reducing or increasing the gloss level.

For dissipative floor coverings, it is recommended to measure or check the discharge resistance after basic cleaning and after coating. We advise checking the suitability of a care dispersion also with regard to their conductive properties together with the manufacturers of dispersions/care products and, if necessary, creating test areas. With their high abrasion and scratch resistance, modern care dispersions for conductive floorings meet both the requirements of DIN EN 61340-4-1 and/or DIN EN 1081 as well as those of current cleaning technology. They also fulfill the demand for a long service life of 1 to 1.5 years until the next basic cleanup and aftercare is due. From a cleaning point of view, care dispersions and their advantages do not have to be dispensed with in practice. It has been safely proven that the floor's conductivity is maintained in the long term.

Carrying out finishing:

For applying a care dispersion, we recommend wipe weasel mop covers or lint-free microfibre covers with a suitable holder such as a wipe weasel mop holder or a wide wiping device.

The care product can be applied homogeneously to the floor after sufficient drying time following basic cleaning. During the process, ensure an even application, avoid draughts and control the consumption rate. The average consumption per 100 m² is approximately 1.5 - 2 litres per application. At least 2 coats are recommended, depending on the condition of the surface and type of pre-treatment. The discharge resistance must be checked after finishing, ideally after each intermediate coat.

The drying time of the care product between applications must be observed (see manufacturer's instructions). The resilience of the care film depends on the time it has to dry; most dispersions are loadable after 24 - 48 hours, so that the furniture can be put away again and maintenance cleaning can begin.

Surface disinfection

The aim of surface disinfection is to systematically reduce germs so that they no longer pose a risk of infection. Which is particularly important in medical facilities and in areas close to patients.

Disinfecting surface cleaning is a combination of disinfection and cleanup. Thorough cleaning is immediately followed by treatment with a surface disinfectant that removes the actual contamination. Surface sanitation with prior cleaning is also carried out as a final disinfection, in outbreak situations or when certain pathogens occur. Routine (or preventive, ongoing and prophylactic) disinfection serves to protect staff, patients, visitors or customers and to prevent the spread of pathogens or potential germs. Which measure should take place when and where is usually written in a disinfection plan.

Carrying out disinfection:

Wipe disinfection of larger floor areas is done by manual wiping with wipe covers which can also be pre-soaked if necessary. Concentrated surface disinfectants that are diluted to a ready-to-use solution according to the manufacturer's indications are particularly suitable for this purpose. The guidance for surface sanitation and the mixing ratio for diluting the concentrate can be found on the manufacturer's product label. This information is not advice but an instruction to be followed.

Some disinfectants are characterised by an additional cleaning effect. When disinfecting floors with such concentrates, prior cleaning can be omitted if the surfaces are only lightly soiled.

For dissipative floor coverings, it is advisable to ensure that the surface disinfectants used do not contain any care components and dry up without leaving a residue so as not to impair the conductivity. Otherwise, it is recommended after exposure time to clean the area with clear water in a 2-step wiping process.

We recommend using neutral to mildly alkaline surface disinfectants (up to a pH value of ≤ 10.5), preferably VAH-listed (Verbund für angewandte Hygiene e.V., "Association for Applied Hygiene") and products from the IHO disinfectant list (Industrieverband Hygiene & Oberflächenschutz, "German Industrial Association for Hygiene and the Protection of Surfaces").

A few more notes:

- Make sure you know what is happening on your floor and which cleaning method is suitable.
- With the wrong cleaning measures, problems with conductivity, hygiene or slippage as well as deterioration in the appearance and quality of the flooring can occur due to increased dirt accumulation. Cleaning shall be carried out in accordance with the recognised rules of facility cleaning and taking into account the possibilities currently available.
- As an additional protective measure, it is recommended to use furniture castors type W according to DIN EN 425 (based on DIN EN 12529) or to provide chair castor pads at office workplaces. Like the floor covering itself, the castors and glides need to be cleaned regularly and checked for proper functioning.
- To avoid damage to the floor when moving the furniture in and out, we recommend placing suitable felt or plastic glides underneath.
- Do not use your new reactive resin flooring too soon. Often, the surface is permanently damaged already in the first few days of use, making cleaning difficult throughout the entire life of the floor covering.
- Talk to your cleaning company or the manufacturer of your cleaning products / machines about this cleaning recommendation.
- We accept no liability for the execution of the cleaning, the detergents and care products used or their mode of action, nor for the fulfilment of what is expected from them.
- A list of suitable cleaning agents can be requested from KLB Kötztal Lacke + Beschichtungen GmbH.

We hope that this has provided you with sufficient information on how to maintain and clean our electrically conductive industrial floors 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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