

## Instructions for the maintenance and repair of cement floors

### ***Fortedur, Fortedur wet, Fornivel***

#### **Rules for the maintenance and cleaning of concrete floors, depending on their age**

In the first week after laying a new floor, it is recommended to clean the new floor only with soft mechanical means and not to use any chemical cleaners.

In the second, third and fourth week after laying the floor, vacuum cleaning machines can be used, but care must be given to use only soft brushes or non-abrasive disc pads. As for cleaning agents, detergents that are neutral or slightly alkaline in nature should be used.

After one month has passed since laying the floor, vacuum cleaning machines can be regularly used with brushes or disc pads of medium hardness. Detergents should be neutral or alkaline in nature.

Larger stains regularly occur to a concrete floor before handing it over to the customer and putting it into service (especially if construction continues after laying the floor). The case may also be that after laying the floor or cleaning it after the completion of construction, the appearance of the floor will still not be satisfactory for a variety of reasons.

The situation here can be improved in the following ways:

- Thorough cleaning (degreasing) of the floor
- Additionally treating the floor with FormulaForte 1610 Hard/1630 Shine for Fortedur, Fortedur Wet, and Fornivel systems
- Additionally treating the floor with Fortecoat 1420 for the Fornivel system
- Adding an additional coat based on a pigmented two-component epoxy resin

#### **Regular cleaning of dust and debris**

Treated and impregnated cement industrial floors are dust-free. Dust from the air, however, can cling to it.

The removal of dust and ordinary dirt should always proceed with the knowledge that the wear surface is made of cement and therefore should be cleaned with the appropriate detergents. Mechanical cleaning with ordinary chemicals has the result of a chemical intrusion which cement surfaces are not resistant to without restrictions.

The floor is usually cleaned with vacuum cleaning machines, with a disc or cylindrical brush of medium hardness with silicone or polypropylene pile. The use of machines with sharp brushes that can leave circular marks on the surface should be avoided.

Cleaning agents must not contain organic solvents or alkalis in high concentration. Cleaning floors with strong organic solvents (e.g., acetone, toluene, xylene, trichlorethylene, etc.) is not permitted. Acidic chemicals such as hydrochloric acid, phosphoric acid or acetic acid generally should not be used for cleaning, even in diluted form. After the use of chemical cleaning agents, the floor should be rinsed with clean water.

#### **Tire tracks**

Unfortunately tire tracks are often impossible to remove completely, particularly if frequent turning around or skids occur on the floor surface. These tracks can be removed by using alkaline detergents and a hard abrasive disc pad; only in an exceptional case should a solvent be used on the most affected areas. The floor should be immediately rinsed with clean water and neutralized.

#### **Drops of oil, lubricants or chemicals**

For safety and cleanliness reasons, greasy stains and puddles must be immediately wiped up. The same applies to dripping aggressive chemicals (e.g. acid in automotive batteries). The surface should be washed with a degreasing solution and clean water. If these contaminants are not removed for a long period of time, a permanently visible stain can remain on the floor, because the substance can be partially absorbed into the floor surface.

#### **Safety**

After wet (chemical) cleaning, the floor should always be thoroughly washed with clean water and that part of the floor temporarily fenced off during cleaning for safety reasons until the floor dries. This type of flooring is not polished or shined.

#### **Marking with signs, routes, etc.**

General procedure:

- Clean (degrease) the floor
- Lightly sand the surface to be painted
- Epoxy primer + 2 layers of epoxy paint (two-component pigmented epoxy coating)
- Later re-coating is possible after cleaning

#### **Compatibility of cement floors and additional layers**

Additional floor layers (coatings and fillers) based on two-component epoxies and polyurethanes generally adhere well to the surface of cement floors. A test of compatibility directly to the floor surface is still recommended before applying each additional coating. Prior to application, the floor surface must be coarsened, preferably by blasting.

#### **Gluing carpets and floor tiles**

For gluing any carpet or tiles to the surface of a cement floor, adhesives based on the absorption of water during drying (e.g. emulsion adhesives) are generally not recommended.

#### **Repairing any damage to the floor**

Inadvertent damage can occur to the floor during the final work of construction or later on, e.g. heavy objects falling on it or due to the inadequate protection of the surface when installing equipment. The repair procedure is as follows:

- Cut out the damaged area in a regular pattern
- Clean the damaged portion of the floor
- Coarsen the surface of the portion being repaired, removing any impurities after this process

- Prime the surface (e.g. Fortecoat 1410, Fortedur 1091)
- Apply the repair material – Fornivel screed, and the application of Fortecoat 1420, or Fortedur wet coating and the application of Fortecoat 1425/1426/1427

The repaired area will always remain visible, however, because the transition cannot be made to entirely disappear. The appearance of the repaired area can be improved by sanding the surface and applying an additional pigmented coating.

### Impregnation of the floor

Ideally, a cement floor (especially outdoors) should be impregnated after 6 months with a combination of the compounds FormulaForte 1610 Hard/1630 Shine (the 6-month delay is necessary for the concrete slab to dry, the top coat to contract and the primer to penetrate the surface). This impregnation consolidates the surface and additionally helps to make it denser, thereby increasing its resistance to abrasion and giving it long endurance. It also increases the gloss of the surface, hence its aesthetic properties. To maintain a high gloss, or increase wear resistance, impregnation should be repeated annually after the first one is applied.

