

## Cleaning and maintenance recommendation

For VIASOL multi-storey car park systems

### **1. General**

#### **Car park coatings – requirements**

Car park deck systems must be highly resistant to chemical compounds. The coating has to protect the concrete construction from harmful substances like water, chlorides, oils, fuels and diluted inorganic or organic acids. The chemical resistance against those substances has already been proven in the test reports according to EN 1504-2. A great part of it is the durability against frost and de-icing salt.

Also the abrasion resistance is very important for car park systems with vehicle traffic. If sand or stone chippings are used in winter times, this will increase the abrasion of the wheels on the coating, therefore sand and stone chippings should not be used for coated car park areas to maintain a long life-time for the coating system.

#### **Care and Maintenance – value preservation**

Usually, broadcasted and sealed car park coating systems can only be cleaned to a certain degree. For very heavy contaminations a professional, regular wet cleaning with a machine is necessary. The machine should be able to remove the used cleaning liquid. For cleaning with such machines, the area must be free from parking cars or shopping carts.

Regular cleaning preserves the value of the building and increases the protection the VIASOL DECK system can provide. A clean and maintained surface also improves the first impression all users get from the building. The color plays an important role for the cleanliness of the car park surface.

Also the slip-resistant properties will be conserved with good cleaning. Regularly check and clean outlets, drainage points, gutters, downspouts etc, and ensure that all rainwater goods are working properly. Regularly remove any loose debris from the deck surface, and all items which could potentially cause damage to the installed system.

## **Special recommendation for coatings**

VIACOR synthetic resin coatings for car parks are based on epoxy or polyurethane resins. For elastic, crack-bridging coating systems mainly polyurethane systems are used. Harder epoxy resins are more commonly found in areas where less cracks occur, as in basements or ramps. For slip resistance the car park coatings are broadcasted with quartz sand or other hard aggregates. For the ramps, coarse grain size up to 2 mm is used. Here the tyres will unavoidable leave marks on the coating. The coating appears “not cleanable”. Matt and light coloured surfaces will increase the effect. The rough surfaces cannot be cleaned in the normal way with wiping or moping but have to be brushed with suitable machines. The brushed should not be too abrasive. The general rule applies: the more slip resistant the surface, the more difficult to clean.

## **2. Cleaning instruction**

### **Cleaning intervals**

The frequency and intensity of optimal cleaning depends on the season, location and the frequency of use. Whether daily, weekly, monthly or annual cleaning is necessary must be determined for each car park deck individually. A cleaning concept should be developed after some experience with those parameters.

### **Winter service and cleaning**

In winter, car park surfaces are subject to extreme stress.

De-icing with salt does not affect the surface of the coating. Care has to be taken for other construction components subject to corrosion. Chlorides from de-icing salts can reach peak concentrations in water puddles. This may lead to matting of the surfaces.

Stone chippings or sand on tyres are extremely abrasive – especially for the highly frequented exit and income areas. These materials should not be used in car parks and when coming from outside it should be removed regularly. The used tools should not be made from metal.

On the top storey (naturally weathered) snow should not be removed with snow ploughs or heavy machines, but rather manually with plastic or wooden snow shovels.

After winter, we recommend a complete cleaning of the car park constructions with special care to outlets, drainage points and gutters. Salt should be removed from steel and the coating by cold water high pressure cleaning. It is possible to add a detergent, after testing the compatibility.

### 3. General cleaning advice

VIASOL car park coatings should not be exposed to concentrated detergents for a long time. Otherwise, matting of surfaces may occur. Dry cleaning with hard circling brushes is very abrasive and can reduce the life-time of the coating.

It is recommended to develop a cleaning-concept to the individual requirements of the car park construction with the cleaning and maintenance product manufacturers. If in doubt, preliminary tests on an inconspicuous area or in secondary areas shall be carried out.

Chewing gum can be removed using icing spray. Afterwards, the coating should not get any mechanical stress until it has reached ambient temperature again.

Discoloration after exposure to battery acids or urine (usually yellow stains) can usually not be removed. The coating is resistant to oils, gasoline, fuel, diesel and brake fluids as well as diluted acids, but these chemical can lead to stains on the sealer.

If –especially on the top deck – puddles freeze in winter, those areas should be barricaded and not used.

Coated car parks should never be driven on with track vehicles. Elastic polyurethane based crack-bridging coatings are even less resistant to track vehicles or show ploughs than rigid epoxy based coatings. Damages can be repaired only with expensive methods. Therefore the operating company should give clear instructions to the cleaning personnel.

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