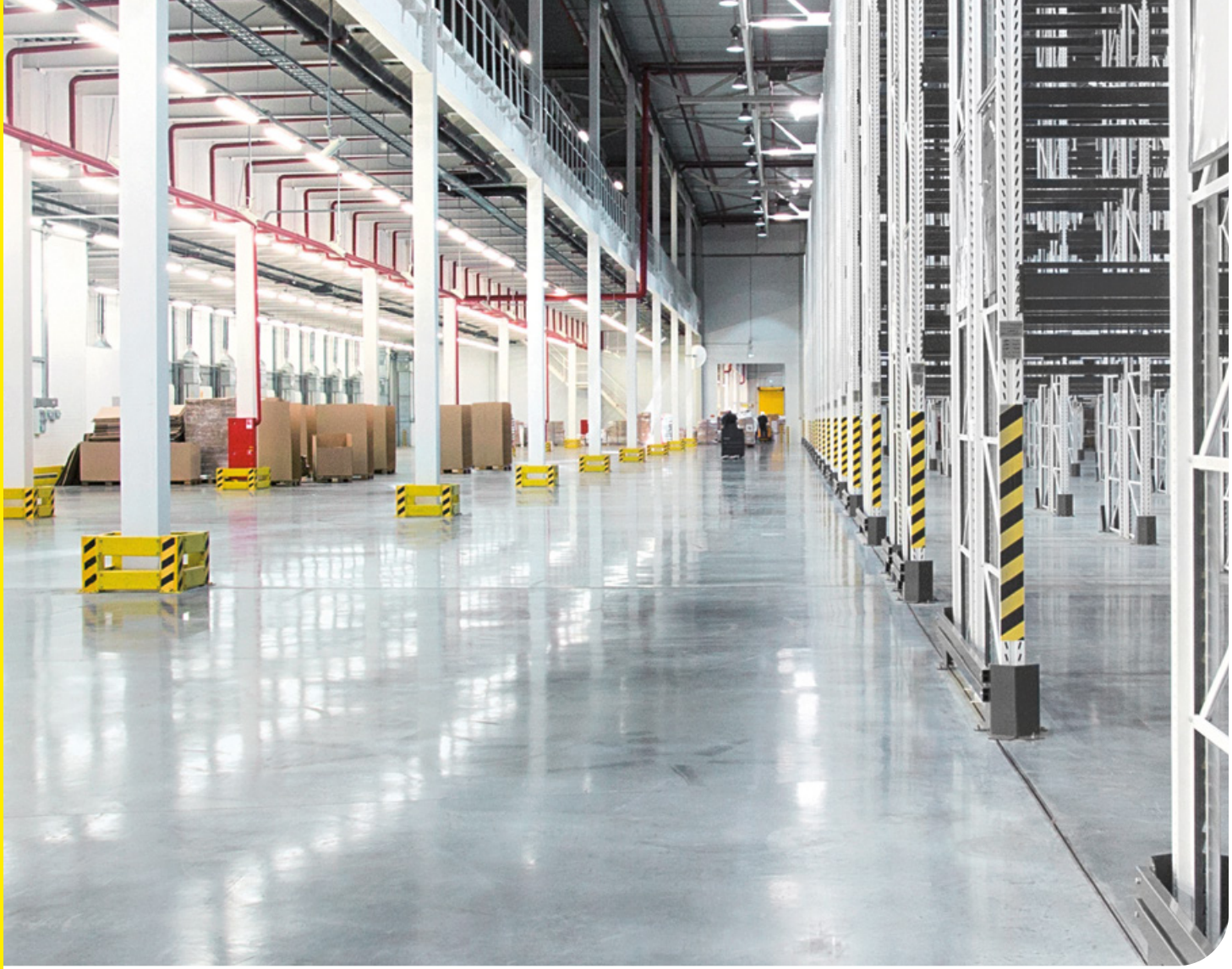
weber
SAINT-GOBAIN

Floor systems for industrial plants

Maximum reliability for all stress cases

SAINT-GOBAIN



In industry, floor areas make an important contribution to the operational infrastructure.

Whether in high-bay warehouses, underground car parks or production halls - the prerequisite for trouble-free operations is intact, load-bearing and high-performance floors. Among other things, they serve to anchor machines, and are transport routes or storage areas. Well-planned and executed industrial floors are therefore an economic factor. Every defect that leads to maintenance works and repairs has a noticeably negative effect on the entire operational process of a company.

High-quality systems for every requirement

Weber offers high-performance system solutions for mechanical, chemical and thermal loads - regardless of whether the stress is rather low or extremely high. On top: All Weber's mineral industrial flooring products (screeds, levelling compounds as underlay or wear layer and top coatings) meet the highest requirements for protection against emissions of volatile organic compounds and bear the corresponding EMICODE label EC 1 PLUS.

Industrial floors

and directly used floors such as underground car parks, public buildings ...

Photos 1–3:

1. Matched components and easy application: the tailor-made **weber.floor** protection systems guarantee high-quality and durable work results.

2. Floor surfaces are a crucial part of the operational infrastructure. They therefore require the same attention like all other means of production.

3. Whether low, high or chemical loads: Weber offers high-performance system solutions for all requirements.

Substrate preparation

The basis for professional floor construction

If the substrate is not carefully prepared, even the best flooring system is of no use - the coating cannot form a bond with the substrate and comes off again even under low loads.

Which method of substrate preparation is required in each specific case, can be determined by easy tests.

1. Cleaning
If the substrate is able to receive a coating, it is sufficient to remove loose parts, dust and any blasting material with an industrial hoover.

2. Grinding
Load-bearing screed surfaces and coatings can be prepared by grinding. Afterwards, the surfaces must be thoroughly vacuumed again.

3. Shot peening
The most common method for preparing floor surfaces is shot peening. By spinning steel balls, surface impurities and cement coats are removed and blowholes are opened.

4. Milling
If thicker layers have to be removed, for ex. on oil-contaminated surfaces, this can be done by milling. Afterwards, a further working step with shot blasting must follow.

5. Ultra-high pressure water jets
In case of heavily oil- or chloride-contaminated concrete floors, the soiled surface can also be removed with ultra-high pressure water jets at a pressure of approx. 2,000 bar.

APPLICATION TIP

Compensation of roughness depths
Until now, the height compensation by levelling larger unevennesses in cement-based floor surfaces was associated with a large expenditure of time and money. Weber's cement-based levelling compound under resin-based coatings **weber.floor 4655 Industry ResinBase** provides a remedy. When applied in layer thicknesses of 10 mm, it can be coated with a reactive resin after only around 24 hours.

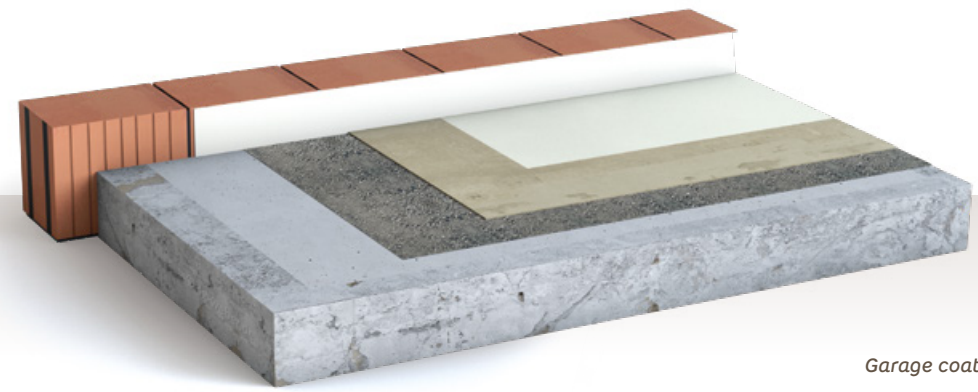
1

In case of industrial floors that are only subject to low levels of wear, economical systems like impregnations or sealers are often sufficient to achieve lasting protection.

Impregnation binds dust

A simple, colour-deepening impregnation serves primarily to bind dust particles that are increasingly produced in many industrial plants. Mostly, this is abrasion that comes either from production operations or from the mineral floor surfaces.

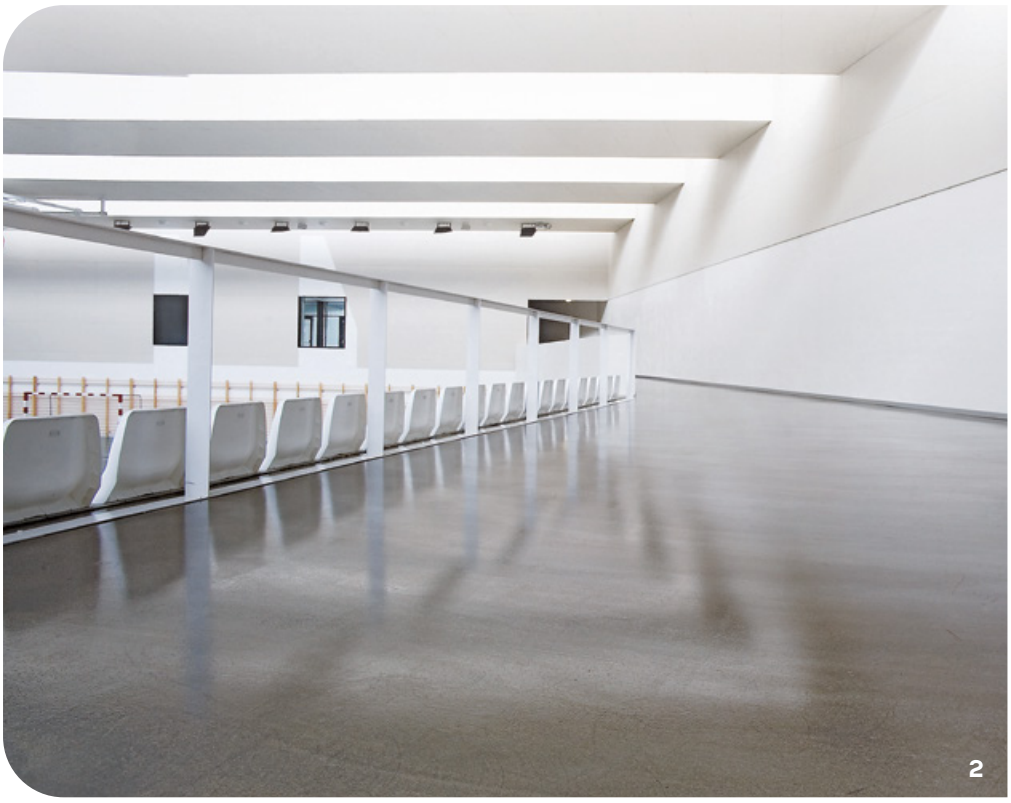
This abrasion is not only a nuisance for employees, but can also cause damage to sensitive machines.
Weber's impregnations protect the substrate from further abrasion. They consolidate the surface and permanently fix the only weakly bound particles.



Garage coating with reactive resin

1. Low stress

Storage and technical rooms, pedestrian areas, private garages



2

3

Sealer protects against soiling

Untreated substrates are often unsightly after a short time, even in case of light mechanical loads. In addition, such surfaces are difficult to clean because dirt penetrates into the pores. A sealer closes the pores and creates an easy-to-clean surface. It also offers planners a wide range of design options with numerous colour versions.

Weber's sealers **weber.floor 4736** and **weber.floor 4774** offer economical protection for all cement- and magnesia-based floors as well as mastic asphalt surfaces

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DESIGN TIP

Mineral design floors
Mineral design floors are very much in vogue.
Museums, shopping malls, boutiques, but also high-end loft flats appreciate the purist charm of industrial flooring to give furniture or exhibits a noble yet understated base. Thanks to natural materials and different colour shades, the cement-based finished floor surface **Weber DesignFloor** offers a variety of high-quality design options. The product **weber.floor 4650** is suitable for light mechanical loads.

Photos 1–3:

1. Mineral coating with transparent surface protection
2. Freshly laid and nearly jointless mineral coating
3. Installation of a mineral coating

2. Normal stress

Storage rooms, car workshops, production halls, pedestrian areas

1

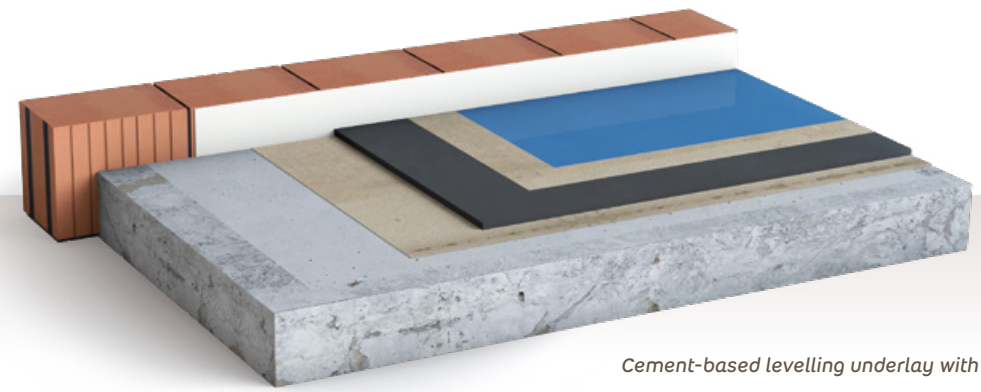
2

Floor surfaces subject to normal stress can be found in a wide variety of areas with industrial operations.

These can be workshops and production halls, freely exposed zones or even heavy-traffic drive-ways. Weber has a suitable solution ready for the most diverse requirements.

Surfaces with grip

With regular wet exposure, it is essential that floor surfaces are insensitive to moisture. In addition, it is important to consider the recommendations and rules of national Trade Associations for Health and Safety related to the skid resistance of such substrates.



Cement-based levelling underlay with reactive resin coating

3

The desired grade of skid resistance can be achieved with the help of scattering mineral fillers (silica sands) that are incorporated into the fresh coating.

In practice, mixtures of well-graded quartz sands have proven successful. The different grain sizes can be used to obtain specific anti-slip resistance classes.

SAFETY TIP

Electrical discharge
In many manufacturing and assembly areas there is a risk of electrostatic discharge. Particularly when explosive air mixtures can form - as when handling solvents or explosives - special measures are urgently required.

Weber therefore offers a floor system with **weber.floor 4756** as electrostatic top coating based on reactive resin that immediately dissipates electrostatic charges and also provides efficient protection against mechanical and chemical loads.

Photos 1–3:

1. Mineral coatings are quickly installed and also open to pedestrian traffic and to full traffic loads after only a short time.
2. Joints in floor surfaces are exposed to extreme loadings due to different transport vehicles; they must be planned and executed professionally.
3. Pedestrian traffic also means a not inconsiderable load for commercially used floors.

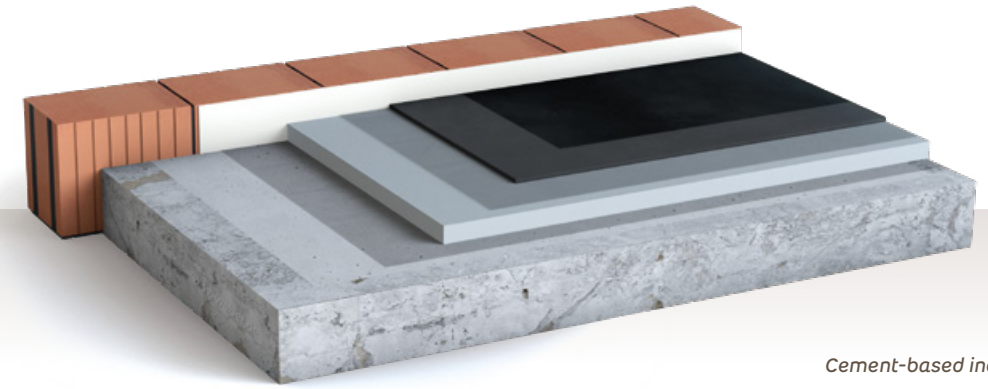
1

For mechanical loads, Weber supplies cement-based, self-levelling coating systems that set new standards both economically and ecologically.

Highly resilient and durable

Despite their minor layer thickness, the systems are characterised by enormous mechanical resilience and long service life. The high bonding strength of the materials ensures that the coating forms an optimal bond with the substrate.

The surface of the polymer-modified material compensates the compressive and shear forces generated by heavy rolls and hard wheels. It is impact-resistant and does not tend to flake off. Extensive experience shows that such surfaces has an exceptional resistance even in case of traffic with heavy-duty vehicles.



Cement-based industrial floor coatings

3. High mechanical stress

Production halls, laboratories, high-bay warehouses, underground garages

2

3

Mineral building materials with very low emission

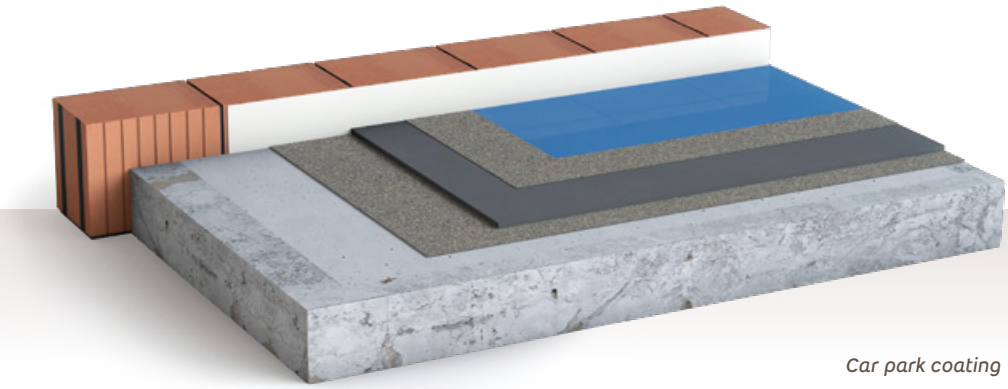
Weber's cementitious coating systems **weber.floor 4602 Industry-Base Extra**, the high-strength industrial flow screed **weber floor 4605** and **weber.floor 4610 IndustryTop** meet the ever-growing need for healthy and environmentally friendly construction methods.

All products are based on a mineral formula.

On the construction site, they are only mixed with water. In addition, the coatings are characterized with a very low emission of organic volatile substances. They bear the EMICODE label EC 1 PLUS and thus meet the highest requirements for such emissions.

Photos 1–3:

1. The rational and ergonomic installation of large surfaces with machine/pump technology combined with officially approved products make mineral coatings particularly interesting for underground car parks.
2. Technically mature and at the same time economical systems are in demand especially for storage areas.
3. The self-levelling properties of the coatings ensure high evenness that even meets the requirements for super flat floors in case of automated guided vehicles (AGV).



Car park coating

4. High special stress

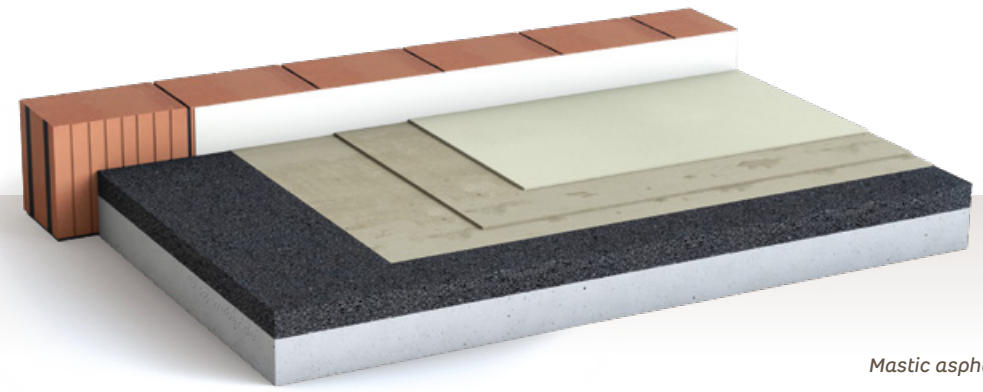
AGV areas, glass industries, bakeries, chemical factories


1


2

In addition to mechanical influences, floor surfaces in many industrial plants are also exposed to strong chemical and thermal stress at the same time.

To ensure adequate all-round protection, a robust thick-layer coating should be used in any case. In many areas, such as driveways, a smooth coating (without scattering of silica sand on top) does not provide the necessary grip. Similar to thin coatings, the desired non-slip resistance can be achieved by scattering appropriate materials over the surface. In case of very high mechanical stresses, a hard aggregate mixture should however be used instead of quartz sands



Mastic asphalt coating in industry

3

Coating systems of Weber have been tested in conjunction with various bedding materials. Therefore, all requirements of Trade Associations for Health and Safety regarding the skid resistance of such systems can be practically fulfilled.

APPLICATION TIP

What to do with mastic asphalt?
A coloured finish coat is all that is needed to protect traditional mastic asphalt surfaces from oil and fuels and to give them an attractive appearance. Since asphalt is thermally deformable, only elastic product systems should be used. Polyurethane resin systems have proven themselves in practice.

The PU coating **weber.floor 4753** of Weber is a suitable system for mastic asphalt.

Photos 1–3:

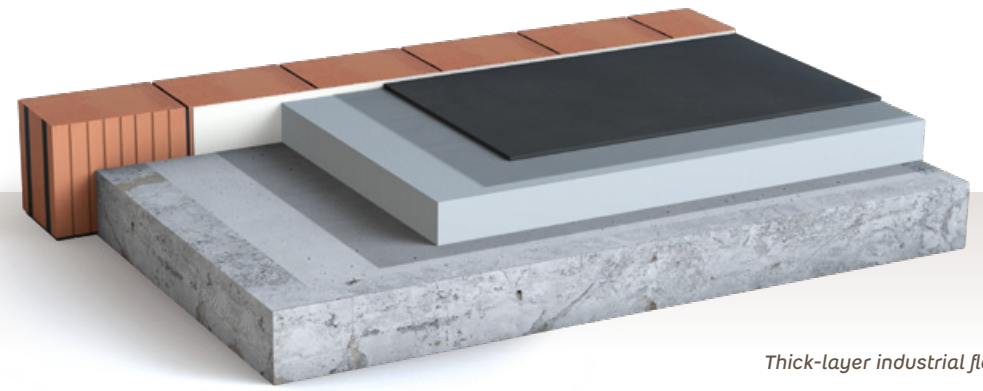
1. Coatings based on cement or reactive resins offer the right solution for every application.
2. There are very high requirements for floors in industrial bakeries with regard to mechanical and thermal stresses.
3. Reaction resin coatings based on polyurethane are particularly suitable on mastic asphalt due to their flexibility.

1

Individual industrial sectors place particularly high demands on floor surfaces.

In the food industry, for example, aggressive disinfectants and hot steam cleaners are regularly used, which place extreme stress on floor surfaces. Oils, fats and acids of foodstuff must not affect the substrate.

Floor systems based on synthetic resin screeds offer adequate protection. For high layer thicknesses (30 - 100 mm), a more economical solution with a mineral base layer is available with the cement-based high-strength industrial flow screed **weber.floor 4605**



Thick-layer industrial floor levelling underlay

5. For the extreme case

Food industries, foundries, metal processing factories

2

3

Maximum resistance

The synthetic screed system of Weber to be installed on site consists of a reaction resin binder mixed with quartz sands.

It is characterised by an excellent mechanical resistance, a high temperature resistance and a good chemical resistance.

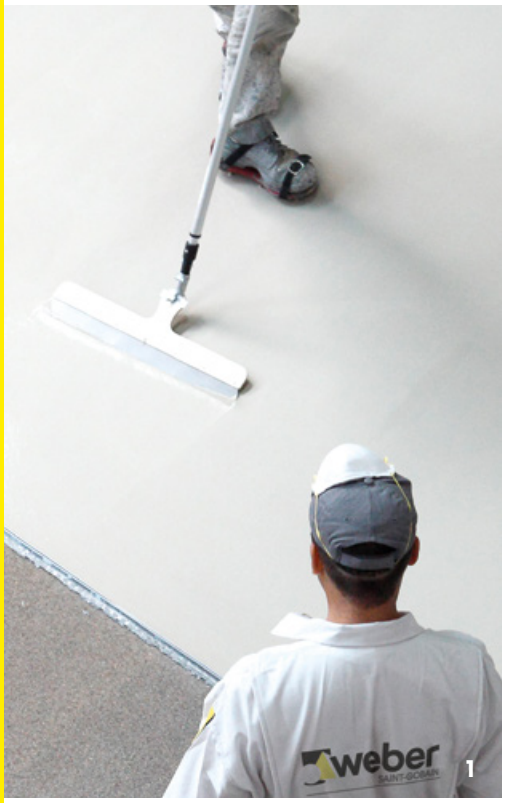
The materials are non-rotting, watertight and easy to clean and disinfect. The system can be easily connected to necessary floor installations - such as drains and inlets – and guided up the walls.

Photos 1–3:

1. Mineral floor levelling compounds are the load-bearing base for heavy machinery and shelves.
2. Installation parts must be anchored with force locking and if necessary, with grouting mortar.
3. Very high temperatures, metal chips and highly abrasive loads put particularly high demands on industrial floors.

6. Optimal protection

against chemicals



1

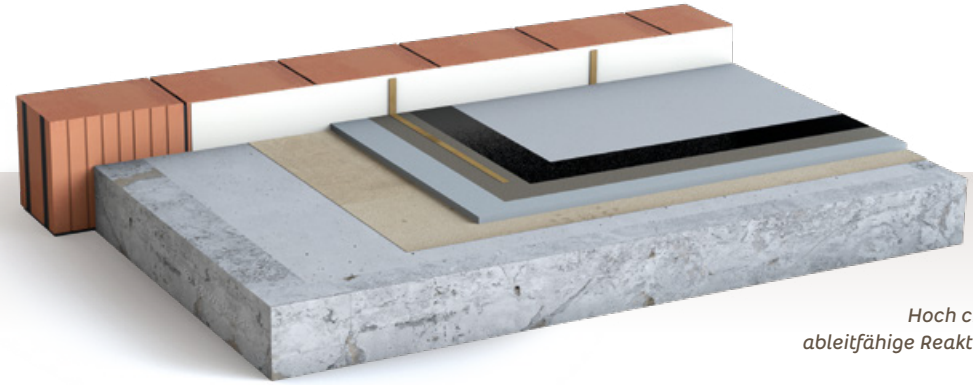

2

Another major challenge for industrial floors are aggressive chemicals. They often not only attack the concrete surface, but are also highly hazardous to water.

Therefore, special emphasis must be placed on the environment protection, especially in production facilities for chemical substances.

Strict legal requirements

In some countries so-called Water Ressource Acts have been enacted with the aim of protection of ground water and soil from substances hazardous to water. For this reason appropriate coatings must be applied on floors of handling installations (filling, storage and transhipment) and also on those of production facilities (manufacturing, treatment and use) of such water contaminating liquids. Weber has developed a highly chemical-resistant and permanently leak-proof system solution, especially for such areas. The requirements are particularly comprehensive for production plants, as the chemicals are used in the manufacturing process.



Hoch chemikalienbeständige ableitfähige Reaktionsharzbeschichtung

Weber has therefore developed a highly chemical-resistant and permanently leak-proof system solution especially for such plants.

Protection for any stress

In addition to its excellent chemical resistance, Weber's coating (system) **weber.floor 4755** designed for the protection of floors against substances hazardous to water in the pre-said production facilities has many other advantages. The system has a high mechanical as well as a very good thermal resistance and can be decontaminated without any problems. In addition, a dissipative final coating **weber.floor 4756** is sufficient for the system to offer comprehensive protection against electrostatic discharges. The result is a floor surface that permanently meets the highest loads and the most diverse requirements. Of course, Weber also offers a system solution for handling installations that has been approved by the German building authorities and is characterised by particularly high cost-effectivity.

CLEANING TIP

Remove chemicals quickly

Spilled chemicals should be removed very promptly. Whenever acids and alkalis evaporate, the chemical attack increases.

Regular cleaning and care of industrial coatings helps to maintain their value. Care and maintenance instructions can be requested for all Weber coating systems.

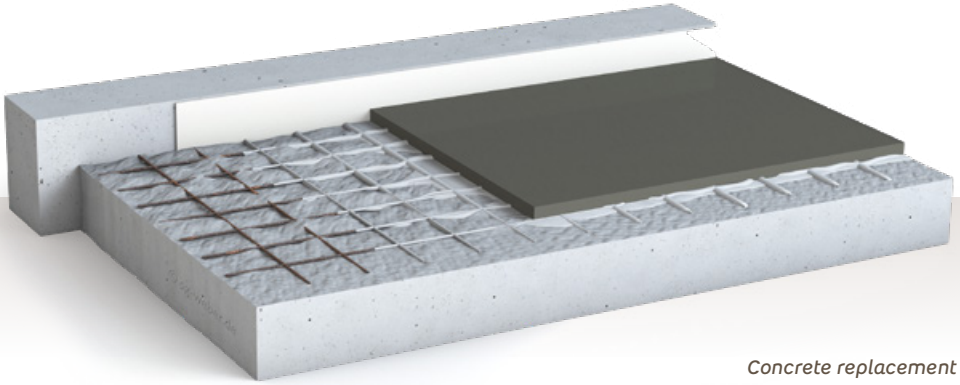
Fotos 1–3:

1. Mineral levelling compounds level the substrate prior to application of the reaction resin coating.
2. Dissipative coatings prevent electrostatic discharge in explosion-protected areas.
3. Highly-resistant systems based on reactive resins are indispensable for chemical loads.

When renovating industrial floors, the concrete substrate must often first be professionally repaired - with or without structural requirements, depending on the building project.

weber.floor 4640 Outdoor RepFlow
RepFlow is a mortar of class R4 (compressive strength class R4 ≥ 45 N/mm2) and thus suitable for statically relevant requirements (according to EN 1504-3).

After removal of the damaged concrete, the corroded steel must be professionally cleaned. With **weber.floor 4640 Outdoor RepFlow,** a dispersion primer can be used instead of the usual bondcoat, which is costly to apply. This enables to speed up the the construction progress considerably. In addition, the dispersion primer has excellent adhesion to the substrate, regulates the absorbency of substrate and improves the flow properties of the mortar.



Concrete replacement on horizontal surfaces

7. The revolution of building schedule

The first pumpable and flow-grade concrete replacement mortar

The innovative concrete replacement mortar can be applied up to 48 hours after application of the primer. When applying a bondcoat, this time window is only 20 - 30 minutes.

Conventional concrete replacement mortars are usually delivered in bags to the construction site and installed by hand, kneeling down. This laborious and time-consuming method is no longer state-of-the art; whereas the pumpable and flow-grade concrete replacement mortar **weber.floor 4640 Outdoor RepFlow** is pumped directly to the site using Weber machine technology. There, the high-flow material is poured and levelled while standing with a wobbling bar. Weber employees on site ensure optimum material consistency. Thanks to the combination of logistics, machine technology and product features, the processing time can be significantly reduced.

weber.floor 4640 Outdoor RepFlow is not only a high-quality concrete replacement mortar, but also a levelling compound (CT - C5 - F7 - AR1) on concrete substrates. It can be coated with reactive resins in case of high loads or be left uncovered as a final floor finish in case of light or medium loads. Due to its high resistance to freeze and thawing salts it is suitable for use indoors and outdoors.

APPLICATION TIP

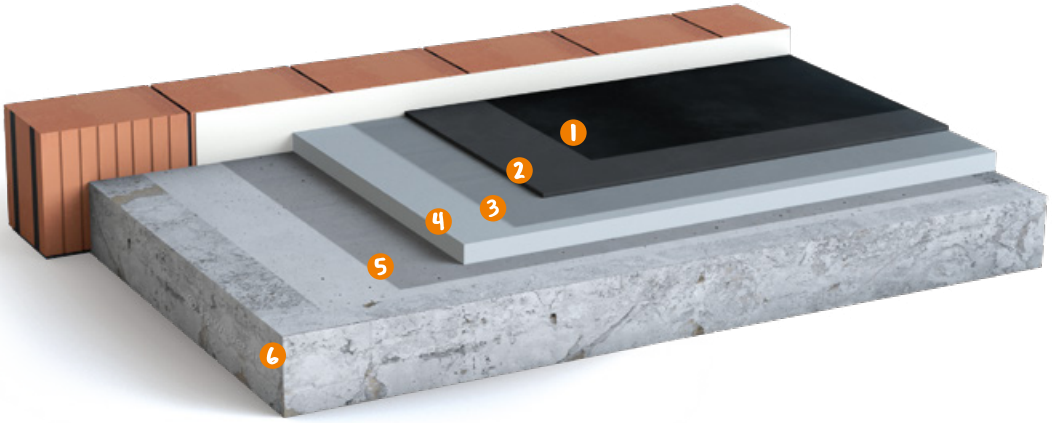
The use of flow-grade and pumpable products is indispensable for a fast construction schedule. Especially in time-critical renovations, flow-grade and pumpable products can provide the paramount advantage.

Up to 90 % of the installation time and staff costs can be saved with **weber.floor 4640 Outdoor RepFlow.**

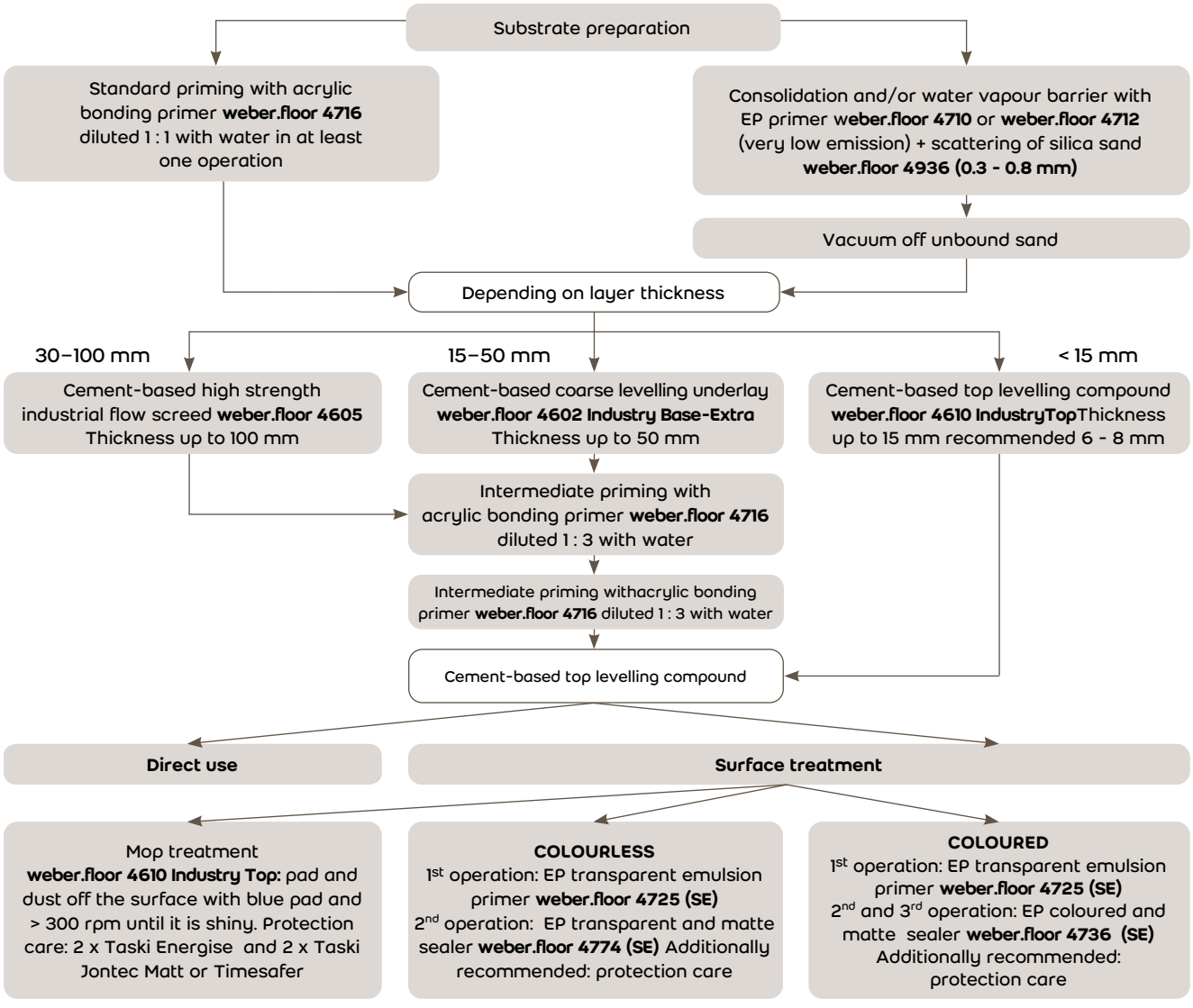
Cement-based industrial floor coatings

Application fields: Production halls, storage areas, high-bay warehouses, underground car parks (parking decks) with cement-based wear layer for direct use

System set-up:



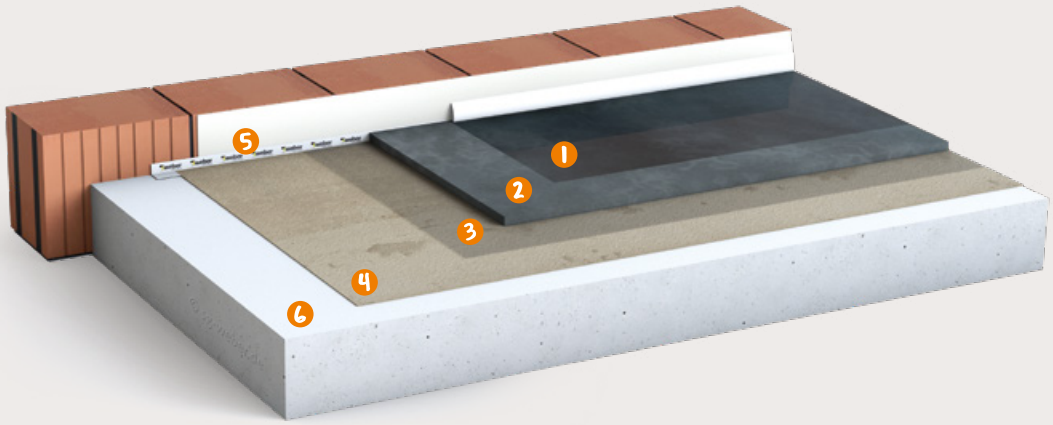
1. If necessary, surface protection, e.g floor mop treatment, reaction resin sealer
2. Cement-based top levelling compound **weber.floor 4610 IndustryTop**
3. Intermediate priming with acrylic bonding primer **weber.floor 4716**
4. If necessary, cement-based coarse levelling underlay **weber.floor 4602 IndustryBase Extra** or cement-based high-strength industrial flow screed **weber.floor 4605**
5. Priming with acrylic bonding primer **weber.floor 4716** or epoxy resin primer **weber.floor 4710** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
6. Load-bearing construction



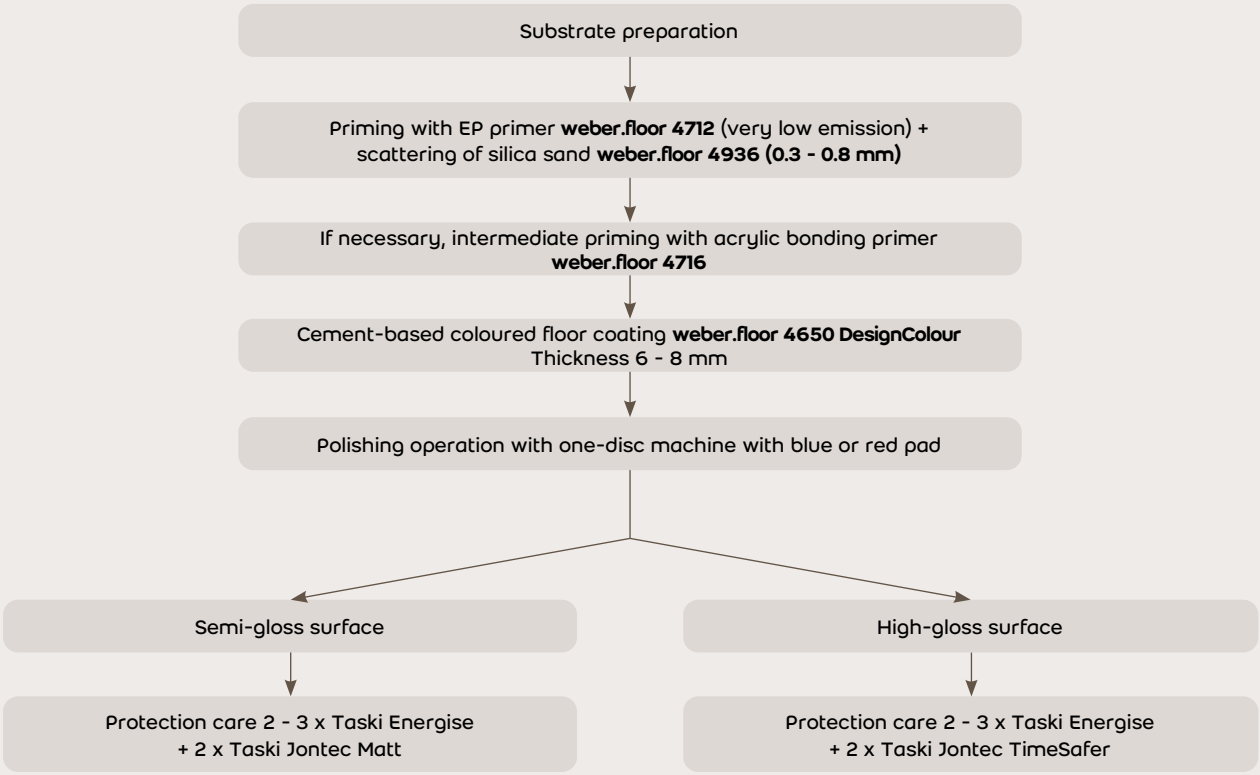
DesignFloor as solid-bonded system

Application fields: Cement-based and coloured coating as solid-bonded system, for ex. shops, showrooms, shopping malls, museums, living areas

System set-up:



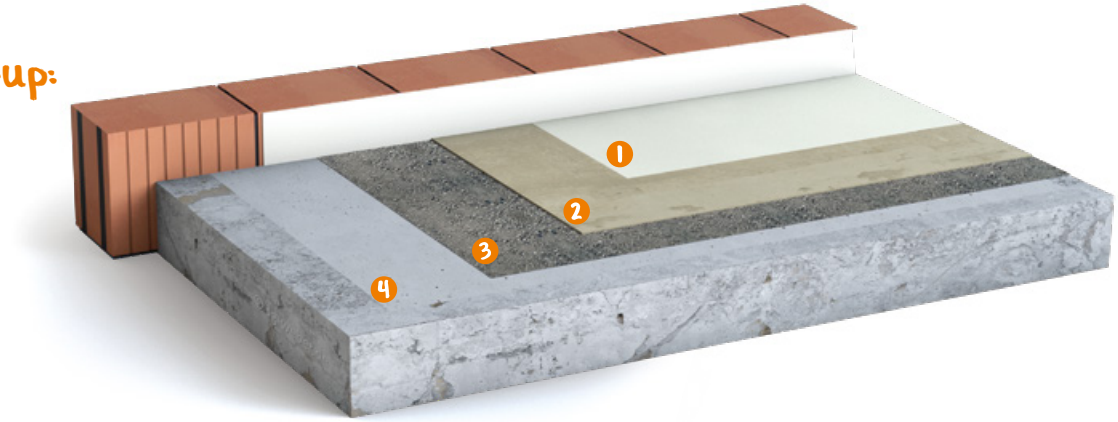
1. Surface protection, e.g. floor mop treatment, stone oil
2. Cement-based coloured floor coating **weber.floor 4650 DesignColour**
3. If necessary, intermediate priming with acrylic bonding primer **weber.floor 4716**
4. Epoxy resin primer **weber.floor 4712** (very low emission) + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
5. If necessary, acoustic insulation strip **weber.floor 4960**
6. Load-bearing construction



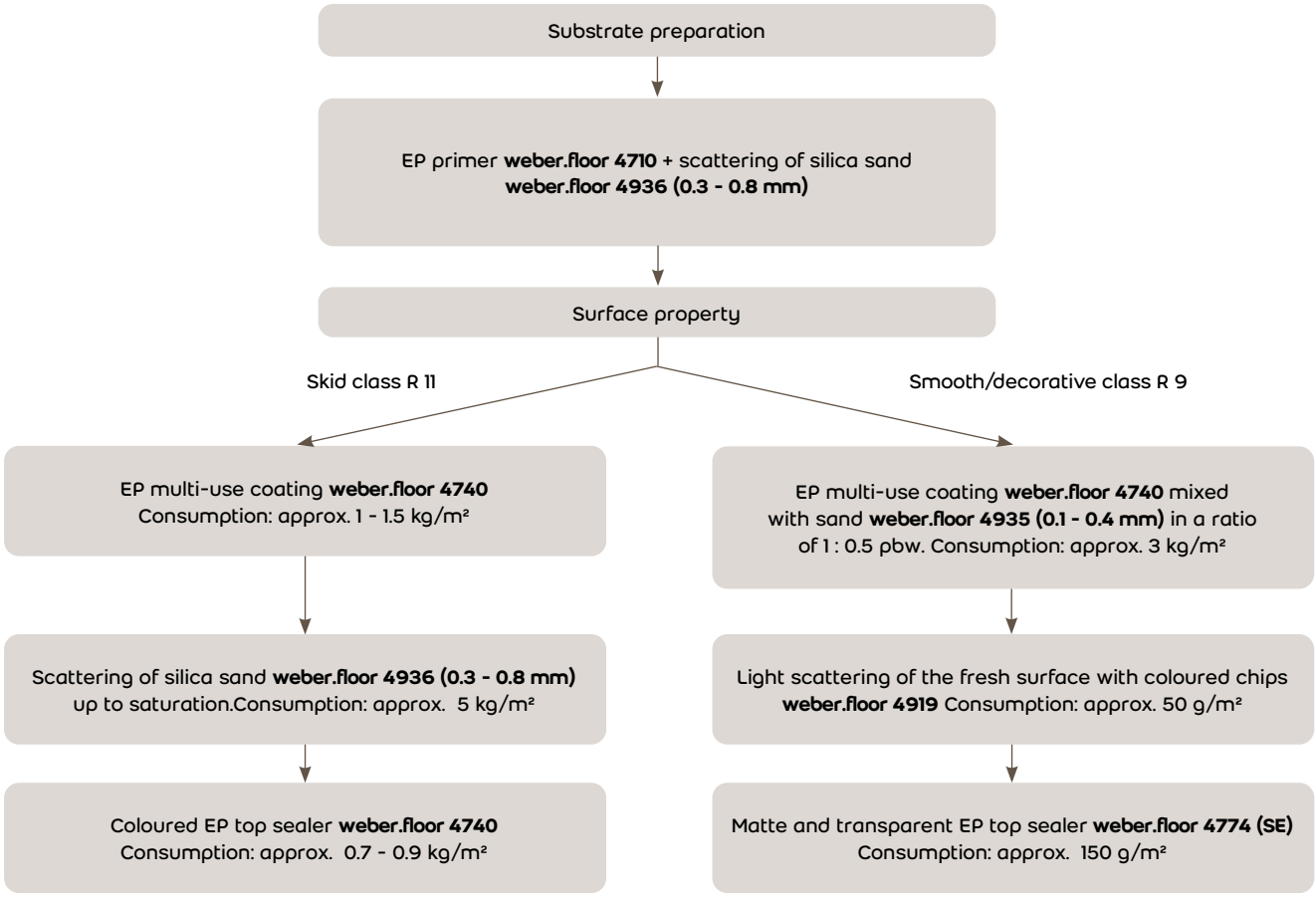
Garage coating with reactive resin

Application fields: private Autogaragen oder Tiefgaragen mit griffiger oder dekorativer Oberfläche

System set-up:



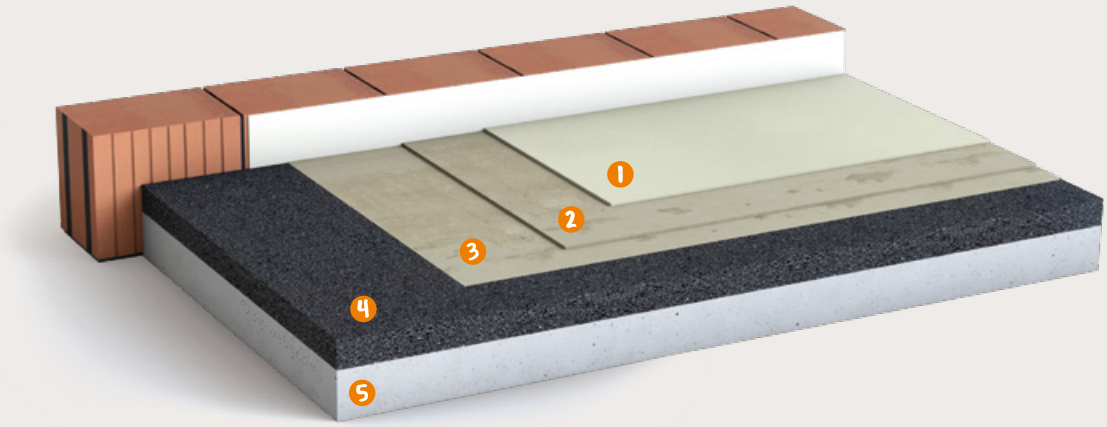
1. Matte and transparent epoxy resin sealer **weber.floor 4774 (SE)** + scattering of coloured chips **weber.floor 4919**
2. Multi-use epoxy resin coating **weber.floor 4740** mixed with sand **weber.floor 4935 (0.1 - 0.4 mm)**
3. Epoxy resin primer **weber.floor 4710** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
4. Load-bearing construction



Mastic asphalt coating in industry

Application fields: Production areas and underground garages (car parks, mastic asphalt surfaces with purpose of colouration and protection against chemical attack (mineral oils)

System set-up:



1. Multi-use epoxy resin coating **weber.floor 4740**
2. Polyurethane resin coating **weber.floor 4753** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
3. Polyurethane resin coating **weber.floor 4753** as scratch coat
4. Mastic asphalt
5. Load-bearing construction

Mastic asphalt surfaces or smooth new surfaces

Suitable substrate preparation

New and well sanded-off (with quartz sand) mastic asphalt surfaces

According to type of load: mechanical or chemical

Medium loadings and/or non-slip surface

Low loadings

PU coating weber.floor 4753
as scratch coat approx. 500 g/m²;
if work is interrupted, scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**.
Consumption approx. 1 - 2 kg/m²

EP sealer **weber.floor 4736 (SE)**
in 2 undiluted coats. Consumption:
approx. 200 - 250 g/m² per coat

PU coating **weber.floor 4753**
Consumption approx. 3 – 4 kg/m²

Skid class approx. R 11

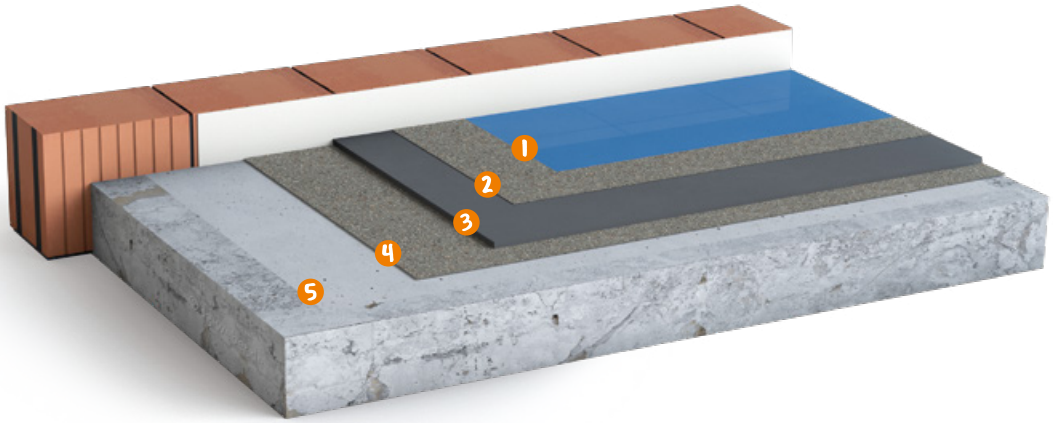
Scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)** up to saturation. Consumption:
approx. 5 - 6 kg je m²

Multi-use EP coating **weber.floor 4740**
as top sealer. Consumption:
approx. 0.7 - 0.8 kg/m²

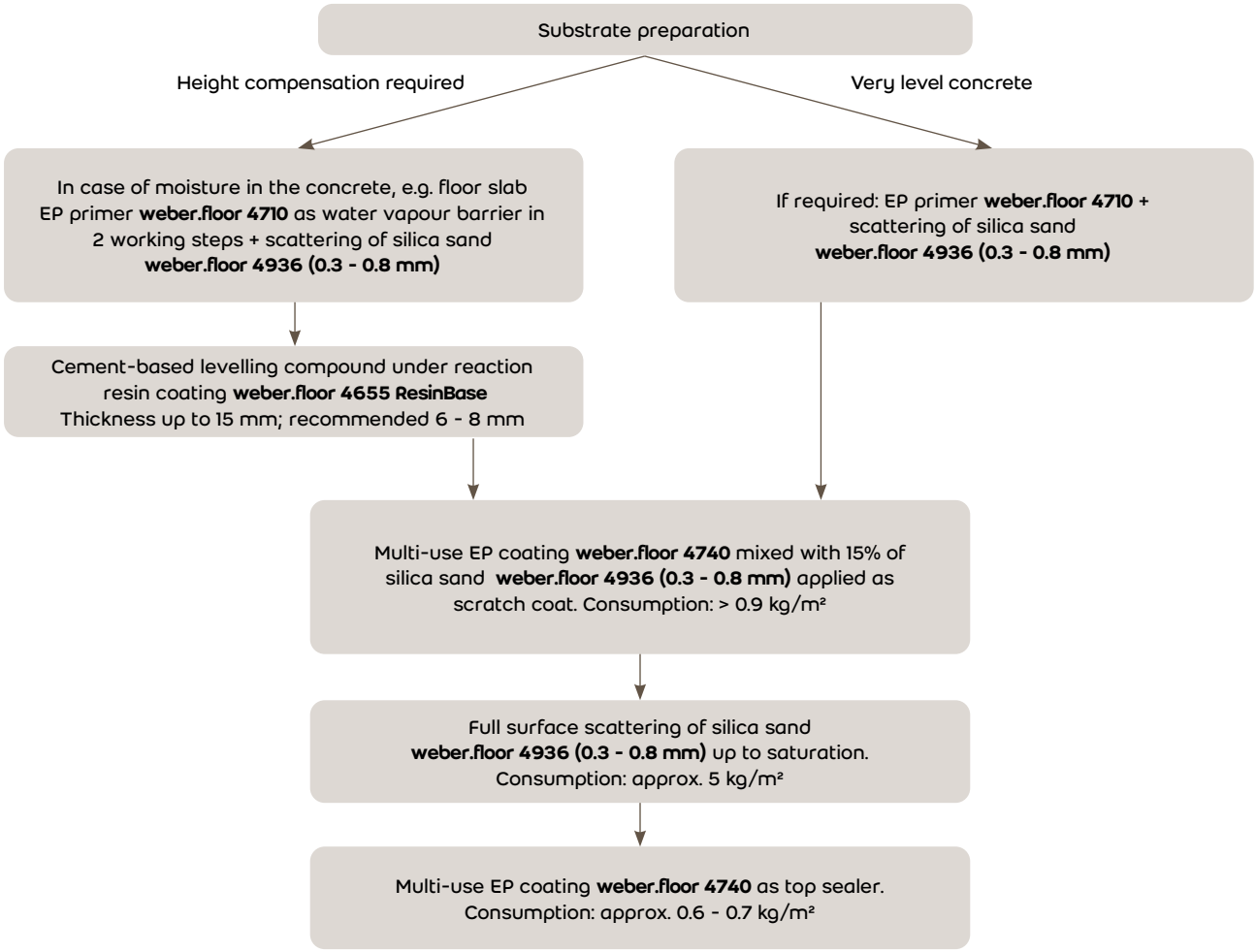
Rigid car park coating

Application fields: Muti-storey car parks, earth-contacting underground car parks or intermediate parking decks indoors

System set-up:



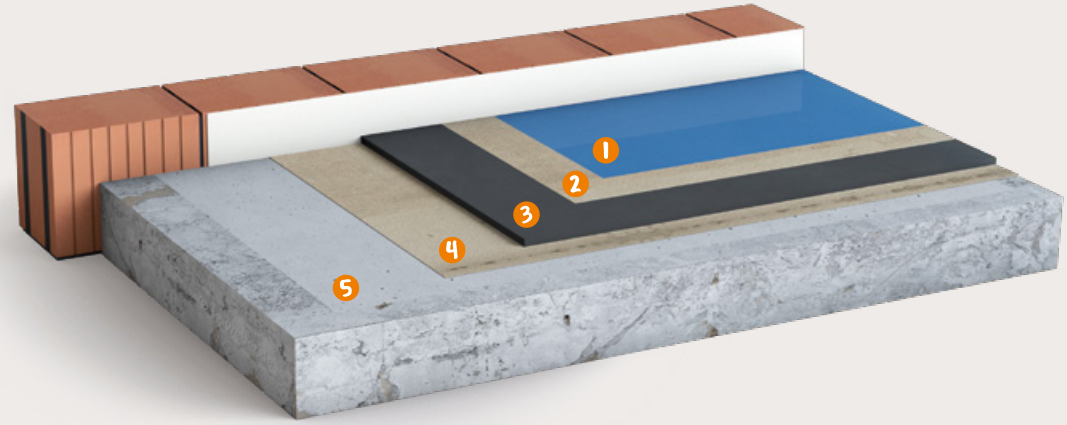
1. Multi-use epoxy resin **weber.floor 4740**
2. Scratch layer with multi-use epoxy resin coating **weber.floor 4740** mixed with 15 % of silica sand **weber.floor 4936 (0.3 - 0.8 mm)** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
3. Cement-based levelling compound under reaction resin coating **weber.floor 4655 ResinBase**
4. 2 x priming with epoxy resin primer **weber.floor 4710** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
5. Load-bearing construction



Cement-based levelling with reaction resin coating

Application fields: Production halls, laboratories, high-bay warehouses, underground car parks with reaction resin coating

System set-up:



1. Multi-use epoxy resin coating weber.floor 4740 mixed with sand **weber.floor 4935 (0.1 - 0.4 mm)**
2. Epoxy resin primer **weber.floor 4710** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
3. Cement-based levelling compound under reaction resin coating **weber.floor 4655 Industry ResinBase**; alternatively either cement-based coarse levelling underlay **weber.floor 4602 Industry Base-Extra** or cement-based high strength industrial flow screed **weber.floor 4605**
4. Epoxy resin primer **weber.floor 4710** + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**
5. Load-bearing construction

Substrate preparation

Consolidation and/or water vapour barrier with EP primer **weber.floor 4710** or **weber.floor 4712** (very low emission) in 2 working steps + scattering of silica sand on 2nd coat **weber.floor 4936 (0.3 - 0.8 mm)**

Vacuum off unbound sand

> 15/30 mm and ready for coating after 3 days at the earliest

> 15 mm and ready for coating after 24 hours

< 15 mm and ready for coating after 24 hours

>15 mm: cement-based coarse levelling underlay **weber.floor 4602 Industry Base-Extra** or > 30 mm: high-strength industrial flow screed **weber.floor 4605**

Cement-based levelling compound under reaction resin coating **weber.floor 4655 Industry ResinBase** on gravel bedding 16 - 32 mm

Cement-based levelling compound under reaction resin coating **weber.floor 4655 Industry ResinBase.** Thickness up to 15 mm; recommended 6 - 8 mm

Intermediate priming with acrylic bonding primer **weber.floor 4716** diluted 1 : 3 with water

Ready for coating after > 3 days and with residual moisture content < 4.0% by weight (carbide hygrometer); if necessary, cleaning by slight shot peening

weber.floor 4655 Industry ResinBase Thickness up to 15 mm; recommended 6 - 8 mm

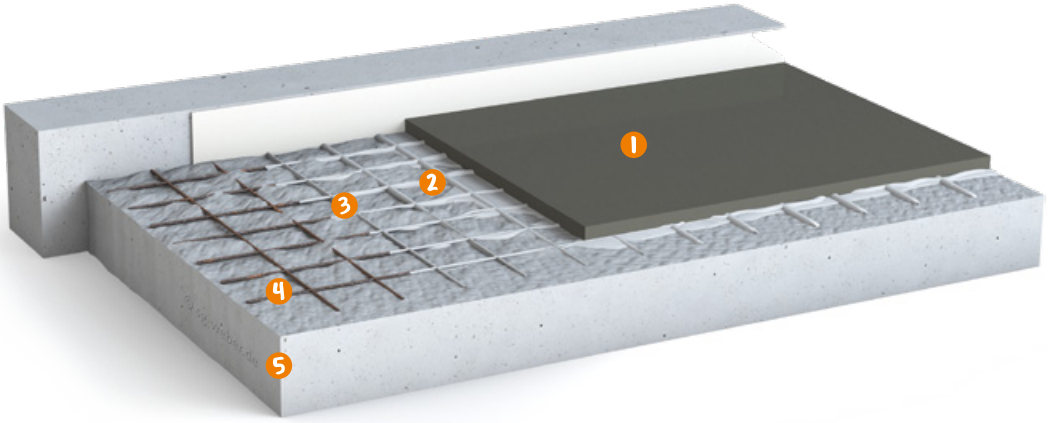
EP primer **weber.floor 4710** or **weber.floor 4712** (very low emission) + scattering of silica sand **weber.floor 4936 (0.3 - 0.8 mm)**

Multi-use EP smooth coating **weber.floor 4740** mixed with sand **weber.floor 4935 (0.1 - 0.4 mm)** in ratio 1 : 0.5 pbw. Thickness 2 mm

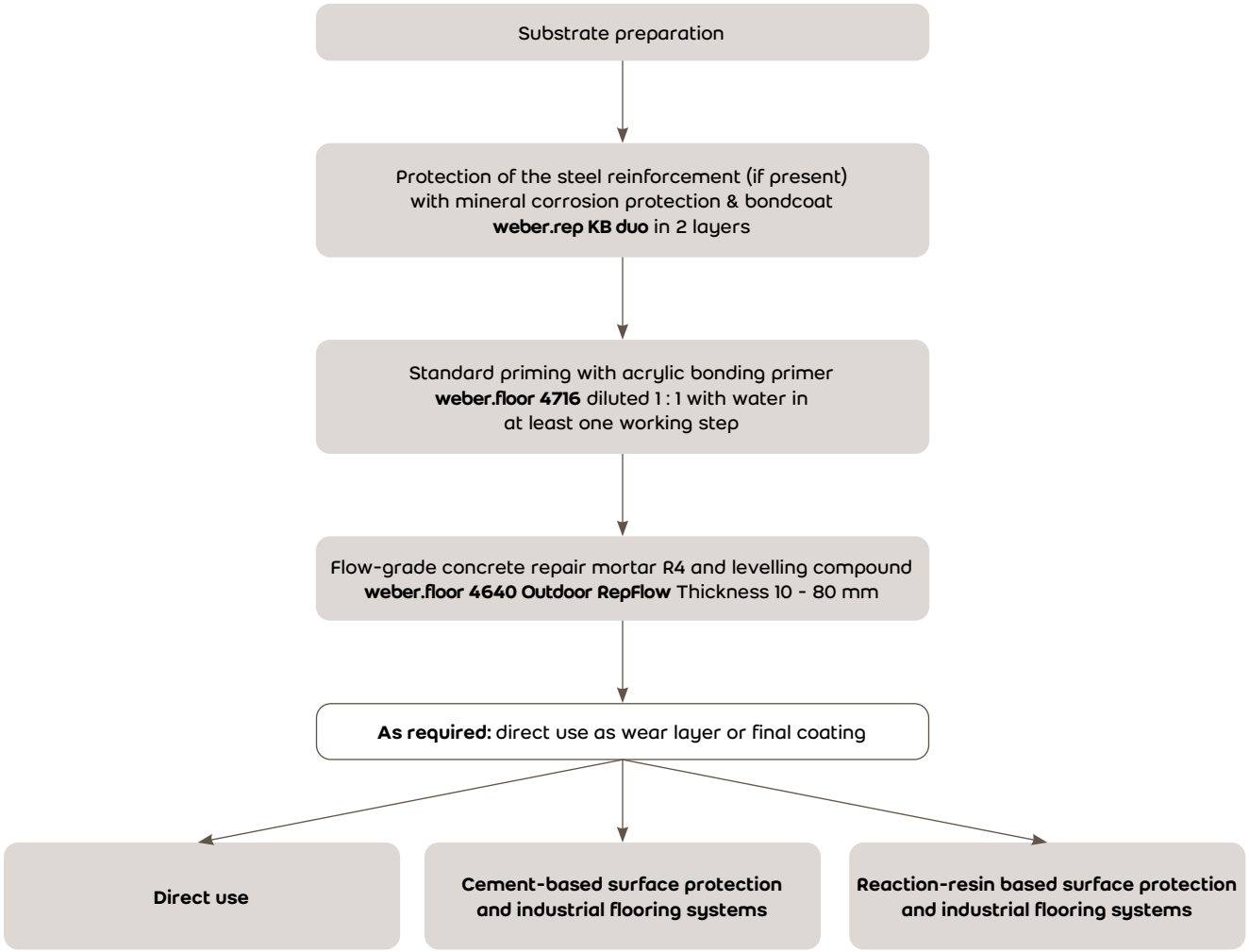
Concrete replacement on horizontal surfaces

Application fields: Concrete surfaces indoors and outdoors, e.g. underground car parks, warehouses, production areas

System set-up:



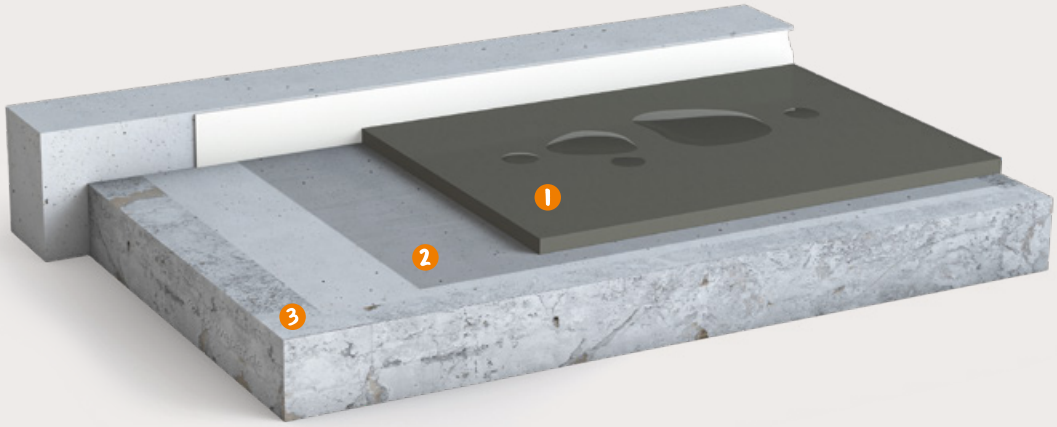
1. Flow-grade concrete repair mortar R4 and levelling compound **weber.floor 4640 Outdoor RepFlow**
2. Priming with acrylic bonding primer **weber.floor 4716**
3. Mineral corrosion protection & bondcoat **weber.rep KB duo**
4. Corroded steel
5. Load-bearing construction



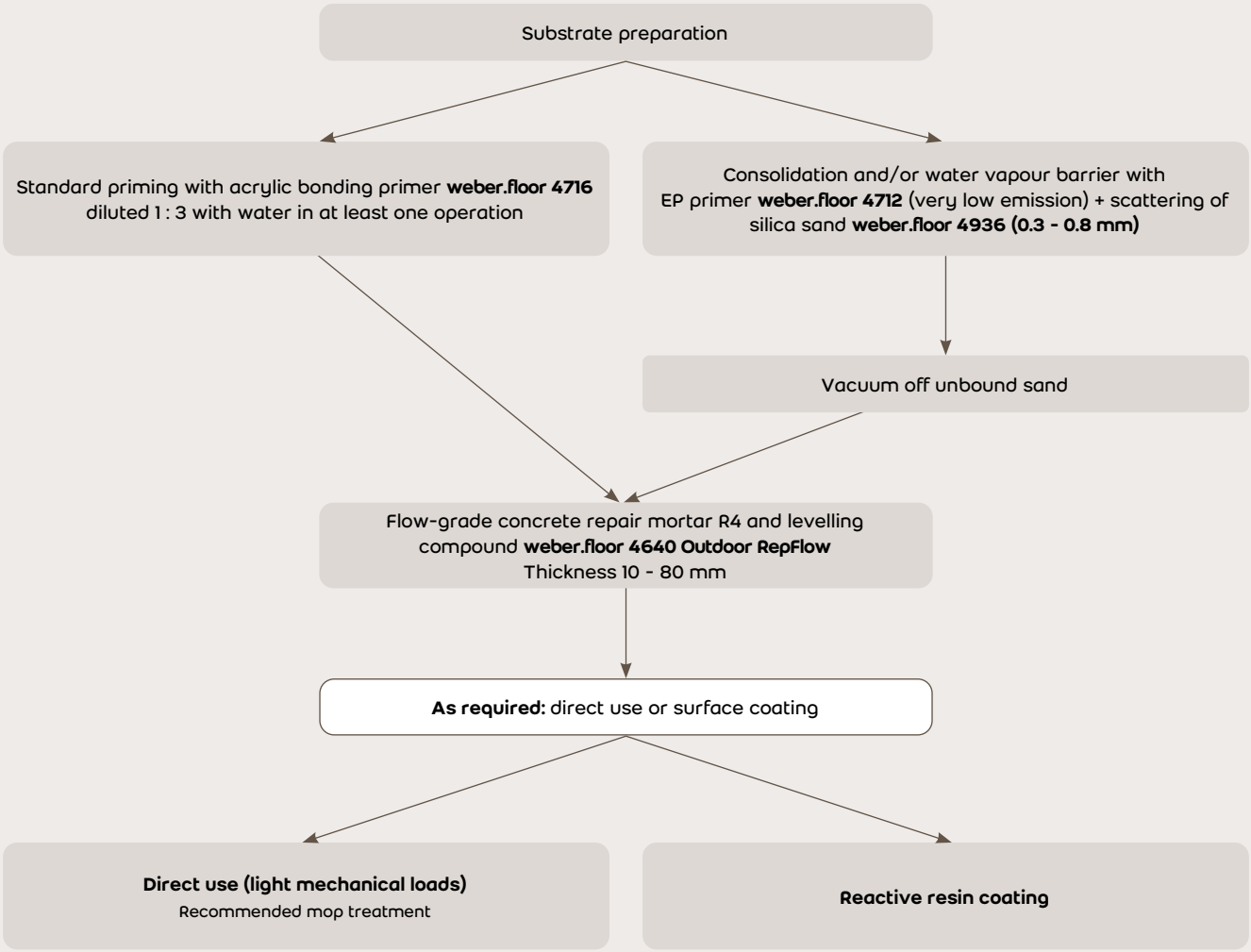
Cement-based levelling of surfaces exposed to moisture

Application fields: Exterior concrete surfaces, courtyard surfaces, garages, interior wet-duty rooms

System set-up:



1. Flow-grade concrete repair mortar R4 and levelling compound **weber.floor 4640 Outdoor RepFlow**
2. Priming with acrylic bonding primer **weber.floor 4716**
3. Load-bearing construction



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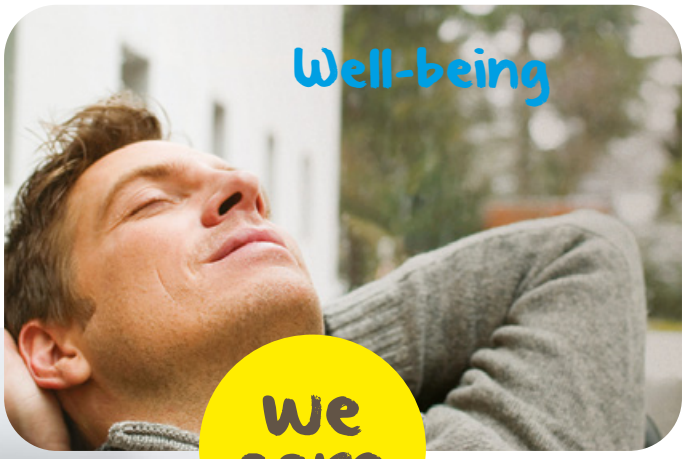
At **weber**, we believe that the **most important** in the building industry is **to care about people** and **their environment**



We care
For the well-being of people.

we care

We care
about what matters to people.

We care
about our long-term responsibility.

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