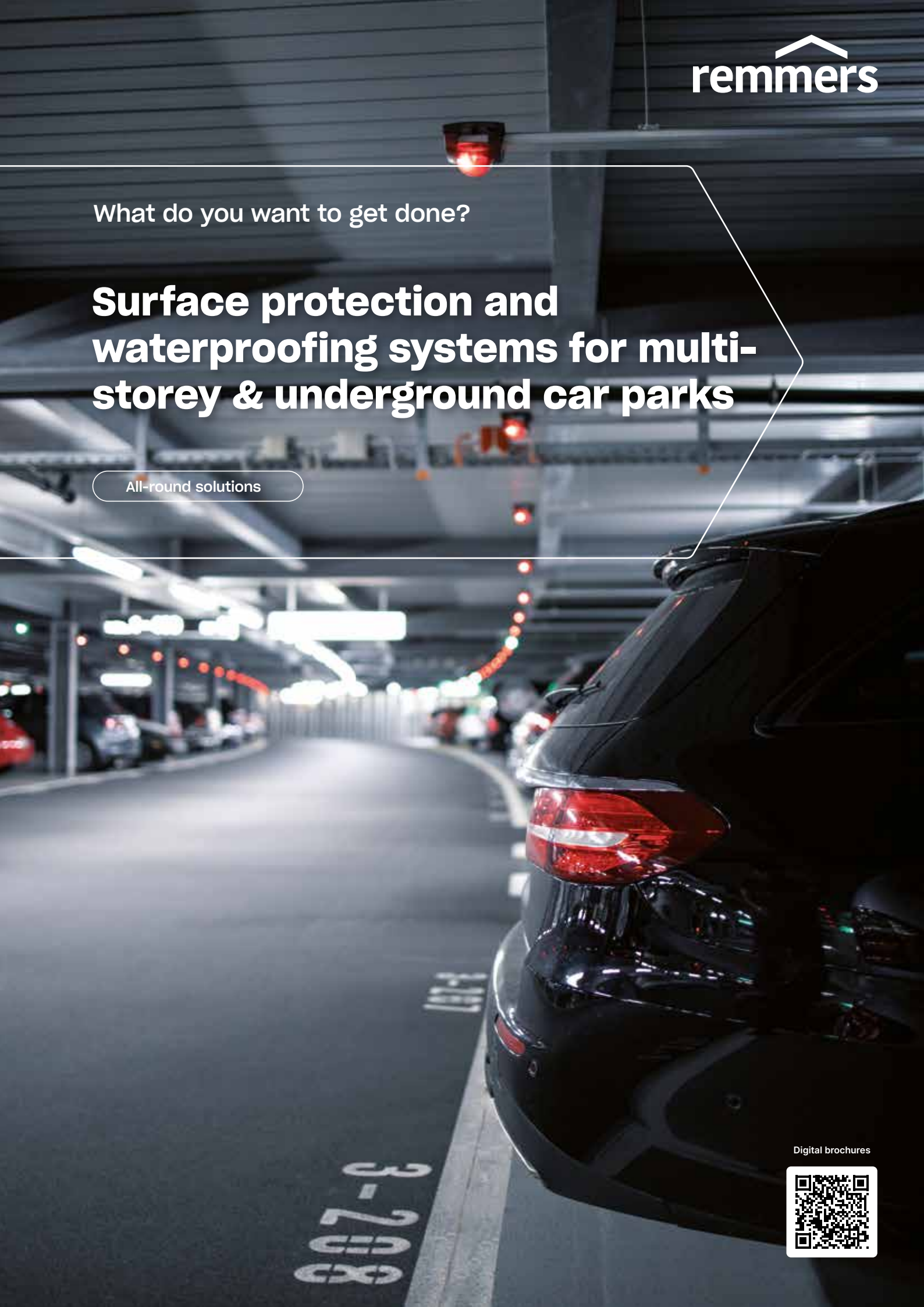
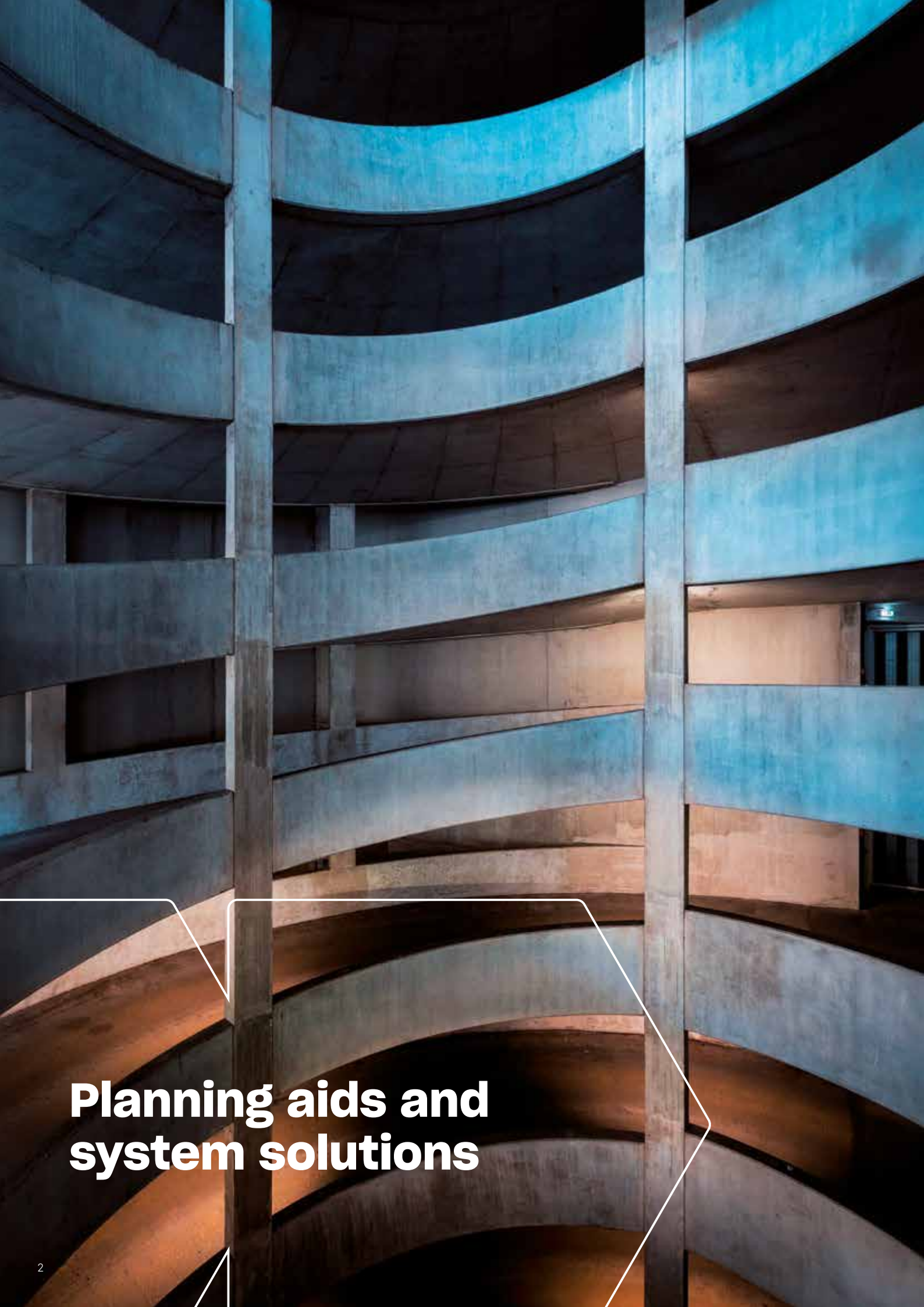


What do you want to get done?

Surface protection and waterproofing systems for multi-storey & underground car parks

All-round solutions

Digital brochures



Planning aids and system solutions

CONTENTS

Floor coatings for multi-storey & underground car parks

Surface protection and maintenance systems, waterproofing systems

Practical system solutions and planning aids for durable protection in car parks

Although parking may seem like a trivial activity, it is a cause of stress, annoyance and even fury in daily life. Whether searching for a parking space in the city or on the daily commute, paying a visit or loading and unloading at home, or discovering that someone else has parked in your spot – time and again, it becomes abundantly clear that although most road infrastructure was designed to enable a high degree of mobility for private cars, parking is often little more than an afterthought.

And the problems don't end once you've found a parking space: there are often unclear route markers, dark and narrow parking bays and excessively narrow lanes and parking spaces to contend with. Many of the car parks currently in use were built in the last millennium and do not meet the requirements and comfort standards of today's users.

In new builds or renovations, creating user-friendly parking requires a detailed solution that is specifically tailored to the property. The planning team – consisting of the developer, operator, planner and workers – must meet the high demands placed on a project of this nature. However, successful examples of planning carried out for user-friendly car parks show that this is both possible and economically feasible.

Planning multi-storey & underground car parks

When planning car parks, all stakeholders need to understand that what they want from the building must always be balanced against the fixed general conditions at the site (such as the location, development conditions, dimensions and so on). Even the best possible solution for careful requirements planning represents a compromise between usability, user-friendliness and cost-effectiveness.

To make it possible to realise these concepts, the project plans often involve reinforced concrete or pre-stressed concrete constructions, since concrete is a versatile and cost-effective material with optimum technical characteristics and design flexibility.

Durability: a planning essential

The impact of environmental conditions

Concrete building structures generally have a planned useful life of 50 years. This implies that, during this period, the load-bearing capacity and fitness for use is guaranteed, without any major decline in operational properties, assuming that appropriate maintenance is carried out.

Since 2005, durability concepts for the planning and construction of concrete structures have been implemented on the basis of DIN EN 206-1 / DIN 1045-2. With the introduction of the rating system known as “exposure classes”, planners now have a tool for new building projects that enables precise and targeted descriptions of the chemical and physical impacts on a building structure or element. The principle of exposure classes for new concrete building structures was included and expanded upon in the Technical Rule for the Maintenance of Concrete Structures from the German Institute for Civil Engineering (Deutsches Institut für Bautechnik, DIBt) (page 9).

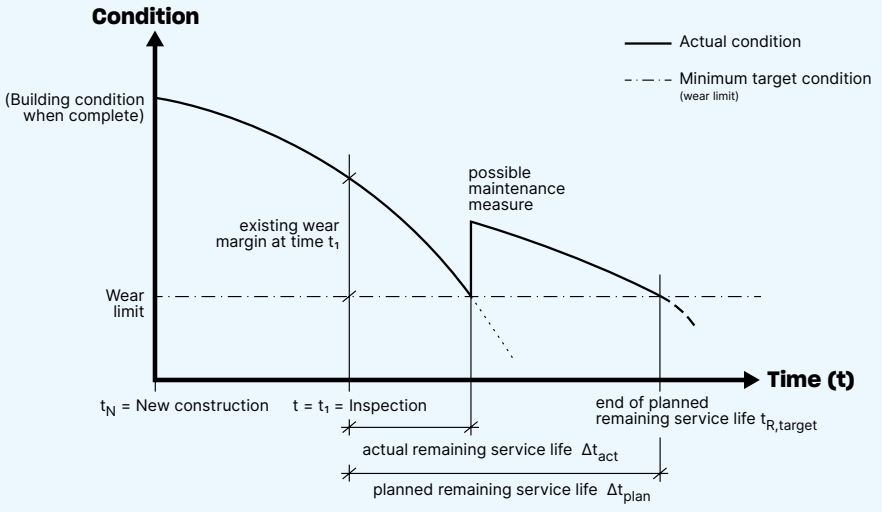
By using exposure classes to describe the building requirements, it is possible to make consistent plans for maintenance and repair when planning new concrete structures. The diagram below shows how important it is to take maintenance and repair into consideration early in the planning stage for new concrete constructions.

In order to guarantee the usability of a building, a certain defined level of wear (minimum target state) must not be exceeded. To this end, part of the planning phase must involve defining the maintenance and inspection intervals that are required for the building.

If it is established that the wear limit could be exceeded within the planned remaining service life if no actions are taken, suitable repair measures must be planned in so that the planned service life can be reliably reached.

Information and planning aids for building evaluation, maintenance, repair principles and methods, including the relevant product and system requirements, can be found in EN 1504 and in the Technical Rule for Maintenance from the DIBt (page 10–13, table ‘Principles and methods for protection or repair’).

Repair cycle during the lifespan of a supporting structure whose condition is affected by maintenance measures.



Exposure classes – Impacts from the environment and the concrete substrate

Designation		Description of the environment
1. Effects arising from the environment		
XALL		Impact on the structure or building component with repercussions on the repair system and its adhesion to the building component to be repaired which are not depicted by the exposure classes below; substances promoting corrosion of the reinforcement from the repair system. NOTE: The exposure class XALL shall always be estimated.
Exposure classes acc. to DIN EN 206-1 / DIN 1045-2	**X0**	For non-reinforced concrete or embedded metal: all environmental conditions, with the exception of freeze-thaw attacks, wear and tear or chemical attack
	XC1 – XC4	Corrosion of the reinforcement, triggered by carbonation
	XD1 – XD3	Corrosion of the reinforcement caused by chlorides, excluding chlorides in seawater
	XS1 – XS3	Corrosion of the reinforcement, caused by chlorides in seawater
	XF1 – XF4	Freeze-thaw attack with or without de-icing agents/seawater
	XA1 – XA3	Concrete corrosion as a result of chemical attack
	XM1 – XM3	Concrete corrosion through abrasion [1]
	WO – WA	Humidity classes
XW1		Permanent exposure to water in the form of fresh water or seawater
XW2		Temporary exposure to water in the form of fresh water or seawater
XWW1-XWW4		Chemical impacts in the area of influence of wastewater
2. Effects arising from the substrate		
XSTAT (static)		Statically active
XBW1 (backfacing water)		Rear penetration of moisture (no perfusion) or increased residual humidity
XBW2 (backfacing water)		Rear penetration of moisture with perfusion (extensive)
XCR (cracks)		Cracks
W (width)		With crack width w [2] in mm
Δw **LFR (low frequency)** **HFR (high frequency)** **CON (continuous)**		With change in crack width Δw in mm: ▪ low-frequency cycles, e.g. temperature, change in water level ▪ high-frequency cycles, e.g. traffic ▪ continuous change in crack width, e.g. shrinkage, settlement
DY (dry)		Where the moisture condition is 'dry': ▪ water ingress not possible ▪ impact of water on the crack/void area cannot be ascertained or excluded for a sufficiently long period of time
DP (damp)		Where the moisture condition is 'damp': ▪ change in colouring in the crack or cavity area caused by water but with no water leak ▪ indications of a water leak in the immediate recent past (e.g. sintering deposits, efflorescence) ▪ crack or void discernibly or slightly damp (assessed on dry drilling cores)
WT (wet)		Where the moisture condition is 'wet (filled unpressurised)': ▪ fine droplets of water visible in the region of the crack ▪ water dripping out of the crack
WF (waterflow)		Where the moisture state is 'flowing water (channelling water under pressure)': ▪ contiguous water flow issues from the crack
XDYN		Dynamic load during application [3]

1) XM1 Moderate wear: Lock chamber floors, lock chamber walls, which are constantly under water, and filling systems without exposure to bed load are generally not subject to concrete corrosion due to hydroabrasion
2) Taken and analysed as per DBV data sheet 'Limiting crack formation in reinforced concrete and prestressed concrete construction'
3) With RM, the adhesive tensile strength after vibration stress can only be proven when applied overhead or on vertical surfaces

Principles and procedures for protection or repair

Principle	Regulated procedures
1. 1. Protection from substance penetration Preventing the penetration of corrosive substances (e.g. water, other liquids, steam, gas, chemicals) and biological life forms	1.1 Hydrophobing 1.2 Sealing* 1.3 Coatings 1.4 Local covering of cracks (bandaging) 1.5 Filling cracks or cavities 1.6 Converting cracks into expansion joints* 1.7 Mounting external panels* 1.8 Applying membranes*
2. 2. Regulating the water balance in the concrete Adjusting and maintaining the concrete moisture within a defined value range	2.1 Hydrophobing 2.2 Sealing* 2.3 Coating 2.4 Mounting external panels* 2.5 Electrochemical treatment* 2.6 Filling cracks or cavities**
3. Reprofiling or cross-sectional addition Restoration of a concrete structure to its intended geometrical form and function. Restoration of the properties of the concrete structure through partial concrete replacement	3.1 Small area manual application 3.2 Concreting or casting 3.3 Spray application 3.4 Replacement of components
4. Reinforcement of the concrete structure Increasing or restoring the load bearing capacity of an element of the concrete structure	4.1 Adding and replacing embedded reinforcing bars 4.2 Installing connecting and reinforcing rods in the concrete in pre-formed grooves or drilled holes* 4.3 Reinforcement by adhesive bonding 4.4 Cross-sectional addition with mortar or concrete 4.5 Filling cracks or cavities 4.6 Filling cracks, cavities or missing areas* 4.7 Pre-tensioning with external stressing tendons*
5. Increasing physical resistance Increasing the resistance to physical or mechanical attack	5.1 Coating 5.2 Sealing* 5.3 Application of mortar or concrete
6. Increasing resistance to chemical attack Increasing the resistance of the concrete surface to destruction by chemical substances	6.1 Coating 6.2 Sealing* 6.3 Application of mortar or concrete
7. Maintenance or restoration of passive protection Establishing the chemical conditions under which the surface retains its passive state or is restored to a passive state.	7.1 Increase or partial replacement of the concrete cover with additional mortar or concrete 7.2 Replacement of concrete containing chloride or carbonated concrete 7.3 Electrochemical re-alkalisation of carbonated concrete* 7.4 Re-alkalisation of carbonated concrete by diffusion 7.5 Electrochemical chloride extraction 7.6 Filling cracks or cavities** 7.7 Coating** 7.8 Local covering of cracks (bandaging)**
8. Increasing electrical resistance Increasing the electrical resistance of the concrete by reducing the moisture content	8.1 Hydrophobing 8.2 Sealing* 8.3 Coating
9. Check of cathodic areas Establishing conditions under which potentially cathodic areas of the reinforcement cannot cause an anodic reaction	9.1 Limiting the oxygen content (at the cathode) through sealing impregnation or surface coating*
10. Cathodic protection	10.1 Applying an electrical potential
11. Check of anodic areas Establishing conditions under which potentially anodic areas of the reinforcement are prevented from taking part in the corrosion reaction	11.1 Coating the reinforcement with active pigmented coatings* 11.2 Coating the reinforcement with coatings based on the barrier principle* 11.3 Applying corrosion inhibitors on or to the concrete*

Note: The numbering of the principles and procedures from DIN EN 1504-9 (2008) was adopted in the Technical Rule for Maintenance from the DIBt (2021).
* Principles for which there is insufficient real-world experience or that have not been tried and tested in practice have not been included in the TR.
** Additional principles introduced in the TR have been appended to the existing numbering.

Application/Systems/Products	Page
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D-I (P); F-I (P), F-V (P); F-I (H), F-V (H)	p. 82/83
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RM, RC, PRM, PRC	p. 60/61
RM, RC, PRM, PRC, VeBMR GL	p. 60/61
SRM, SRC	p. 60/61
RM, RC, SRM, SRC	p. 60/61
RM, RC, SRM, SRC	p. 60/61
F-I (P), F-V (P), F-I (H), F-V (H)	p. 70/71
OS 8, OS 14 (OS 10)	p. 30/31
RM, RC, SRM, SRC	p. 60/61
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RM, RC, SRM, SRC	p. 60/61
RM, RC, SRM, SRC, VeBMR GL	p. 60/61
RM, RC, SRM, SRC, VeBMR GL	p. 60/61
RM, RC, SRM, SRC, VeBMR GL	p. 60/61
D-I (P); F-I (P), F-V (P); F-I (H), F-V (H)	p. 70/71
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OS 1	p. 20
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RM, RC, SRM, SRC	p. 70

Guaranteed safety for surface protection and concrete repair systems

With the discontinuation of additional national product requirements relating to the parts of DIN EN 1504, the Ü sign (conformity mark) has also made the former ‘external surveillance’ principle obsolete.

Remmers GmbH continues to have its concrete replacement systems certified by accredited inspection bodies on a voluntary basis.

QUALITÄTSGEMEINSCHAFT DEUTSCHE BAUCHEMIE e.V.

kiwa

Lower emissions. More sustainability.

Better indoor air quality thanks to certified pollutant reduction

Unlike factors affecting outdoor air quality, such as particulate matter emissions, CFCs or the discussion of workplace air quality, there is little public focus on indoor air quality.

Volatile organic compounds (VOCs) in particular can worsen the indoor quality. Possible indoor sources of VOCs include interior building products and materials, such as flooring, wall and ceiling materials, paints, varnishes, adhesives, furniture and decorative materials. However, care and cleaning products can also release volatile organic compounds.

Even if the “normal” VOC concentrations in the room air are very low and there is no risk of health hazards, problems can arise, for example, immediately after construction and extensive renovation work or in the case of improper application and widespread use of unsuitable products.

Possible effects of increased VOC exposure indoors may include unpleasant odours, or irritation of the eyes and respiratory tract. However, some VOCs are also suspected of having carcinogenic and mutagenic effects, as well as being toxic to reproduction (e.g. polychlorinated biphenyls (PCBs), also known as plasticisers, pentachlorophenol (PCP) found in wood preservatives).

In order to prevent possible negative effects due to VOC emissions from floor coatings, the emission behaviour of the floor coatings in the Remmers systems has been determined since the early 2000s using an emission chamber procedure and evaluated according to the AgBB scheme (Working Group for the Evaluation of Construction Products).
Remmers GmbH was also one of the first manufacturers to consistently obtain national technical approvals and TÜV PROFi-Cert certificates for its coating products for interior use and to have their emission behaviour monitored externally as part of its quality assurance process.

Based on the extensive framework for emissions testing, Remmers GmbH is able to provide national and international emissions and sustainability certificates (such as AgBB, LEED, QNG, DGNB, BNB), giving planners, investors and customers peace of mind that everything has been done to achieve the best possible indoor air quality. In addition to the certificates mentioned above, Remmers GmbH offers further sustainability certificates, e.g. for Finland, Belgium, France and Italy.

DGNB

BREEAM
BREEAM stands for “Building Research Establishment Environmental Assessment Method” and is the oldest and most widely used certification system for sustainable construction (British Sustainability Certificate). A seal of quality is awarded in four gradations according to a simple points system in eight assessment categories. The criteria consider impacts at global, regional, local and indoor scales.

LEED
“Leadership in Energy and Environmental Design” is a green building rating system developed by the U.S. Green Building Council in 1998. It is a sustainability certification used worldwide and defines a set of standards for environmentally friendly, resource-efficient and sustainable construction.

BNB
The BNB (“Bewertungssystem Nachhaltiges Bauen”, Sustainable Building Evaluation System) is a tool for planning and evaluating sustainable and usually public building projects. It also looks at ecological, economical and socio-cultural aspects. In addition, consideration is given to technical qualities as well as process quality, which have an influence on all aspects of sustainability. The system is divided into gold, silver and bronze quality levels.

TÜV PROFiCert-product Interior certificate
“TÜV PROFiCert-product Interior” is a certification procedure developed for interior products. It looks at the crucial processes of product manufacture and factory production control. In addition, regular monitoring is carried out by the approved and accredited testing laboratories. This seal comes in Standard and Premium versions.

QNG
Introduced in 2021, the German Sustainable Building Quality Seal (“Qualitätsiegel Nachhaltiges Gebäude”, QNG) is a prerequisite for receiving funding from the German government’s “Efficient Buildings” (BEG) programme. The assessment criteria for sustainable building (BNB), for example, are used as proof of product characteristics.

DGNB
DGNB stands for “Deutsche Gesellschaft für Nachhaltiges Bauen” (German Sustainable Building Council). Its work focuses on the establishment and expansion of a certification system for sustainable buildings and the award of a seal of approval in the quality levels platinum, gold, silver and bronze.

Surface protection systems for walls and floors

For centuries, preventing moisture from entering a building material has been an established way of protecting buildings. In his 'Architectura Libri Decem', Roman architect Vitruvius described the use of natural oils to make mortar water-repellent and thus more durable.

Nowadays, this function is fulfilled by modern protective substances that use high-grade active ingredients and binders to ensure effectiveness and durability.

Coatings and impregnations act as a protective layer with various functions. As well as preventing harmful substances such as salt and CO_2 from penetrating into the concrete, thereby regulating the moisture balance and increasing the electrical resistance, they can also be used to improve the physical resistance of the surface. With the tested surface protection systems OS 1 – OS 14, it is also possible to achieve rigid or flexible crack bridging. What's more, these systems open up a wide array of design possibilities.

Reliable systems for durable floors

Coating with high crack-bridging ability for surfaces with foot and wheel traffic

High compressive strength combined with good tensile strength make reinforced/prestressed concrete a robust, durable and above all versatile building material. Thanks to these properties, it has been put to use in everything from bridge and tunnel construction to foundation work, as well as industrial and civil engineering. However, the importance of reinforced/prestressed concrete and its possible applications also mean that many national and international associations, institutions and, consequently, regulations and standards are concerned with its protection and maintenance (Eurocode 2, EN 1045, EN 1504, DIN 18532 formerly DIN 18195, RiLi SIB, TR IH, TL/TB BEL B3, ZTV-Ing., ZTV W., DAfStb., DBV, DIBt., CEN, and so on). This has given rise to the problem that terminology and classifications of applications are sometimes ambiguous, misleading or outdated.

But all sets of rules are largely in agreement on one point. To ensure the durability of reinforced/prestressed concrete building elements, moisture and corrosive substances must be kept away from the building structure. One way to make sure this happens is with surface protection systems.

Over the last few years, the original list of surface protection systems of the German Committee for Reinforced Concrete (DAfStb) has been revised numerous times. Systems have been deleted or added, with surface protection systems 7+10 (7.1-7.3) from ZTV-Ing. Part 7 forming a special case here, as ZTV-Ing. technically divides the overall coating into a sealing layer and a protective layer, e.g. poured asphalt or a wearing layer made of reaction resin.
The OS 10 systems have to meet the very highest requirements. For example, their crack-bridging ability

Overview of surface protection systems

System	Description
OS 1 (OS A)	Hydrophobic treatment
OS 2 (OS B)	Coating as preventive weather protection (without levelling coat)
OS 3	Sealing/impregnation of surfaces with wheel traffic (> 0.05 mm)
OS 4 (OS C)	Coating with increased density as preventive weather and corrosion protection (with scratch coat)
OS 5a/b (OS DII/DI)	Coating with limited crack bridging
OS 6	Chemically resistant coating (> 0.5 mm)
OS 7 (7.1/7.2)	Coating under sealing layers
OS 8	Coating for surfaces with wheel traffic
OS 9	Coating with increased crack bridging for surfaces without foot/wheel traffic

System	Description
OS 10 (7.3)	Coating as sealing layer with high crack-bridging ability under protective and finishing coats for surfaces with foot and wheel traffic
OS 11a/b (OS Fa/b)	Coating with increased crack bridging for waterproofing elements with separation cracks (car parks, open decks)
OS 12	Reaction mortar for surfaces with wheel traffic (> 5 mm)
OS 13	Coating without dynamic crack-bridging ability for surfaces with high mechanical loads (underground car parks, enclosed parking garages)
OS 14	Coating system with high dynamic crack bridging, with integrated wearing surface, direct wheel traffic (with/without inlay), consisting of a flexible reaction resin and an additional wearing layer of reaction resin (unfilled/filled), possibly with mineral blinding and topcoat

must withstand dynamic crack width changes at -20 °C, and they must also demonstrate the appropriate level of tightness. Where OS 10 systems really shine is in combination with a sprinkling finish as a wearing and protective layer. In recent years, these systems have become firmly established, particularly in multi-storey car parks with underground parking spaces for premium use and areas subject to dynamic loads. With OS 10 coatings being used more and more, they now qualify as a coating system in line with the RiLi SIB guideline (2001) and as an approved "waterproofing material" in line with VV TB seq. No. C 3.12 (LBO).

The Technical Rule 'Maintenance of Concrete Structures' (TR Maintenance) published by the DIBt (2020) reduces the number and variants of surface protection systems to OS 1, OS 2, OS 4, OS 5, OS 8, OS 11 and OS 14. Similar to OS 10, the OS 14 surface protection system is a "coating system with high dynamic crack bridging and integrated wear layer". Unlike OS 10 (guideline RiLi SIB DAfStb 2001), however, TR Maintenance also requires a minimum wear layer thickness of 4 mm for OS 14, among other things. Regardless of the various OS systems and application examples, the project-specific requirements for the concrete structure generally need to be determined by the designer. The concept that is ultimately most suitable for the respective building as a protective measure to ensure durability must be determined by a competent planner and clearly set out in the specification documents on the basis of verifiable performance characteristics.

A good choice here, for example, are Remmers coating systems OS 10 and OS 14 with high crack-bridging ability for surfaces with foot and wheel traffic. They feature impressive wear resistance, high crack-ridging ability and customisable design options. In addition, they can be used both as a surface coating (design variant B2) or as a waterproofing material (design variant C1).

Design variants for reinforced or prestressed concrete parking surfaces with wheel traffic (classification as per DBV code of practice "Multi-storey underground car parks", 2018 edition)

Concrete replacement system	Variant A		Variant B		Variant C	
Description	without full-surface protection system or without waterproofing (but with special measure for cracks and joints)		with full-surface protection system [d]		with full-surface, crack-bridging waterproofing and protective layer[d]	
Sub-variant			**B1** full-surface, rigid coating: OS 8 with crack treatment[b] (e.g. crack-bridging covering)	**B2** full-surface crack-bridging coating: OS 10 with wearing layer or OS 11	**C1** OS 10 or infiltration-proof[c] strip-type waterproofing, each with sealing and protective layer of poured asphalt	**C2** infiltration-proof [c] two-layer strip-type waterproofing with protective layer
Design principle	**a**	**c**	**c**	**b**	**a, b**	**a, b**
Exposure and moisture class	XD3, XC4, WA (poss. XF2 or XF4)		XD1, XC3, WF (poss. XF1)		XC3, WF (poss. XF1)	
Minimum concrete coverage [c]	Reinforcing steel: 40 mm Prestressing steel: 50 mm		Reinforcing steel: 40 mm Prestressing steel: 50 mm		Reinforcing steel: 20 mm Prestressing steel: 30 mm	
Inspection [a]	every 2 years	annually	annually	annually	every 2 years	every 2 years

a) For all variants, a maintenance plan in accordance with the DAfStb guideline on the protection and repair of concrete structures [R1] is required.
b) Planning and execution of permanent local protection of cracks and joints in accordance with DAfStb guideline on the protection and repair of concrete structures [R1].
c) A prerequisite for the penetration resistance of a waterproofing layer applied directly to the concrete substrate is a full-surface, permanently frictionally coupled bond with the concrete substrate. The concrete substrate must be prepared by shot blasting before applying the waterproofing sheet and treated with epoxy resin (method and materials in accordance with ZTV ING [R60], Part 7, Section 1:2003-01, Section 2:2010-04, Section 3:2003-01).
d) Alternative products or construction methods are possible if their equivalence to the surface protection systems or waterproofing materials is proven.

① PARKING ROOFS AND OPEN DECKS (WATERPROOFING FOR WHEEL LOADS)

Surfaces with elevated requirements concerning impermeability and crack bridging due to temperature stresses and heavy use, e.g. surfaces in commercial or industrial premises: Remmers Deck OS 14 (OS 10).

② RAMPS AND SPINDLES

Surfaces with elevated requirements concerning impermeability, crack bridging and wear resistance:
Remmers Deck OS 10 pro
Remmers Deck OS 8.

③ EXPOSED PARKING AREAS

Surfaces with requirements concerning impermeability and crack bridging due to temperature stresses:
Remmers Deck OS 11a, OS 14 (OS 10).

④ RAMPS AND SPINDLES

Areas with elevated requirements concerning crack bridging and temperature stresses:
Remmers OS 2, OS 4, OS 5a/b.

⑤ WATERPROOFING OF SUPPORTS

Chloride protection (walls, supports, foundations).
Surfaces with elevated impermeability requirements (chloride protection): Remmers Deck OS 8, OS 11, OS 14 (OS 10) Betofix OS 5b+.

⑥ STAIRWELLS AND TECHNICAL FACILITIES

Areas with low requirements:
Remmers OS 8 WD (< 0.5 mm layer thickness)
Remmers OS 2, OS 4.

⑦ INTERMEDIATE DECKS

Areas with requirements concerning wear resistance and possibly crack bridging:
Remmers Deck OS 8, OS 11, OS 14 (OS 10)
Remmers OS 2, OS 4.

⑧ UNDERGROUND CAR PARKS

Areas with elevated requirements concerning wear resistance, ground moisture and possibly crack bridging:
Remmers Deck OS 8, OS 11, OS 14 (OS 10)
Remmers OS 2, OS 4, Betofix OS 5b+.

Durable walls

High performance in a concrete look or coloured finish

System solutions for surface protection

Application	Remmers OS 1 / OS A	Remmers OS 2 / OS B	Remmers OS 4 / OS C	Remmers OS 5a / OS DII	Remmers OS 5b / OS DI
Product system	Funcosil IC	Primer Hydro HF Color PA	Color PA Fill Color PA / Betofix Fill Color PA	Color PA Fill Color Flex / Betofix Fill Color Flex	Betofix OS 5b+
Plinth up to 0.50 m	✓			✓	✓
Wall/support h > 0.50 m	✓	✓	✓	✓	✓
Ceiling/joists	✓	✓	✓		
Façade	✓	✓	✓	✓	✓
System/product properties					
Classification/basic testing	OS 1 / OS A	–	–	–	–
Penetration depth DIN EN 1504-2	Class II: ≥ 10 mm	–	–	–	–
Water absorption/alkali resistance DIN EN 13580	✓	–	–	–	–
Drying speed DIN EN 13579	Class I: > 30%	–	–	–	–
Water impermeability	water repelling	–	–	–	–
Freeze-thaw stress DIN EN 13581	✓	–	–	–	–
Freeze-thaw stress DIN EN 13687-1	–	✓ / Gt 1	✓ / Gt 1	✓ / Gt 0	✓
Water vapour permeability Sd value; EN ISO 7783-1-2	–	Class I: sd < 5	Class I: sd < 5	Class I: sd < 5	Class I: sd < 5
Carbon dioxide permeability DIN EN 1062-6	–	> 50	> 50	> 50	> 50
Capillary water uptake DIN EN 1062-3	–	< 0.1	< 0.1	< 0.1	< 0.1
Pull-off strength DIN EN 1542	–	✓ / Gt 0	✓ / Gt 0	✓ / Gt 0	✓ / Gt 0
Product-specific minimum layer thickness (hwO)	–	180 µm	180 µm / 230 µm	500 µm	2000 µm
Artificial weathering DIN 1062-11	–	✓	✓	✓	✓
Crack bridging DIN 1062-7	–	–	–	B 2 (-20 °C)	B 2 (-20 °C)
Reaction to fire (hwO) DIN EN 13501-1	–	B s1 d0 *	B s1 d0 *	B s1 d0 *	E
Certificates					
Conformity (KIWA)	✓	✓	✓	✓	✓
Declaration of performance	✓	✓	✓	✓	✓
Application directions	✓	✓	✓	✓	✓
TNO report (emissions certificate)	✓	–	–	–	–

* "Bodycote" guide test.

Remmers OS 1 (OS A)

Hydrophobic treatment

Deep hydrophobic treatment of concrete and reinforced concrete in bridge and road construction and civil engineering.

Application

- Water-repellent moisture protection for concrete and reinforced concrete elements
- Procedures 1.1, 2.1, 8.1

Properties

- Classification/basic testing: OS 1/OS A
- Highly water repellent
- Improves resistance to freeze/thaw stresses
- High penetration depth: Class II: > 10 mm
- Solvent-free
- Creamy consistency

Test certificates

- Certificate of conformity (KIWA/QDB)
- Declaration of performance
- Application directions
- TNO report

Structure	Product/details		Application rate
1 Hydrophobic treatment	Funcosil IC	P. 86	min. 0.2 l/m² per coat (2 coats)

Remmers OS 2 (OS B)

Coating

Coating for façades and concrete surfaces without foot or wheel traffic (no scratch/levelling coat).

Application

- Coloured surface protection
- Façades
- Wall/support h > 0.5 m
- Ceiling/joist
- Procedures 1.3, 2.2, 2.3, 7.7, 8.2, 8.3

Properties

- Classification/basic testing: OS 2/OS B
- Reduces water absorption and the ingress of substances that attack concrete and steel, w < 0.1 kg/(m²h$^{0.5}$)
- Regulates the moisture level
- Improves the freeze-thaw resistance
- Increases electrical resistance
- Reduces carbon dioxide diffusion sd_{CO2} > 50 m²
- Water vapour diffusible, class: I, sd < 5 m
- Extremely colour-stable and weather resistant

Test certificates

- Certificate of conformity (KIWA/QDB)
- Declaration of performance
- Application directions
- Bodycote fire behaviour B-s1,d0

Structure	Product/details		Application rate
1 Primer	Primer Hydro HF	P. 86	min. 0.16 l/m²
2 Coating	Color PA	P. 88	min. 0.26 l/m² (pigmented) per coat (2 coats) (for roughness depths up to 0.2 mm)

Roughness depth surplus min. Rt 0.3 must be considered.

Remmers OS 4 (OS C)

Coating

Coating for surfaces without foot or wheel traffic with scratch/levelling coat.

Application

- Façades
- Wall/support h > 0.5 m
- Ceiling/joist
- Procedures 1.3, 2.2, 2.3, 6.1, 7.7, 8.2, 8.3

Properties

- Classification/basic testing: OS 4/OS C
- Reduces water absorption and the ingress of substances that attack concrete and steel, w < 0.1 kg/(m²h$^{0.5}$)
- Reduces carbon dioxide diffusion sd_{CO2} > 50 m
- Water vapour diffusible, class: I; sd < 5 m
- Improves the freeze-thaw resistance
- Excellent adhesion even on old coatings without after-treatment (Color PA Fill)

Test certificates

- Certificate of conformity (KIWA/QDB)
- Declaration of performance
- Application directions
- Bodycote fire behaviour B-s1,d0

Synthetic resin filled system

Structure	Product/details		Application rate
1 Scratch coat	Color PA Fill	P. 87	approx. 0.7 kg/m² per coat (in 2 coats)
2 Coating (pigmented)	Color PA	P. 88	min. 0.26 kg/m² per coat (for roughness depths up to 0.2 mm)

Mineral filled system

Structure	Product/details		Application rate
1 Scratch coat	Betofix Fill	P. 90	~ 1.75 kg/m²/mm
2 Coating (pigmented)	Color PA	P. 88	min. 0.26 kg/m² per coat (for roughness depths up to 0.2 mm)

Roughness depth surplus min. Rt 0.3 must be considered.

Remmers OS 5a (OS DII)

Coating with low crack-bridging ability

Coating with low crack-bridging ability for surfaces without foot or wheel traffic (with levelling layer).

Application
- Façades
- Wall/support h > 0.5 m
- Procedures 1.3, 2.2, 2.3, 6.1, 7.7, 8.2, 8.3

Properties
- Classification/basic testing: OS 5a/OS DII
- Crack-bridging, B2 (-20°C)
- Reduces water absorption and the ingress of substances that attack concrete and steel, w < 0.1 kg/(m²h$^{0.5}$)
- Reduces carbon dioxide diffusion sd_{CO2} > 50 m
- Limited water vapour diffusibility, class: I; sd < 5 m
- Improves the freeze-thaw resistance
- UV-crosslinking (Color Flex)

Test certificates
- Certificate of conformity (KIWA/QDB)
- Declaration of performance
- Application directions
- Bodycote fire behaviour B-s1,d0

Synthetic resin filled system

Structure	Product/details		Application rate
1 Scratch coat	Color PA Fill	P. 87	min. 0.70 kg/m² per coat (in 2 coats)
2 Coating (pigmented)	Color Flex	P. 89	min. 0.34 kg/m² per coat

Mineral filled system

Structure	Product/details		Application rate
1 Scratch coat	Betofix Fill	P. 90	min. 3.55 kg/m²
2 Coating (pigmented)	Color Flex	P. 89	min. 0.34 kg/m² per coat

Roughness depth surplus min. Rt 0.3 must be considered.

Remmers OS 5b (OS DI)

Coating with low crack-bridging ability

Coating with low crack-bridging ability for surfaces without foot or wheel traffic (with scratch coat).

Application

- Façades
- Plinth up to 0.5 m
- Wall/support h > 0.5 m
- Procedures 1.3, 2.2, 2.3, 7.7, 8.2, 8.3

Properties

- Classification/basic testing: OS 5b/OS DI
- Crack-bridging, B2 (-20°C)
- Crack-bridging up to 3.3 mm
- Reduces water absorption and the ingress of substances that attack concrete and steel, w < 0.1 kg/(m²h$^{0.5}$)
- Reduces carbon dioxide diffusion sd_{CO2} > 50 m
- Limited water vapour diffusibility, class: I; sd < 5 m
- Improves the freeze-thaw resistance
- Colour coating compatible

Test certificates

- Certificate of conformity (KIWA/QDB)
- Declaration of performance
- Application directions
- Fire behaviour class B-s1, d0 (DIN EN 13501-1)
- Surface protection system (OS 5b / OS D I)
- Certified as mineral waterproofing slurry as per DIN 18533
- Certified as waterproofing for construction joints (PG-FBB)
- Certified over 3.3 mm crack bridging as per DIN EN 14891

Structure	Product/details		Application rate
1 Scratch coat	Betofix OS 5b+	P. 91	depending on substrate condition
2 Coating	Betofix OS 5b+	P. 91	~ 1.7 kg/m²/mm
3 Coating	Betofix OS 5b+	P. 91	~ 1.7 kg/m²/mm
4 Colour finish (optional)	Color PA	P. 91	~ 0.2 l/m² per coat

Roughness depth surplus min. Rt 0.3 must be considered.

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C
1533

Surface protection systems for floors

System/product properties	Deck OS 8 (classic)	Deck OS 8 WD (LE)	Deck OS 10 pro	Deck OS 10 PUA Pro
Application*				
Underground car park (WI floor slabs)	✔	✔	✔ (possible)	✔
Intermediate deck	✔		✔	✔
Ramp/spindle	✔		✔	✔ (possible)
Parking and open-air decks			✔ (possible)	
System/product properties				
Classification/basic testing**	OS 8	OS 8	OS 10	OS 10
Crack bridging (DIN EN 1062-7)	A2 (23°C)***		B4.2 (-20°C)	Class IV T+V
Resistance to chemicals (DIN 13529)	✔	✔	✔	✔
Freeze-thaw stress (DIN EN 13687)	✔	✔	✔	✔
Water impermeability (DIN EN 1062-3)	✔	✔	✔	✔
Impervious to pressing water also from the rear 12 m WC [DIN 12390-8]				
Layer thickness	> 2.5 mm	> 2.5 mm	> 4.5 mm	> 4.5 mm
Abrasion and wear resistance	AR0.5 / PAT 15,000 cycles	AR0.5	AR0.5 / PAT 15,000 cycles	AR0.5
Water vapour permeability (Sd value; DIN EN ISO 7783)	Class III, > 50 m	Class II, > 5 m	Class III, > 50 m	Class III, > 50 m
Slip resistance (DIN 51130)	≥ R11 V4	> R 11 V4	R 12 V6	R 10 /R 11/R 12
Skid resistance (SRT value)	> 50	> 50	> 50	> 50
Reaction to fire (EN 13501-1)	B_{fl}-s1	B_{fl}-s1	B_{fl}-s1	B_{fl}-s1
Early water resistance (12 °C / 65% RH)	24 hrs	24 hrs	24 hrs	24 hrs
Certificates				
Certificate of conformity (KIWA/QDB)	✔	✔	✔	✔
Declaration of performance	✔	✔	✔	✔
Application directions (VOC / DGNB and LEED classifications)	✔	✔	✔	✔
Emissions behaviour (VOC / LEED classification)	✔	✔	✔	✔

* Typical applications based on DBV book series 42 (2019). Depending on the design variant, the planner may need to consider system adaptations, framework conditions and instructions.
** Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
*** Special construction (see p.28)

Deck OS 10 M	Deck OS 11a II	Deck OS 11b II	Deck OS 14 pro	Deck OS 14	Deck M Flex
✔ (possible)	✔ (possible)		✔ (possible)	✔ (possible)	✔ (possible)
✔		✔	✔	✔	✔
			✔		
✔	✔		✔ (possible)	✔	✔
OS 10	OS 11	OS 11	OS 14	OS 14	OS 10/11/14
B4.2 / A4 (-20°C)	B4.2 / A4 (-20°C)	A3 (-10°C), B3.2 (-20°C)	B4.2 (-20°C)	B4.2 / A4 (-20°C)	B4.2 / A4 (-20°C)
✔	✔	✔	✔	✔	✔
✔	✔	✔	✔	✔	✔
✔	✔	✔	✔	✔	✔
✔	✔			✔	✔
> 4.5 mm	> 4.5 mm	> 4 mm	> 4.5 mm	> 6 mm	4.5 – 6 mm
AR0.5 / PAT 15,000 cycles	AR0.5 / PAT 15,000 cycles	AR0.5	AR0.5	AR0.5 / PAT 15,000 cycles	AR0.5
Class III, > 50 m	Class III, > 50 m	Class III, > 50 m	Class III, > 50 m	Class III, > 50 m	Class III, > 50 m
≥ R11 V 4	≥ R11 V 4	≥ R11 V 4	R12 V 6	≥ R11 V 4	≥ R11 V 4
> 50	> 50	> 50	> 50	> 50	> 50
C_{fl}-s1	C_{fl}-s1	B_{fl}-s1	B_{fl}-s1	C_{fl}-s1	C_{fl}-s1
24 hrs	24 hrs	24 hrs	24 hrs	24 hrs	24 hrs
✔	✔	✔	✔	✔	✔
✔	✔	✔	✔	✔	✔
✔	✔	✔	✔	✔	✔
✔	✔	✔	✔	✔	✔

Remmers Deck OS 8 (classic)

Rigid coating

Rigid coating for surfaces subjected to wheel loads and heavy mechanical stresses, for increasing the physical and chemical resistance.

Application

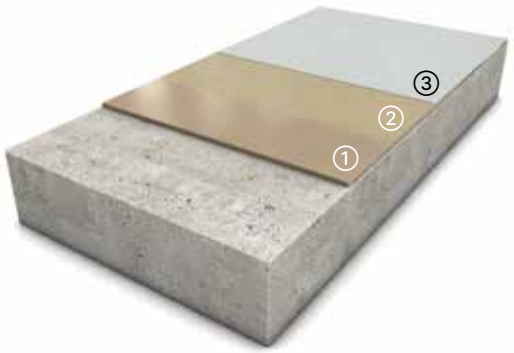
- Underground car park/floor slab
- Intermediate deck
- Ramp/spindle
- Procedures 1.3, 2.2, 2.3, 5.1, 6.1, 7.7, 8.2, 8.3

Properties

- Classification/basic testing*: OS 8
- Static crack bridging A2 (23°C)
  (special construction deviates from basic test)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight
- Slip-resistant
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA AR<0.5)
- Wear-resistant (PAT 15,000 cycles)
- Tested effectiveness against backfacing water

Test certificates

- Declaration of conformity (KIWA)
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)



Structure	Product/details		Application rate
1 Scratch coat	Epoxy Primer PF + Selectmix 01/03 (0.1 – 0.3 mm)	P. 96 P. 126	min. 0.9 kg/m² (plus 50%)
Alternative: Priming filler (transparent)	Epoxy ST 100 + Selectmix 01/03 (0.1 – 0.3 mm)	P. 95 P. 126	0.9 kg/m² (plus 100%)
2 Blinding	Quarz 03/08 DF (0.3 – 0.8 mm) excess	P. 127	min. 5 – 6 kg/m²
3 Seal coat	Epoxy Color Top	P. 98	min. 0.5 – 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm).
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 8 WD (LE)

Water vapour diffusible coating

Water vapour diffusible coating for surfaces subjected to heavy mechanical stresses, for increasing the physical and chemical resistance.

Application

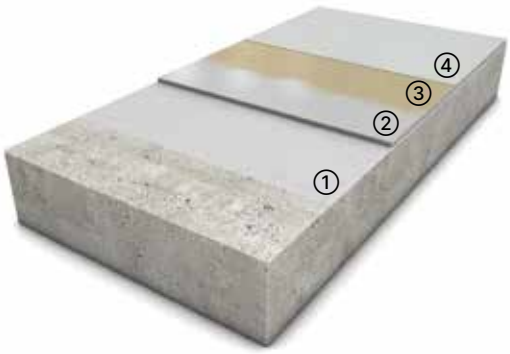
- Underground car park/floor slab
- Procedures 1.3, 2.2, 2.3, 5.1, 6.1, 7.7, 8.2, 8.3

Properties

- Classification/basic testing*: OS 8
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight
- Slip-resistant
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA AR<0.5)
- Tested effectiveness against backfacing water
- Water vapour diffusibility class II > 5 m

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)



Structure	Product/details		Application rate
1 Primer	Epoxy BS 4000	P. 92	min. 0.2 kg/m²
2 Wearing layer	Epoxy BS 4000 + Selectmix 01/03 (0.1 – 0.3 mm) + water	P. 92 P. 126	min. 1.0 kg/m² + 1.0 kg/m² + 0.1 l/m²
3 Blinding	Quarz 03/08 DF (0.3 – 0.8 mm) excess	P. 127	min. 5 – 6 kg/m²
4 Seal coat	Epoxy BS 3000 SG/M	P. 93/94	min. 0.6 – 0.8 kg/m² (2 coats)

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm).
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 10 PRO

Coating with high crack-bridging ability

Coating with high crack-bridging ability for **areas subjected to extreme mechanical stresses.**

Application

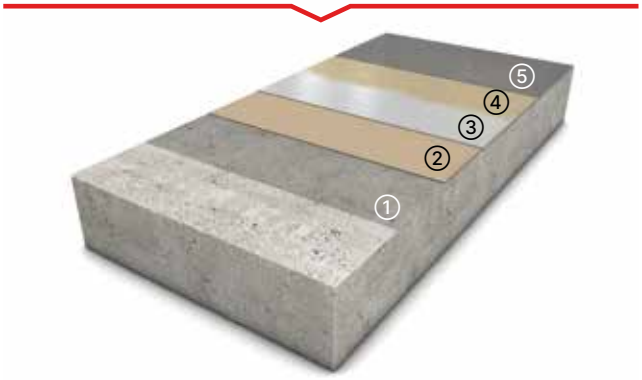
- Underground car park (special constructions)
- Intermediate deck
- Ramps/spindles
- Entry and exit points

Properties

- Classification/basic testing*: OS 10
- Elongation at break > 300% (sealing layer)
- Shore hardness A > 80 (sealing layer)
- Quick to achieve final durability
- Crack-bridging ability IV_{T+V} (-20°C)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight
- Slip-resistant (R12 / SRT 60)
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA < AR0.5)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)
- National Test Certificate***



Structure	Product/details		Application rate
1 Primer	Epoxy Primer OS	P. 100	min. 0.3 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.5 kg/m²
2 Intermediate coat (manual)	PUR Color ZS OS pro	P. 101	min. 2.8 – 3.0 kg/m²
2 Alternative intermediate coat (sprayable)	PUA Hybrid OS pro	P. 100	min. 2.0 – 2.1 kg/m² (2 mm)**
3 Wearing layer	PUR Color VS OS pro	P. 101	min. 0.7 – 1.5 kg/m²
4 Scattered flakes	Quarz 07/12 DF (0.7 – 1.2 mm) excess	P. 127	min. 5 – 6 kg/m²
5 Seal coat	Epoxy Top OS or Epoxy Color Top or PUR Color Top OS	P. 102 P. 98 P. 99	min. 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rules. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
*** Certificate for Remmers Deck OS 10 EP pro

While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm) at a minimum.
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 10 PUA PRO

Coating with high crack-bridging ability

Coating with high crack-bridging ability for
areas subjected to extreme mechanical stresses.

Application

- Underground car park (special constructions)
- Intermediate deck
- Ramps and spindles
- Entry and exit points

Properties

- Classification/basic testing*: OS 10
- Elongation at break > 300% (sealing layer)
- Shore hardness A > 80 (sealing layer)
- Quick to achieve final durability
- Crack-bridging ability IV_{T+V} (-20°C)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight
- Slip resistant (R 10 / R 11 / R 12***)
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA < AR0.5)
- Wear-resistant (PAT 15,000 cycles)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)
- National Test Certificate***

Structure	Product/details		Application rate
1 Primer	Epoxy Primer OS	P. 100	min. 0.3 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.5 kg/m²
2 Intermediate coat (manual)	PUR Color ZS OS pro	P. 101	min. 2.8 – 3.1 kg/m² (2 mm)
2 Alternative intermediate coat (sprayable)	PUA Hybrid OS pro	P. 100	min. 2.0 – 2.1 kg/m² (2 mm)
3 Wearing layer	PUR Color WL OS pro	P. 102	min. 2.0 – 2.5 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rules. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
***Application rate PB 2.0 kg/m², slip resistance approx. R 11; application rate ABP 2.5 kg/m² slip resistance approx. R10; with added granite chips (0.4-0.8 mm) R 12

While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm) at a minimum.
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 10 M (EP/PUR)

Coating with crack-bridging ability (manual application)

Waterproofing layer with high crack-bridging ability under protective and finishing coats for surfaces with foot and wheel traffic.

Application

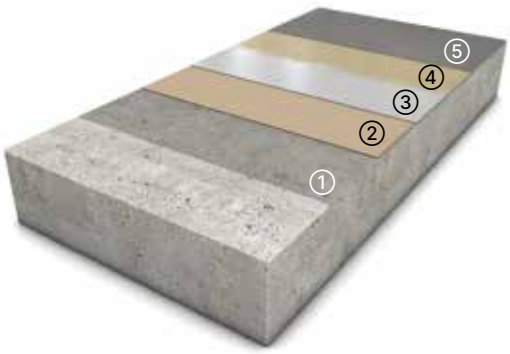
- Underground car park (special constructions)
- Intermediate deck
- Open-air deck
- Procedures 1.3, 2.2, 2.3, 5.1, 6.1, 8.2, 8.3

Properties

- Classification/basic testing*: OS 10
- Dynamic crack-bridging ability B4.2 (-20 °C)
- Static crack-bridging class A4 > 1.25 mm (-20 °C)
- Resistant to chemical and mechanical stresses
- Elongation at break 600%
- Resistant to freeze/thaw stresses
- Liquid-tight (even for rear pressing water 12 m WC)
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- UV and weather resistant with PUR seal coat
- Abrasion-resistant (BCA < AR0.5)
- Wear-resistant (PAT 15,000 cycles)

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)
- National Test Certificate



Structure	Product/details		Application rate
1 Primer	Epoxy Primer PF + Quarz 03/08 DF (0.3 – 0.8 mm)	P. 96 P. 127	min. 0.4 kg/m² ~ 0.8 kg/m²
2 Intermediate coat	PUR Color ZS	P. 97	min. 2.3 kg/m² ** (2 mm)
3 Wearing layer	PUR Color VS + Selectmix 01/03 (0.1 – 0.3 mm)	P. 97 P. 126	min. 1.8 kg/m² (plus 20%)
4 Scattered flakes	Quarz 03/08 DF (0.3 – 0.8 mm) excess	P. 127	min. 5 – 6 kg/m²
5 Seal coat	Epoxy Color Top or PUR Color Top OS	P. 98 P. 99	min. 0.5 – 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm). The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 11a II (EP/PUR)

Crack-bridging coating for exposed outdoor surfaces

Coating with elevated dynamic crack-bridging ability for surfaces with foot and wheel traffic, and surfaces exposed to weathering (two-coat system).

Application

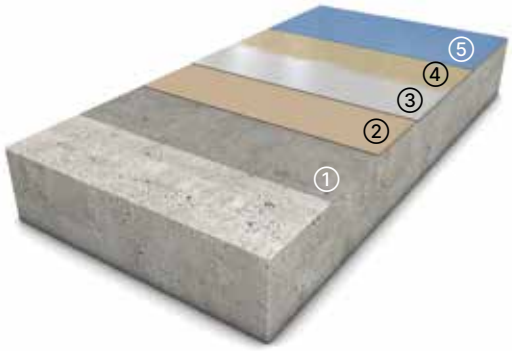
- Underground car park (special constructions)
- Intermediate deck
- Open-air deck
- Procedures 1.3, 1.4, 2.2, 2.3, 6.1, 7.7, 7.8, 8.2, 8.3

Properties

- Classification/basic testing*: OS 11a
- Dynamic crack-bridging ability B4.2 (-20 °C)
- Static crack-bridging class A4 > 1.25 mm (-20 °C)
- Resistant to chemical and mechanical stresses
- Elongation at break 600%
- Resistant to freeze/thaw stresses
- Liquid-tight (even for rear pressing water 12 m WC)
- Slip-resistant
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA < AR0.5)
- Wear-resistant (PAT 15,000 cycles)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)



Structure	Product/details		Application rate
1 Primer	Epoxy Primer PF	P. 96	min. 0.4 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.8 kg/m²
2 Intermediate coat	PUR Color ZS	P. 97	min. 1.7 kg/m²** (1.5 mm)
3 Wearing layer	PUR Color VS + Selectmix 01/03 (0.1 – 0.3 mm)	P. 97 P. 126	min. 2.0 – 2.5 kg/m²
4 Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm) excess	P. 127	min. 5 – 6 kg/m²
5 Seal coat	Epoxy Color Top or PUR Color Top OS	P. 98 P. 99	min. 0.5 – 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm).
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 11b II

Crack-bridging coating for covered surfaces

Coating with elevated dynamic crack-bridging ability for covered or non-exposed surfaces with foot and wheel traffic.

Application

- Underground car park (special constructions)
- Intermediate deck
- Procedures 1.3, 1.4, 2.2, 2.3, 6.1, 7.7, 7.8, 8.2, 8.3

Properties

- Classification/basic testing*: OS 11b
- Dynamic crack-bridging ability B3.2 (-20 °C)
- Static crack-bridging class A3 > 0.5 mm (-10 °C)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight (even for rear pressing water 12 m WC)
- Slip-resistant
- Abrasion-resistant (BCA < AR0.5)
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)

Structure	Product/details		Application rate
1 Primer	Epoxy Primer PF	P. 96	min. 0.4 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.8 kg/m²
2 Wearing layer	PUR Color ZS + Selectmix 01/03 (0.1 – 0.3 mm)	P. 97 P. 127	min. 2.1 - 2.2 kg/m² (plus 30%)
3 Blinding	Quarz 03/08 DF (0.3-0.8 mm)	P. 126	min. 5 – 6 kg/m²
4 Seal coat	Epoxy Color Top or PUR Color Top OS ** or Epoxy Top OS **	P. 98 P. 99 P. 102	min. 0.5 – 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm).
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 14 PRO

Coating with high crack-bridging ability

Coating with high crack-bridging ability for
areas subjected to extreme mechanical stresses.

Application

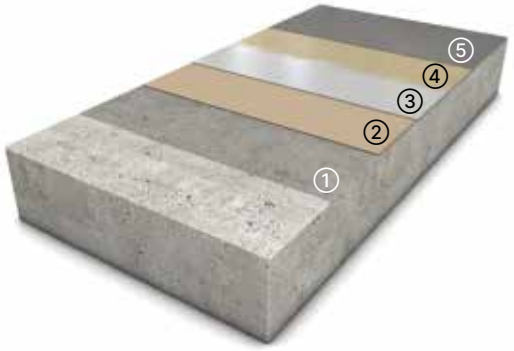
- Underground car park (special constructions)
- Intermediate deck
- Open-air deck
- Ramps and spindles
- Entry and exit points

Properties

- Classification/basic testing*
- Elongation at break > 300% (sealing layer)
- Shore hardness A > 80 (sealing layer)
- Quick to achieve final durability
- Crack-bridging ability IV_{T+V} (-20°C)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight
- Slip resistant (R 12 / SRT 60)
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA < AR0.5)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)



Structure	Product/details		Application rate
1 Primer	Epoxy Primer OS	P. 100	min. 0.4 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.5 kg/m²
2 Intermediate coat (manual)	PUR Color ZS OS pro	P. 101	min. 2.8 – 3.0 kg/m² (2 mm)**
2 Alternative intermediate coat (sprayable)	PUA Hybrid OS pro	P. 100	min. 2.0 – 2.1 kg/m² (2 mm)**
3 Wearing layer	PUR Color VS OS pro	P. 101	min. 1.5 kg/m²
4 Scattered flakes	Quarz 07/12 DF (0.7 – 1.2 mm) excess	P. 127	min. 5 – 6 kg/m²
5 Seal coat	Epoxy Top OS or Epoxy Color Top or PUR Color Top OS	P. 102 P. 98 P. 99	min. 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rules. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values

While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm) at a minimum.
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Remmers Deck OS 14 (EP/PUR)

Coating with high dynamic crack-bridging ability

Coating with high dynamic crack-bridging ability including wearing layer for surfaces with foot and wheel traffic, and surfaces exposed to weathering (two-coat system).

Application

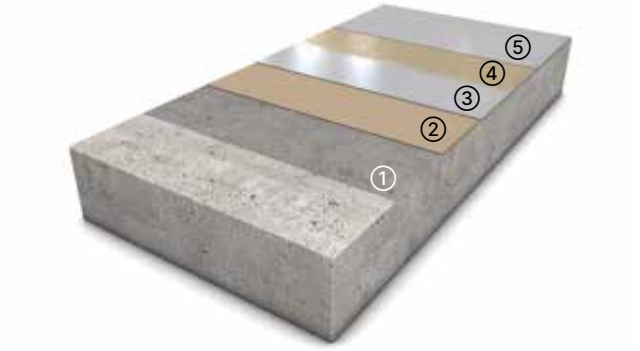
- Underground car park (special constructions)
- Intermediate deck
- Open-air deck
- Procedures 1.3, 2.2, 2.3, 5.1, 6.1, 8.2, 8.3

Properties

- Classification/basic testing*: OS 14***
- Dynamic crack-bridging ability B4.2 (-20 °C)
- Static crack-bridging class A4 > 1.25 mm (-20 °C)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight (even for rear pressing water 12 m WC)
- Elongation at break 600%
- Slip-resistant
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA < AR0.5)
- Wear-resistant (PAT 15,000 cycles)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)



Structure	Product/details		Application rate
1 Primer	Epoxy Primer PF	P. 96	min. 0.4 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.8 kg/m²
2 Intermediate coat	PUR Color ZS	P. 97	min. 2.3 – 2.4 kg/m² (2mm)**
3 Wearing layer	PUR Color VS + Selectmix 01/03 (0.1 – 0.3 mm)	P. 97 P. 126	min. 2.5 – 2.6 kg/m² (plus 20%) ** (4 mm)
4 Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm) excess	P. 127	min. 5 – 6 kg/m²
5 Seal coat	Epoxy Color Top or PUR Color Top OS	P. 98 P. 99	min. 0.5 – 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
*** Designations as per preliminary Maintenance Guideline (2018) and Technical Rule for Concrete Repair (2020)
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm).
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

A system for virtually limitless applications

The Remmers Deck OS 11a system has been optimised so that the products it uses also meet the elevated requirements concerning crack bridging and wear resistance of the OS10/OS14 product groups at the same application rates.

Advantages:

- Maximum product performance at minimum application rates
- Maximum flexibility thanks to low number of versatile system products
- Maximum application flexibility from floor slabs to parking decks
- 3in1 test report: one test report for 3 systems

Remmers Deck M Flex (EP/PUR)

Coating with high dynamic crack-bridging ability

Universal coating with high crack-bridging ability for all surfaces with foot and wheel traffic.

Application

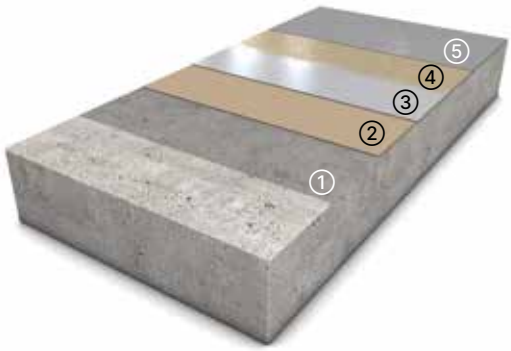
- Underground car park (special constructions)
- Intermediate deck
- Open-air deck
- Parking deck
- Procedures 1.3, 2.2, 2.3, 5.1, 6.1, 8.2, 8.3

Properties

- Classification/basic testing*: OS 10 / OS 11a / OS 14***
- Dynamic crack-bridging ability B4.2 (-20 °C)
- Static crack-bridging class A4 > 1.25 mm (-20 °C)
- Resistant to chemical and mechanical stresses
- Resistant to freeze/thaw stresses
- Liquid-tight (even for rear pressing water 12 m WC)
- Slip-resistant
- Elongation at break 600%
- Fire resistant
- Early water resistance after 24 hrs (12°C / 65% RH)
- Abrasion-resistant (BCA < AR0.5)
- Wear-resistant (PAT 15,000 cycles)
- UV and weather resistant with PUR seal coat

Test certificates

- Certificate of conformity
- Declaration of performance
- Application directions
- Sustainability (DGNB product classification)
- Emissions behaviour (VOC/LEED classification)



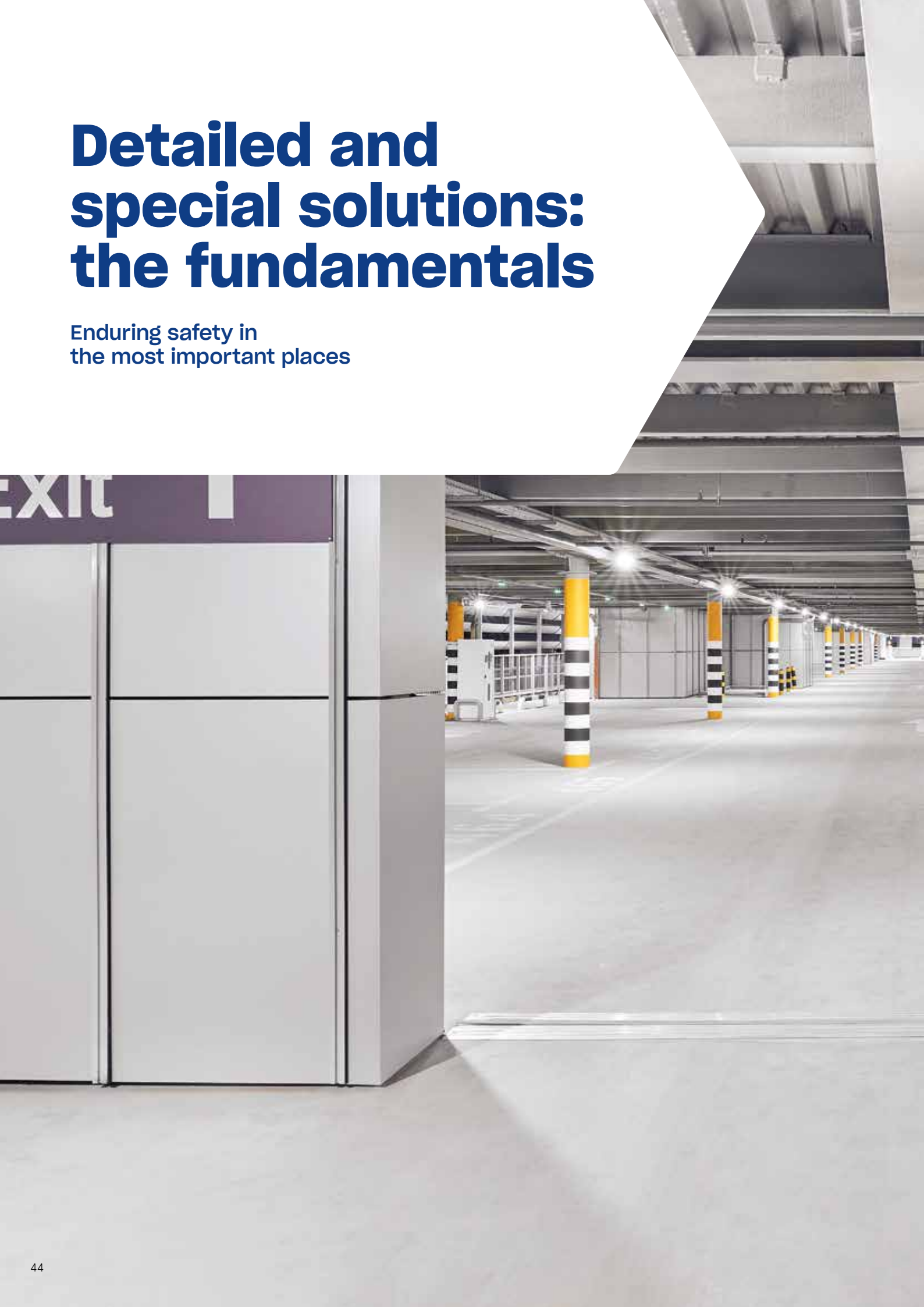
Structure	Product/details		Application rate
1 Primer	Epoxy Primer PF	P. 96	min. 0.4 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	~ 0.8 kg/m²
2 Intermediate coat	PUR Color ZS	P. 97	min. 1.7 – 1.8 kg/m² (1.5 mm)** min. 2.3 – 2.4 kg/m² (2 mm)**
3 Wearing layer	PUR Color VS + Selectmix 01/03 (0.1 – 0.3 mm)	P. 97 P. 126	min. 1.9 – 2.0 kg/m² min. 2.5 –2.6 kg/m² (plus 20%)** (3 mm / 4 mm)
4 Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	min. 5 – 6 kg/m²
5 Seal coat	Epoxy Color Top or PUR Color Top OS	P. 98 P. 99	min. 0.5 – 0.7 kg/m²

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

* Classification as per DAfStb guideline 'Protection and maintenance of concrete structures' and the DIBt Technical Rule. Test reports as per DIN EN 1504-2 and DIN V 18026.
** Extrapolated values
*** Designations as per preliminary Maintenance Guideline (2018) and Technical Rule for Concrete Repair (2020)
While preparing the substrate, the roughness depth must not be increased more than necessary. However, it must comply with at least roughness depth class RT0.3 (mean roughness depth 0.3 – 0.5 mm).
The exact application rates must be determined on site. The table value for roughness depth compensation serves merely as a non-binding calculation aid.

Detailed and special solutions: the fundamentals

Enduring safety in the most important places

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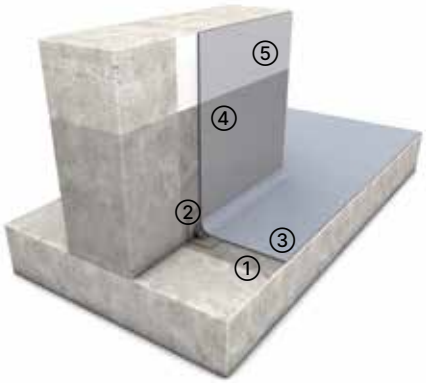
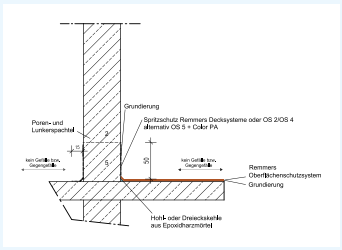
Floor/wall transitions

Transitions in composite constructions

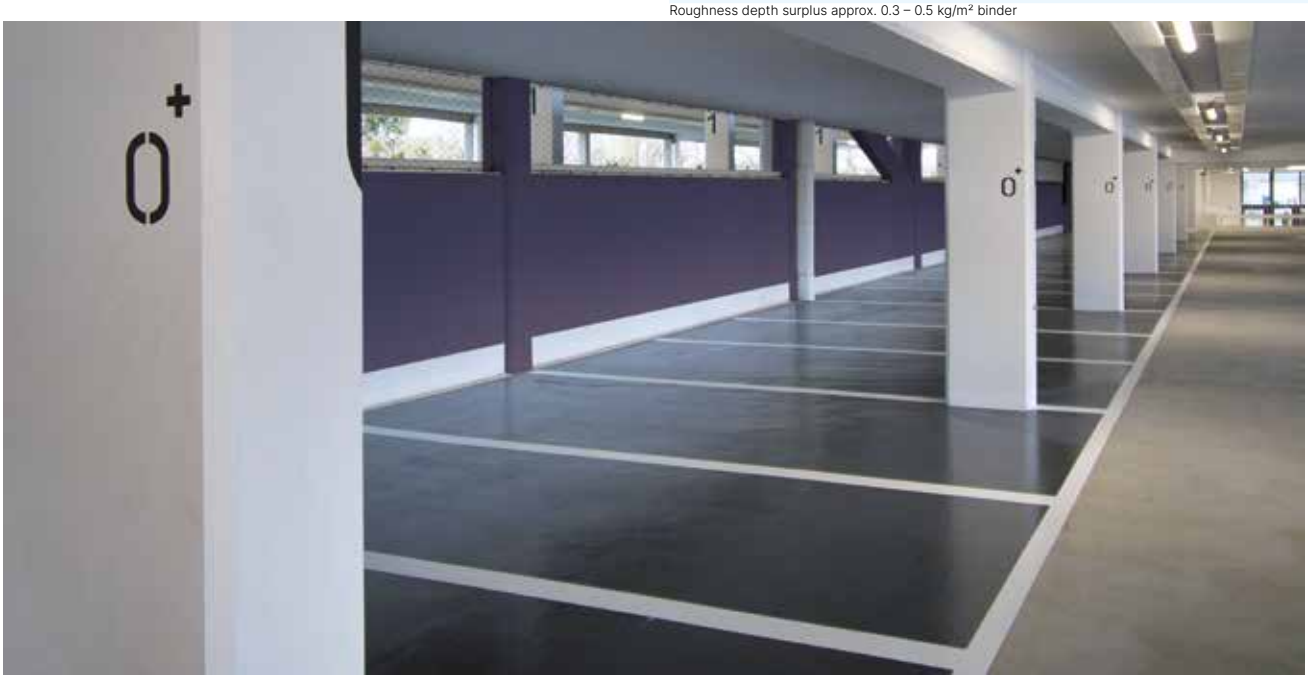
In car parks, there are many areas where the wall and floor meet directly and form a static system (e.g. pavements, footpaths or kerbs). Here, the floor coating system is joined up without any transition. First, a hollow cove of epoxy resin mortar (filled with quartz sand) is formed, and is integrated into the primer coat in a wet-on-wet procedure. From the scratch coat to the pore sealing, all layers are then created using suitable coating materials.





Structure	Product/details		Application rate
1 Primer	Epoxy resin primer	P. 95	0.3 kg/m²
2 Hollow cove	Epoxy resin mortar	P. 95 / 129	~ 2 kg/rng. m
3 Coating	OS 8, OS 11, OS 14 (OS 10)	P. 32 - 40	as per system description
4 Chloride protection	OS 8, OS 11, OS 14 (OS 10) or OS 5b*	P. 32 - 40 P. 27	as per system description
5 Surface protection	OS 2 or OS 4	P. 22 / 23	as per system description

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

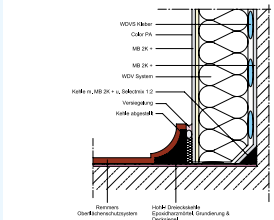


* An epoxy resin primer is not necessary when using the OS 5b system. Height of chloride protection on slopes < 2.5% min. 50 cm. Optional tinting with Color PA.
Chloride protection: consists of primer and 2x topcoat min. 0.3 mm

Floor/wall transitions, insulated

Covered connection to a composite thermal insulation system including waterproofing that prevents rear moisture penetration

On walls with thermal insulation, a covered hollow cove must be planned due to the potential for deformations. Since it is not possible to carry out maintenance behind the insulation, the use of waterproofing materials with crack-bridging ability is advisable.



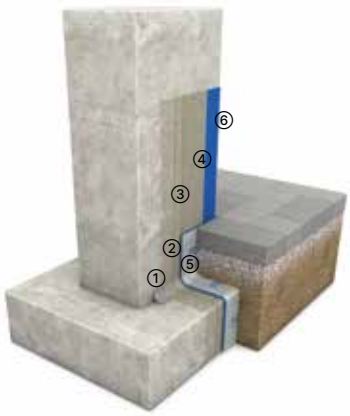
Structure	Product/details		Application rate
1 Primer	Epoxy resin primer	P. 95	0.3 kg/m²
2 Chloride protection	Hollow cove + Betofix OS 5b+	P. 91	~ 2.2 kg/m²
3 Insulation	Composite + Betofix OS 5b+	P. 91	~ 2.2 kg/m²
4 Hollow cove	Epoxy resin mortar (covered)	P. 95 / 129	~ 2.0 kg/rng. m
5 Wall coating	Color PA	P. 88	0.52 l/m²
6 Surface protection	OS 8, OS 11, OS 14 (OS 10)	P. 32 - 40	as per system description

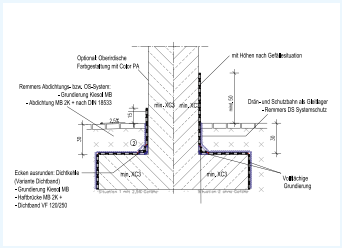
Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

Pillar transitions

Waterproofing supports under permeable road surfaces

In order to guarantee the durability of multi-storey and underground car parks, the ingress of de-icing salts and water via cracks and construction/lift joints must be completely prevented. Betofix OS 5b+ is available in two versions, both of which meet the high requirements for impermeability and crack bridging in waterproof concrete components in accordance with PG-FBB. Both the mineral version featuring a sealing cove with mortars from the Betofix family and the fabric-backed premium waterproofing tape from the Tape VF series reliably fulfil all the necessary performance characteristics.





Structure	Product/details		Application rate
1 Sealing cove	Betofix mortar	P. 91	~ 0.9 kg/m
2 Scratch coat	Betofix OS 5b+	P. 91	depending on substrate condition
3 Coating / Sealing 1st layer	Betofix OS 5b+	P. 91	~ 1.7 kg/m²/mm
4 Coating / Sealing 2nd layer	Betofix OS 5b+	P. 91	~ 1.7 kg/m²/mm
5 Surface protection	DS Protect		~ 1.1 m²/m²
6 Colour finish (optional)	Color PA	P. 88	~ 0.2 l/m² per coat

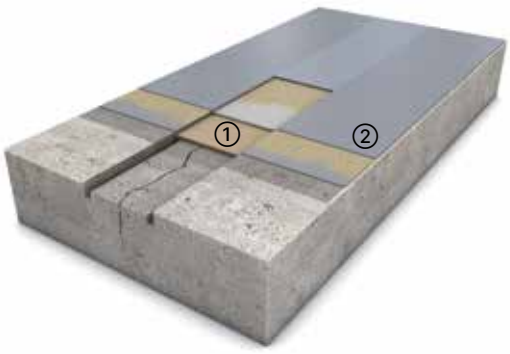
Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

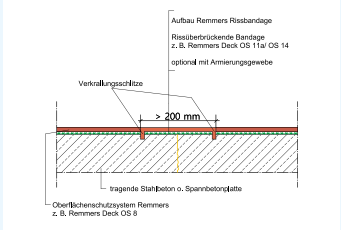
Crack covering

Prestressed concrete, cracks and joints

Depending on the planning principles, reinforced concrete surfaces can be planned to have some or (virtually) no cracks. Planned cracks can be created in advance and covered with a crack-bridging layer.

Unplanned cracks can also be sealed and covered after they have appeared. Liquid-tight (even with pressing water from the rear (12 m water column)).





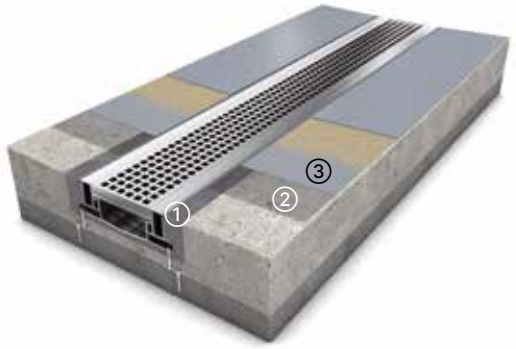
Structure	Product/details		Application rate
1 Crack covering	OS 11, OS 14 (OS 10)	P. 32 – 40	as per system description
2 Surface protection	OS 8, OS 11, OS 14 (OS 10)	P. 32 – 40	as per system description

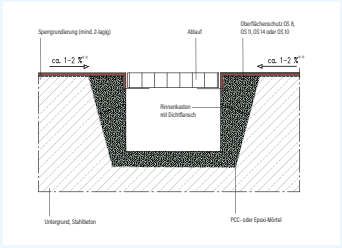
Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

Connection to drainage channels

Drainage systems

Integrated drainage systems on parking decks cause stress to the surrounding ground by guiding water onto it. For an optimum bond between the floor and the drain, a groove with a depth of approx. 10.0 – 15.0 mm must be milled in the transition zone and filled with the coating material. The seal coat is then applied all the way up to the drain.





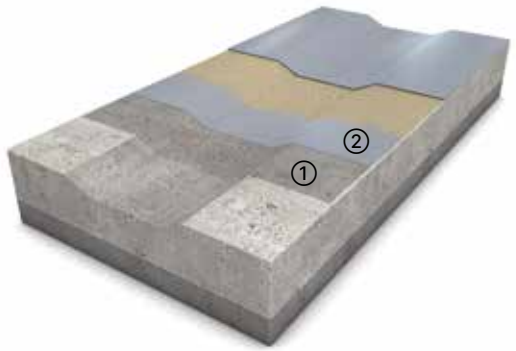
Structure	Product/details		Application rate
1 Filling mortar	Epoxy resin mortar	P. 95 / 129	~ 2 kg/rng. m
2 Barrier primer	Epoxy MT 100	P. 95	0.5 kg/m²
3 Surface protection	OS 8, OS 11, OS 14 (OS 10)	P. 32 – 40	as per system description

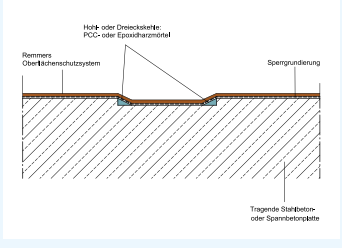
Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

Evaporation channels

Drainage systems

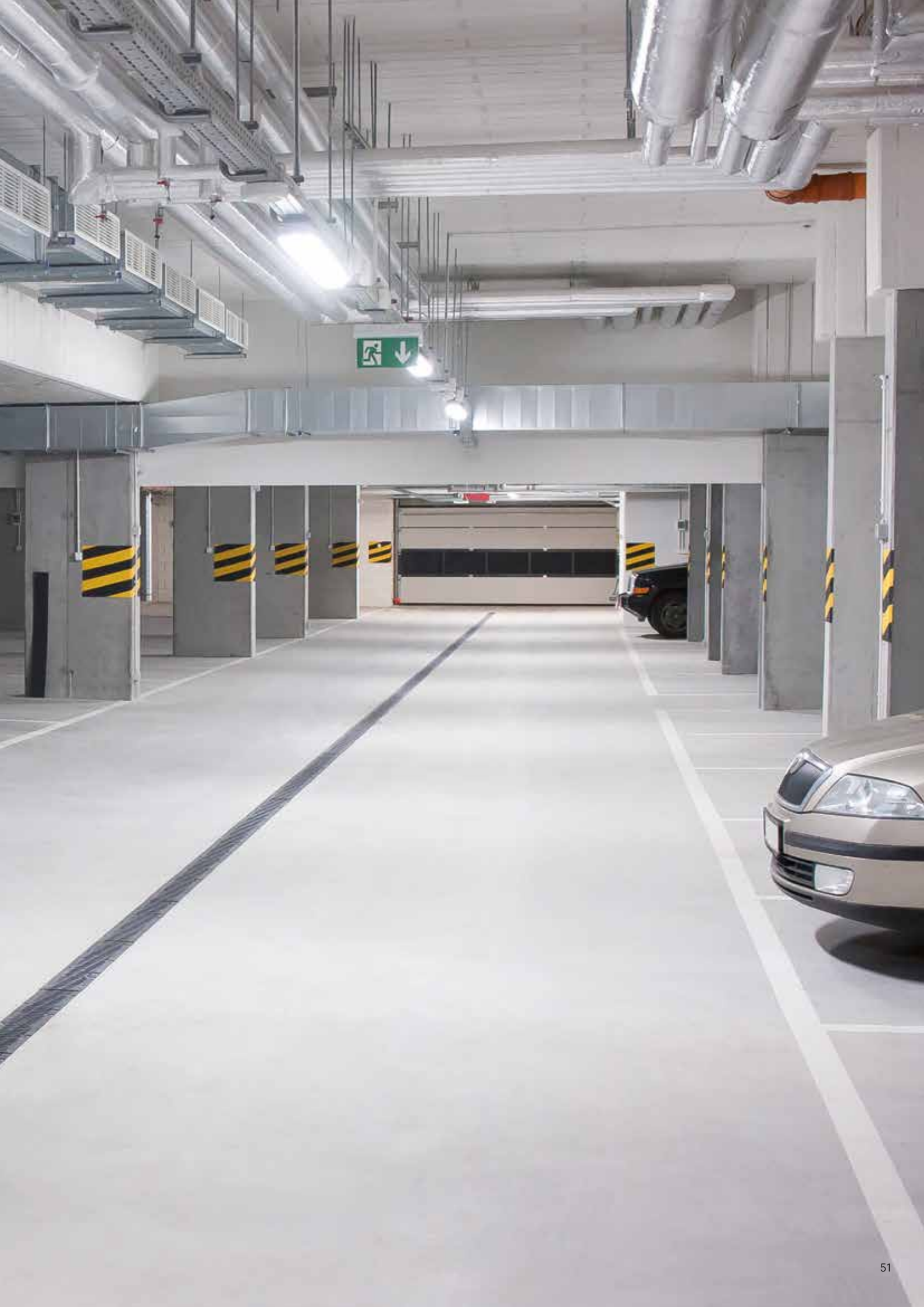
In addition to integrated drainage systems, it is also possible to plan open systems that guide away surface water via drains. If only small water quantities are expected, the dripping water can also be led away from the surface via evaporation channels.





Structure	Product/details		Application rate
1 Barrier primer	Epoxy MT 100	P. 95	0.5 kg/m²
2 Surface protection	OS 11, OS 14 (OS 10)	P. 32 - 40	as per system description

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

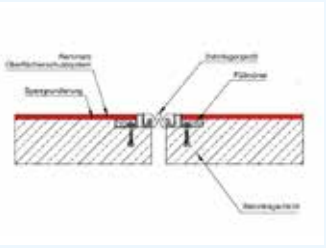


Expansion joints

Liquid-tight profiles that can bear wheel loads

Depending on their location, floors can be exposed to particularly extreme mechanical stresses. In order to relieve these stresses, expansion joint profiles that can bear wheel loads are installed beneath the building elements. Particular care must be taken here to ensure that the coating system is created flush with the joint profile.

As an alternative to liquid tight epoxy resin mortars, the coating system can also be applied as an epoxy resin wedge at the end (see CAD drawing).



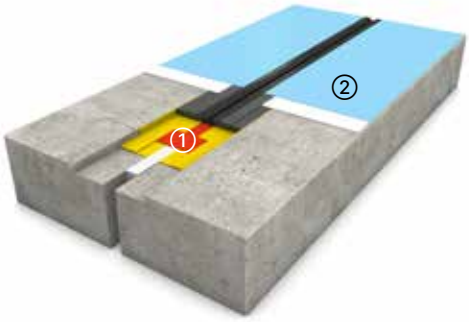
Structure	Product/details		Application rate
1 Filling mortar	Epoxy resin mortar	P. 95 / 129	~ 2.0 kg/ rng. m
2 Barrier primer	Epoxy MT 100	P. 95	0.5 kg/m²
3 Surface protection	OS 8, OS 11, OS 14 (OS 10)	P. 32 - 40	as per system description

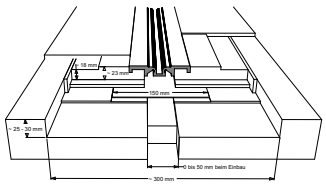
Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder

Expansion joints

Flexible floor joints with joint profile

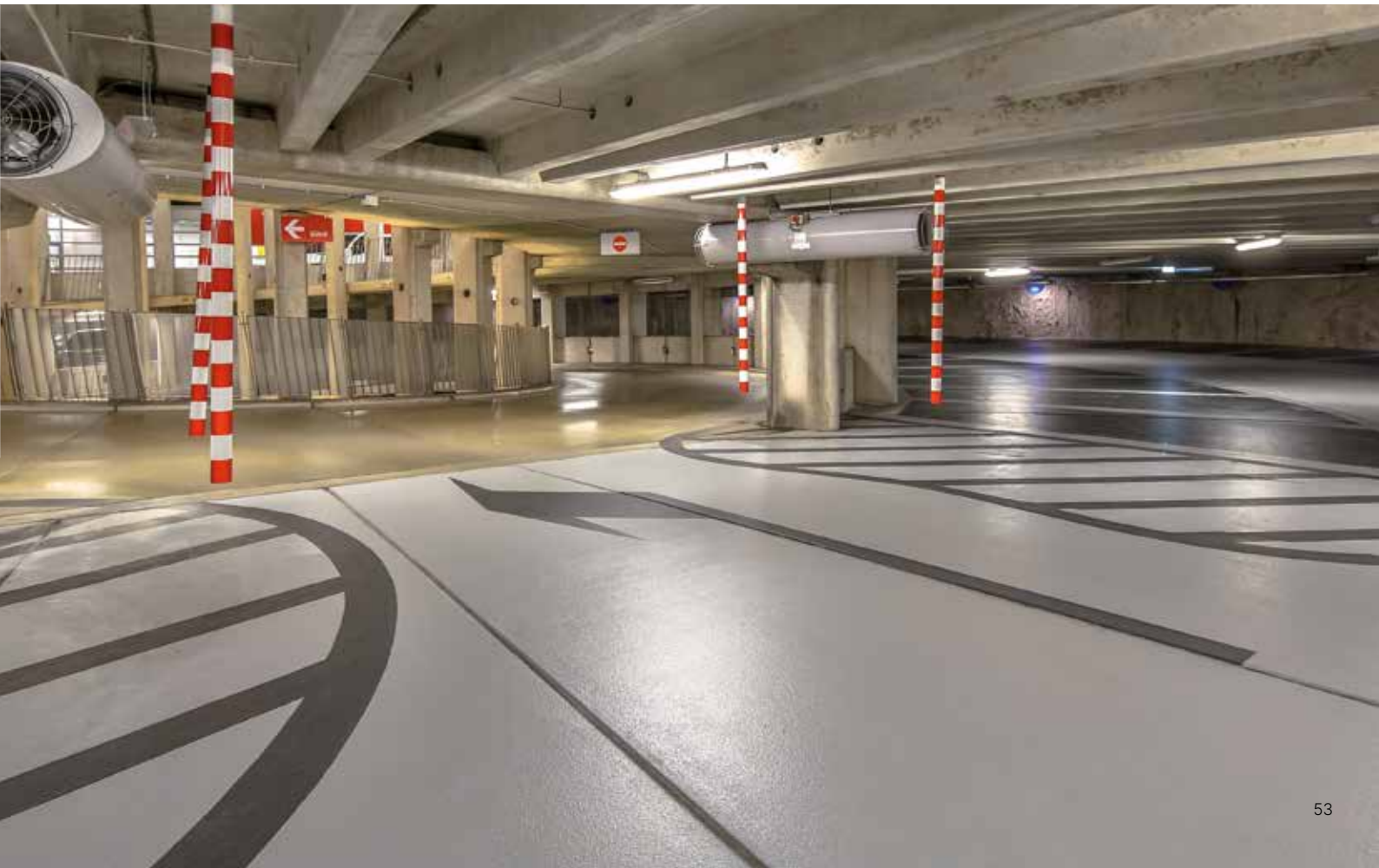
Thanks to the integration of the metal-free and therefore non-corroding joint profile FloorBridge® CPS 20/50 (CPS 20/80) and the associated CPS wall connection profile, it is possible to create a water-tight expansion joint without maintenance joints and with a low installation height. The extremely temperature-resistant and weather-resistant structure can sustain traffic after just a few hours, and even absorbs and minimises vibrations under direct car traffic. The floor bridge system counteracts horizontal and vertical joint movements. With the Remmers surface protection system, the colour possibilities are virtually endless.





Structure	Product/details		Application rate
1 Filling mortar	Epoxy resin mortar	P. 95 / 129	~ 2.0 kg/rng. m
2 Barrier primer	Epoxy MT 100	P. 95	0.5 kg/m²
3 Surface protection	OS 8, OS 11, OS 14 (OS 10)	P. 32 - 40	as per system description

Roughness depth surplus approx. 0.3 – 0.5 kg/m² binder



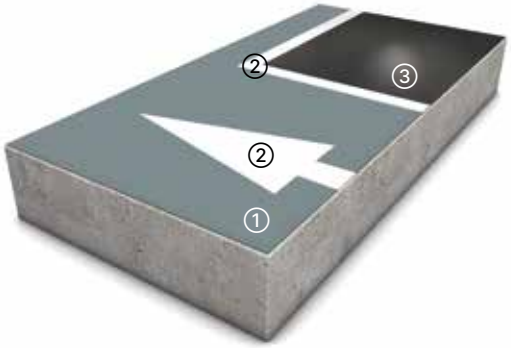
Marking paint

Quick marking paint

Fast-drying thin coating for marking work.

Application
- Patching up small areas
- Colour finishes
- Marking

Properties
- Full hardening from +3 °C
- Short downtimes
- Compatible with the Remmers Deck systems



Structure	Product/details		Application rate
1 Roadway	Remmers Deck system, traffic grey A	P. 32 - 40	
2 Marking paint	QP Color, white + WHG TX	P. 124 P. 123	0.4 kg/m²
3 Parking bay	Epoxy BS 3000 SG, traffic grey B	P. 93	0.3 kg/m²

Remmers Deck OS 8 Elastic

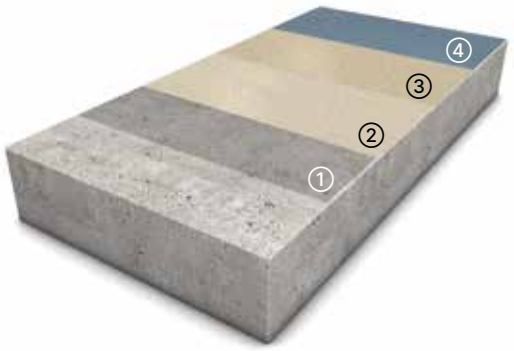
Coating with static crack-bridging ability

Coating with static crack-bridging ability and high wear resistance.

Application
- Sloping areas
- Areas at risk of cracking
- Areas with elevated wear

Properties
- Slip-resistant
- Static crack-bridging class > 0.25 mm A2 (23 °C)

Test certificates
- KIWA test report on crack bridging



Structure	Product/details		Application rate
1 Primer	Epoxy ST 100	P. 95	
2 Wearing layer with blinding	Epoxy Primer PF Quarz 03/08 DF (0.3-0.8 mm) excess	P. 96 P. 127	0.4 kg/m²
3 Wearing layer with blinding	Epoxy Primer PF Quarz 03/08 DF (0.3-0.8 mm) excess	P. 96 P. 127	0.4 kg/m²
4 Seal coat	Epoxy Color Top	P. 98	0.3 kg/m²

Roughness depth surplus min. Rt 0.3 must be considered.

Remmers Deck OS 8 Hybrid

Coating with static crack-bridging ability

Coating with static crack-bridging ability and high wear resistance.

Application

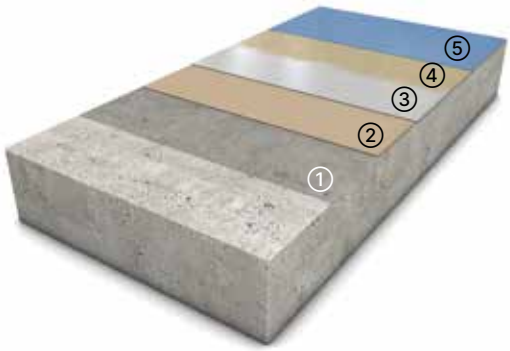
- Areas at greater risk of cracking
- Areas with elevated wear

Properties

- Static crack-bridging class A3 > 0.5 mm (-10 °C)
- Slip-resistant
- Liquid-tight (even with pressing water from the rear (12 m water column))

Test certificates

- KIWA test report on crack bridging



Structure	Product/details		Application rate
1 Primer	Epoxy Primer PF	P. 96	0.4 kg/m²
Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm)	P. 127	0.8 kg/m²
2 Intermediate coat	PUR Color VS	P. 97	1.5 kg/m²
3 Wearing layer	Epoxy Primer PF	P. 96	0.8 kg/m²
4 Scattered flakes	Quarz 03/08 DF (0.3-0.8 mm) excess	P. 127	excess
5 Seal coat	Epoxy Color Top	P. 98	0.8 kg/m²

Roughness depth surplus min. Rt 0.3 must be considered.

Renovation coating for walls

Coating and repairing of wall coatings

For the overhaul and repair of wall coatings with an acrylate system.

Application

- Renovating or adding colour to existing wall coatings

Properties

- Excellent adhesion on old coatings
- Bonding course and reprofiling in a single coat
- Easy to use
- Roller or spray application

Structure	Product/details		Application rate
1 Scratch coat	Color PA Fill	P. 87	~ 0.7 kg/m² per coat (2 coats)
2 Coating (pigmented)	Color PA	P. 88	min. 0.26 kg/m² per coat (2 coats)

Roughness depth surplus min. Rt 0.3 must be considered.

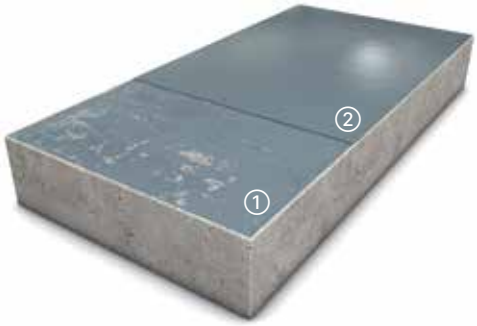
Renovation coating for floors

Rapid coating and repairing of floor coatings

For the overhaul and repair of slip-resistant floor coatings in the Quick Protect system.

Application
- Reworking
- Colour finishes
- Marking

Properties
- Full hardening from 3 °C
- Short downtimes
- Compatible with the Remmers Deck systems*



Structure	Product/details		Application rate
1 Substrate	Remmers Deck systems	P. 32 - 40	as per system description
2 Seal coat	QP Color	P. 124	0.4 kg/m²

Roughness depth surplus min. Rt 0.3 must be considered.

* An individual consultation is advised (substrate pre-treatment, trial areas, etc.).

Product colour options

Product Colour		Color PA	Color Flex	Epoxy BS 4000	Epoxy BS 3000 SG	Epoxy BS 3000 M	Epoxy Primer PF	Epoxy Color Top	PUR Color** Top OS	Epoxy** Top OS	PUA Color** WL OS pro
white		✔	✔								
neutral							✔				
silver grey RAL 7001				✔	✔	✔	✔	✔	✔	✔	✔
basalt grey RAL 7012					✔	✔		✔	✔	✔	✔
stone grey RAL 7030					✔	✔		✔	✔	✔	✔
pebble grey RAL 7032				✔	✔	✔		✔	✔	✔	✔
light grey RAL 7035				✔	✔	✔	✔	✔	✔	✔	✔
agate grey RAL 7038					✔	✔		✔	✔	✔	✔
traffic grey A RAL 7042					✔	✔		✔	✔	✔	✔
traffic grey B RAL 7043					✔	✔		✔	✔	✔	✔
Special colours / colour collection		from 5 l	from 12.5 l	from 200 kg	from 5 kg	from 20 kg	*	from 10 kg	from 30 kg	from 30 kg	from 25 kg

* Please request separately.
** Popular pre-formulated special colours (no standard colours available).

Maintaining value through proper and regular care

Why is care and maintenance so important?

Bright, colourful and clean multi-storey and underground car parks ensure clarity, save energy and help users feel safe.

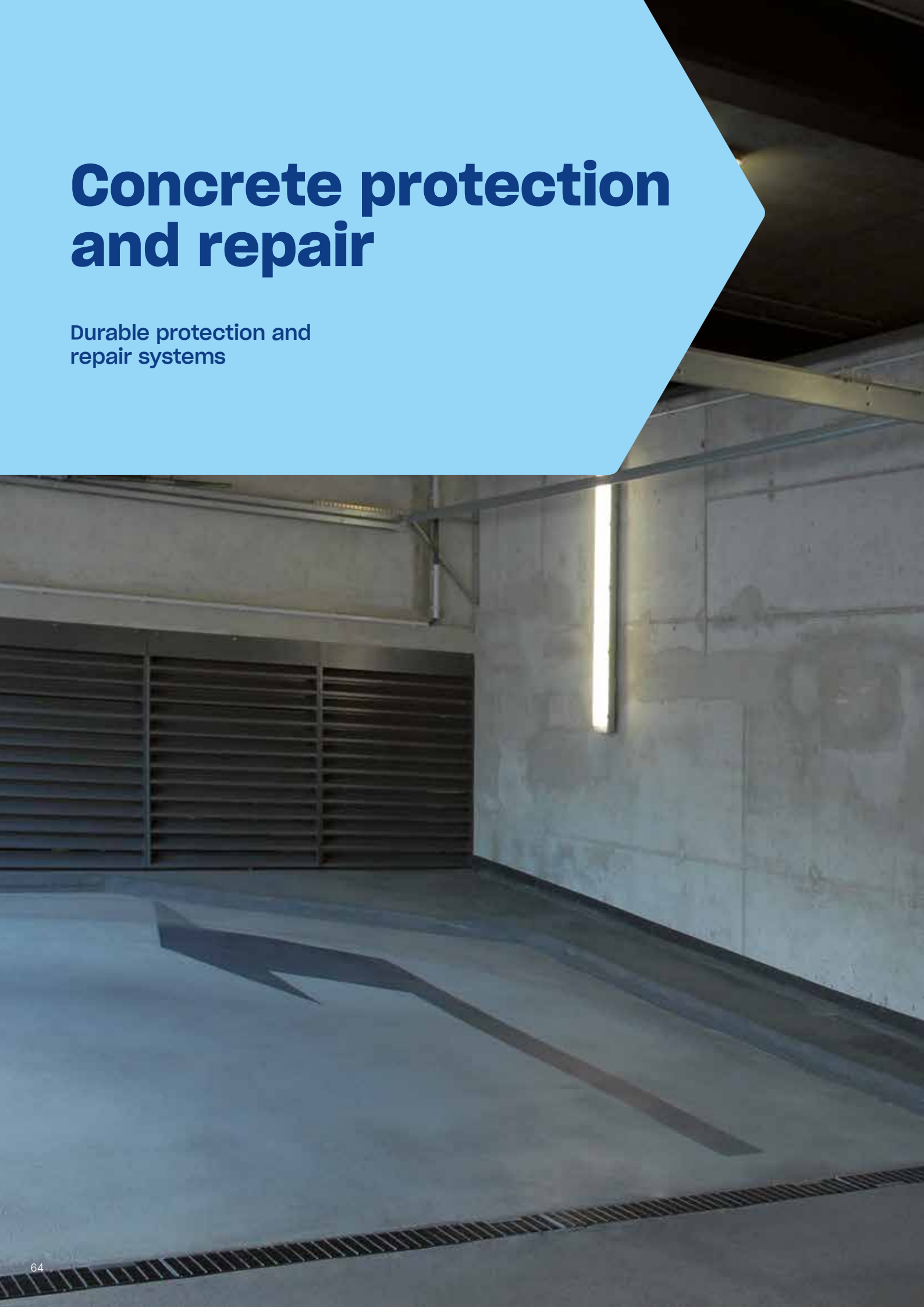
Proper and regular maintenance protects the surface protection system, ensuring that its value is maintained for a long time. This preserves the appearance of the floor and significantly extends its useful life. Parking areas in particular require regular cleaning to remove harmful salts and detect and repair any damage at an early stage.

To support this ongoing process of cleaning, preventive measures should be taken and cleaning specialists consulted at the planning stage. A large proportion of the dirt that usually accumulates can be avoided by placing dirt retention systems upstream of planned slopes and intact drainage systems.

Furthermore, it is recommended that the cured floor coating is protected by covers (e.g. foil-coated covering fabric or cover panels) while construction is still ongoing.

Concrete protection and repair

Durable protection and repair systems



If a reinforced concrete element becomes damaged due to mechanical, chemical, or physical effects, its functionality can be restored through a variety of repair principles and procedures. Suitable principles and procedures for repair are described by international, European and national standardisation organisations, as well as by legal and administrative regulations, such as EN 1504 or the Technical Rule for Concrete Repair from the DIBt. According to the repair principles set out in EN 1504-9, a number of manual and mechanical procedures are possible for repairing concrete surfaces. These include reprofiling or cross-sectional addition (principle 3), reinforcing the supporting structure (principle 4), and maintenance or restoration of passive protection (principle 7). Protective measures (surface protection and/or cathodic corrosion protection) should also be planned and implemented.

Concrete: a building material for the future

The production of compression-resistant building elements from water-resistant mortar and pieces of stone that set hard in formwork is a technique that has been widely used since the first century AD, and was emblematic of the architecture of the Roman Empire. Roman concrete, also referred to nowadays as 'Opus Caementitium' based on the writings of Vitruvius, was used during this period to create fantastic and monumental buildings throughout Europe, many of which have survived some 2000 years to the present day. They include temples, theatres, tanks, aqueducts, drainage systems, thermal baths, roads, ports, bridges, tunnels and homes.

During the Middle Ages, this concrete technology fell into obscurity – it was only rediscovered in around 1700. Since then, concrete has enjoyed a stratospheric rise in popularity and is arguably the most iconic building material of our era. However, despite its high quality and durability, concrete can sustain damage that requires repair and additional protection.

Damage to (reinforced) concrete components occurs as a result of external influences, such as chemical attack, carbonation or frost, or is due to faulty design or execution. Determining the cause of the damage is essential for planning the subsequent repair work.

Damage mechanisms on concrete constructions

CONCRETE CORROSION

This generally involves external influences that can lead to destruction of the concrete without steel corrosion playing any part. Examples include:

- Frost attack with & without de-icing salts [XF]
- Chemical attack [XA]
- Wear stress [XM]
- Alkali-silicic acid reaction [WO-WF]

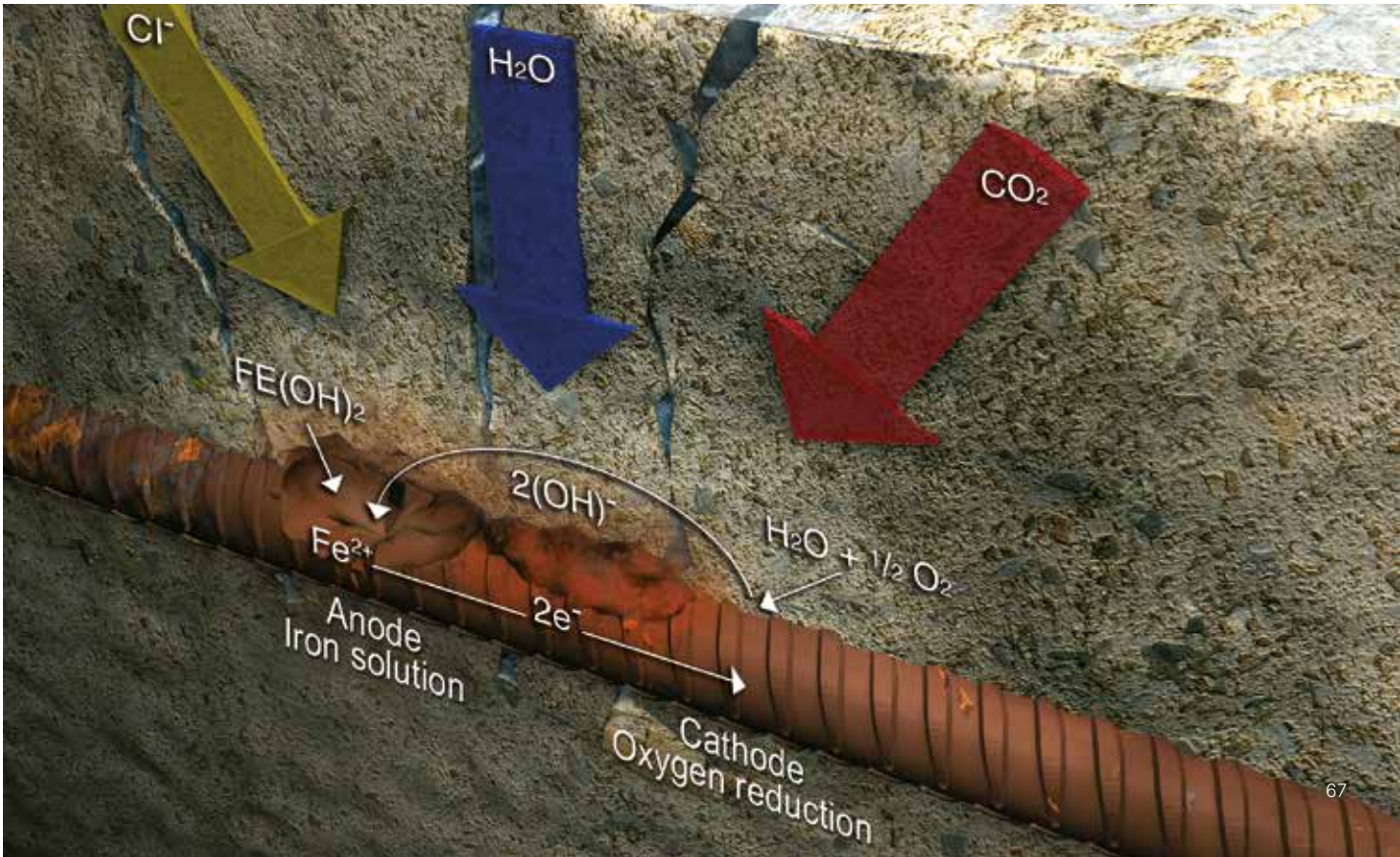
The different types of concrete corrosion are classified according to the environmental conditions (as per DIN EN 206-1 / DIN 1045-2) to which a concrete building element is exposed.

REINFORCEMENT CORROSION

Reinforcement corrosion can be triggered by various environmental factors:

- Carbonation [XC]
- Chlorides [XD] / [XS]

In young concrete, the steel is protected against corrosion by the high alkalinity of the pore water (pH ≥ 12.5). In areas with these pH values, a microscopically thin oxide layer forms on the steel surface that makes it virtually impossible for the iron to dissolve. If the pH value of the concrete decreases to below 10 due to carbonation following CO_2 absorption, or if the chloride content exceeds a critical limit value, this “natural” corrosion protection is lost. In the presence of moisture (which acts as an electrolyte) and oxygen (which is almost always present), the result is corrosion of the steel. Since the corrosion products take up a larger volume than the starting materials, this often leads to the covered concrete breaking open. Chlorides cause localised passivation at the surface of the reinforcement. This in turn creates corrosion holes. These are difficult to detect, so a suitable maintenance and inspection plan is essential for reliably identifying such damage before it gets out of hand.



System solutions for concrete replacement

Concrete replacement system	Exposure class	Range of use	Class as per SIB GL	Class as per 1504-3	Old concrete class	Reaction to fire	CCP	Application		
								manual	concrete pouring	spraying
Betofix EM 4 2K	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA3 WO, WF, WA XW1-XW2 XSTAT	PCC I RM	M2	R4	A3-A4	A2 fl-s1	✓	✓	✓	
Betofix EM 8 2K	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA3 WO, WF, WA XW1-XW2 XSTAT	PCC I RC	M3	R4	A3-A4	A2 fl-s1	✓	✓	✓	
Betofix R4	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA2 XM1-XM2 WO, WF, WA XBW1-XBW2 XW1-XW2 XSTAT XDYN	PCC RM	M3	R4	A3-A4	A1		✓	✓	
Betofix R4 SR	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA3 XM1-XM2 WO, WF, WA XBW1-XBW2 XW1-XW2 XSTAT XDYN XWW1-XWW3	PCC / SPCC RM / SRM	M3	R4	A3-A4	A1		✓	✓	✓ wet spraying

Concrete replacement system	Exposure class	Range of use	Class as per SIB GL	Class as per 1504-3	Old concrete class	Reaction to fire	CCP	Application		
								manual	concrete pouring	spraying
Betofix R3 SR	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1 XBW1-XBW2 XW1-XW2 XSTAT WO, WF, WA XWW1-XWW3	PCC / SPCC RM / SRM		R3	A2-A3	A1		✓	✓	✓ wet spraying
Betofix SPCC	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA3 XM1-XM2 WO, WF, WA XW1-XW2 XSTAT XDYN	SPCC SRM	M3	R4	A3-A4	A1				✓ wet spraying
Betofix SPCC TS	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA2 XM1-XM2 WO, WF, WA XW1-XW2 XSTAT XDYN	SPCC SRM	M3	R4	A3-A4	A1 > F120	✓			✓ dry spraying
Betofix HQ6	XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA2 XM1-XM2 WO, WF, WA	Casting concrete	VeBMR GL from DAfStb			A1			✓	

* Exposure classes XM1, XM2 and XF4 are excluded from the VeBMR guideline.

Manual concrete replacement

Hydraulic, polymer-modified mortar systems (PCC II/SRM)

Concrete replacement system Betofix R4
Mortar system PCC II/RM

Application

- Repair of elements with rough surfaces in areas subjected to static and dynamic loads

Properties

- M3 mortar as per SIB GL (DAfStb) and R4 as per DIN 1504-3
- Old concrete classes A3-A4
- Procedures 3.1, 3.2, 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4,
- ZTV-ING/ZTV-W tested system
- High chloride penetration resistance
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Test of chloride penetration resistance
- Test of fire behaviour as per DIN EN 13501-1
- BAST/BAW list
- Certificate of conformity (KIWA/QDB)

Concrete replacement system Betofix R4

Structure	Product/details		Application rate
1 Bonding layer	Betofix KHB	P. 106	~ 1.8 kg/m²/mm
2 Corrosion protection (optional)	Betofix KHB	P. 106	~ 1.8 kg/m²/mm
3 Concrete replacement mortar	Betofix R4	P. 106	~ 2.0 kg/m²/mm
4 Scratch coat	Betofix Fill	P. 90	~ 1.75 kg/m²/mm

Concrete replacement system Betofix R4 SR
Mortar system PCC/SPCC (RM/SRM)

Application

- Repair of elements with rough surfaces in areas subjected to static and dynamic loads

Properties

- M3 mortar as per SIB GL (DAfStb) and R4 as per DIN 1504-3
- Old concrete classes A3-A4
- Procedures 3.1, 3.2, 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4,
- ZTV-ING tested system
- High chloride penetration resistance
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Test of chloride penetration resistance
- Certificate of conformity (KIWA/QDB)

Concrete replacement system Betofix R4 SR

Structure	Product/details		Application rate
1 Bonding layer	Betofix KHB SR	P. 108	~ 1.8 kg/m²/mm
2 Corrosion protection (optional)	Betofix KHB SR	P. 108	~ 1.8 kg/m²/mm
3 Concrete replacement mortar	Betofix R4 SR	P. 109	~ 2.0 kg/m²/mm
4 Scratch coat	Betofix Fill SR	P. 108	~ 1.75 kg/m²/mm

Concrete replacement system Betofix R3 SR
Mortar system PCC/SPCC (RM/SRM)

Application

- Repair of elements with rough surfaces in areas subjected to static loads

Properties

- R3 mortar as per DIN 1504-3
- Old concrete classes A2-A3
- Procedures 3.1, 3.2, 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates

- Initial testing as per DIN EN 1504-3
- Tested resistance to frost/de-icing salts
- Certificate of conformity (QDB)

Structure	Product/details		Application rate
1 Bonding layer	Betofix KHB SR	P. 108	~ 1.8 kg/m²/mm
2 Corrosion protection (optional)	Betofix KHB SR	P. 108	~ 1.8 kg/m²/mm
3 Concrete replacement mortar	Betofix R3 SR	P. 109	~ 2.0 kg/m²/mm
4 Scratch coat	Betofix Fill SR	P. 108	~ 1.75 kg/m²/mm

Sprayable concrete replacement

Hydraulic, polymer-modified mortar system (PCC II/SRM)

Concrete replacement system Betofix SPCC TS
Dry spraying

Application

- Repair of elements with rough surfaces in areas subjected to static and dynamic loads

Properties

- SPCC as per SIB GL
- Class R4 as per DIN EN 1504-3
- Old concrete classes A3-A4
  Procedures 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4, 10.1
- CCP repair and anode embedding mortar
- Resistant to frost/de-icing salts
- Reaction to fire class A1 / F90 / F120
- Easy overhead application

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Test of fire behaviour as per DIN EN 13501-1
- Certificate of conformity (KIWA/QDB)

Concrete replacement system Betofix SPCC
Wet spraying

Application

- Repair of elements with rough surfaces in areas subjected to static and dynamic loads

Properties

- SPCC as per SIB GL
- Class R4 as per DIN EN 1504-3
- Old concrete classes A3-A4
- Procedures 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4
- Resistant to frost/de-icing salts
- Reaction to fire class A1
- Easy overhead application

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Certificate of conformity (KIWA/QDB)

Concrete replacement system Betofix SPCC TS

Structure	Product/details		Application rate
1 Corrosion protection (optional)	Betofix KHB	P. 106	~ 1.8 kg/m² per coat
2 Concrete replacement mortar	Betofix SPCC TS	P. 114	~ 2.1 kg/m²/mm

Concrete replacement system Betofix SPCC

Structure	Product/details		Application rate
1 Corrosion protection (optional)	Betofix KHB	P. 106	~ 1.8 kg/m²/mm
2 Concrete replacement mortar	Betofix SPCC	P. 107	~ 2.0 kg/m²/mm
3 Scratch coat	Betofix Fill	P. 90	~ 1.75 kg/m²/mm

Concrete replacement system Betofix R4 SR
Wet spraying

Application

- Repair of elements with rough surfaces in areas subjected to static and dynamic loads

Properties

- M3 mortar as per SIB GL (DAfStb) and R4 as per DIN 1504-3
- Old concrete classes A3-A4
- Procedures 3.1, 3.2, 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4,
- ZTV-ING tested system
- High chloride penetration resistance
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Test of chloride penetration resistance
- Certificate of conformity (KIWA/QDB)

Concrete replacement system Betofix R3 SR
Wet spraying

Application

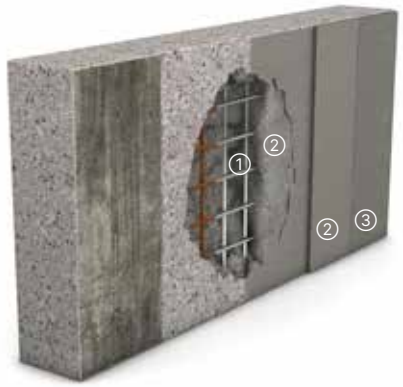
- Repair of elements with rough surfaces in areas subjected to static loads

Properties

- R3 mortar as per DIN 1504-3
- Old concrete classes A2-A3
- Procedures 3.1, 3.2, 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates

- Initial testing as per DIN EN 1504-3
- Tested resistance to frost/de-icing salts
- Certificate of conformity (QDB)



Concrete replacement system Betofix R4 SR

Structure	Product/details		Application rate
1 Corrosion protection (optional)	Betofix KHB SR	P. 108	~ 1.8 kg/m²/mm
2 Concrete replacement mortar	Betofix R4 SR	P. 109	~ 2.0 kg/m²/mm
3 Scratch coat	Betofix Fill SR	P. 108	~ 1.75 kg/m²/mm

Concrete replacement system Betofix R3 SR

Structure	Product/details		Application rate
1 Corrosion protection (optional)	Betofix KHB SR	P. 108	~ 1.8 kg/m²/mm
2 Concrete replacement mortar	Betofix R3 SR	P. 109	~ 2.0 kg/m²/mm
3 Scratch coat	Betofix Fill SR	P. 108	~ 1.75 kg/m²/mm

Concrete replacement for floors

Reprofiling and improving concrete cover (PCC I / RM)

Concrete replacement systems Betofix EM 4 2K and Betofix EM 8 2K

Application

- Hydraulic, 2-component concrete replacement system as per DIN EN 1504-3 for horizontal and slightly sloping surfaces

Properties

- PCC I as per SIB GL
- Class M2 (Betofix EM 4 2K) as per SIB GL
- Class M3 (Betofix EM 8 2K) as per SIB GL
- Class R4 as per DIN EN 1504-3
- Max. particle size Betofix EM 4 2K: 4 mm
  Betofix EM 8 2K: 8 mm
- Old concrete classes A3-A4
  Procedures 3.1, 3.2, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4, 10.1
- CCP repair and anode embedding mortar
- Resistant to frost/de-icing salts
- Reaction to fire class A2 $_{fl-s1}$

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Test of fire behaviour as per DIN EN 13501-1

Floor concrete replacement system Betofix EM 4 2K / Betofix EM 8 2K

Structure	Product/details		Application rate
1 Bonding layer	Betofix KHB EM	P. 112	~ 1.5 kg/m²/mm
2 Corrosion protection (optional)	Betofix KHB EM	P. 112	~ 1.5 kg/m²/mm
3 Concrete replacement mortar	Betofix EM 4 2K / Betofix EM 8 2K + Betofix EM LQ	P. 112 P. 113 P. 113	~ 2.0 kg/m²/mm

Concrete replacement with casting concrete

Reprofiling by casting

Concrete replacement system Betofix HQ6

Application

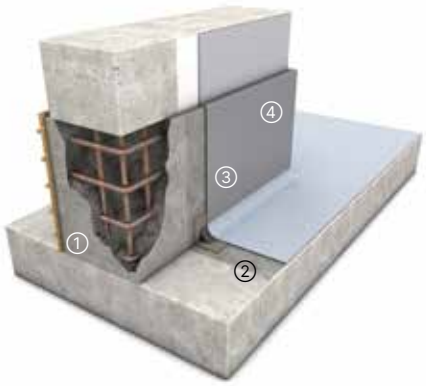
- Embedding of columns in sleeve foundations
- Interiors, exteriors and wet areas of old and new buildings
- Setting and underfilling of machines and steel structures

Properties

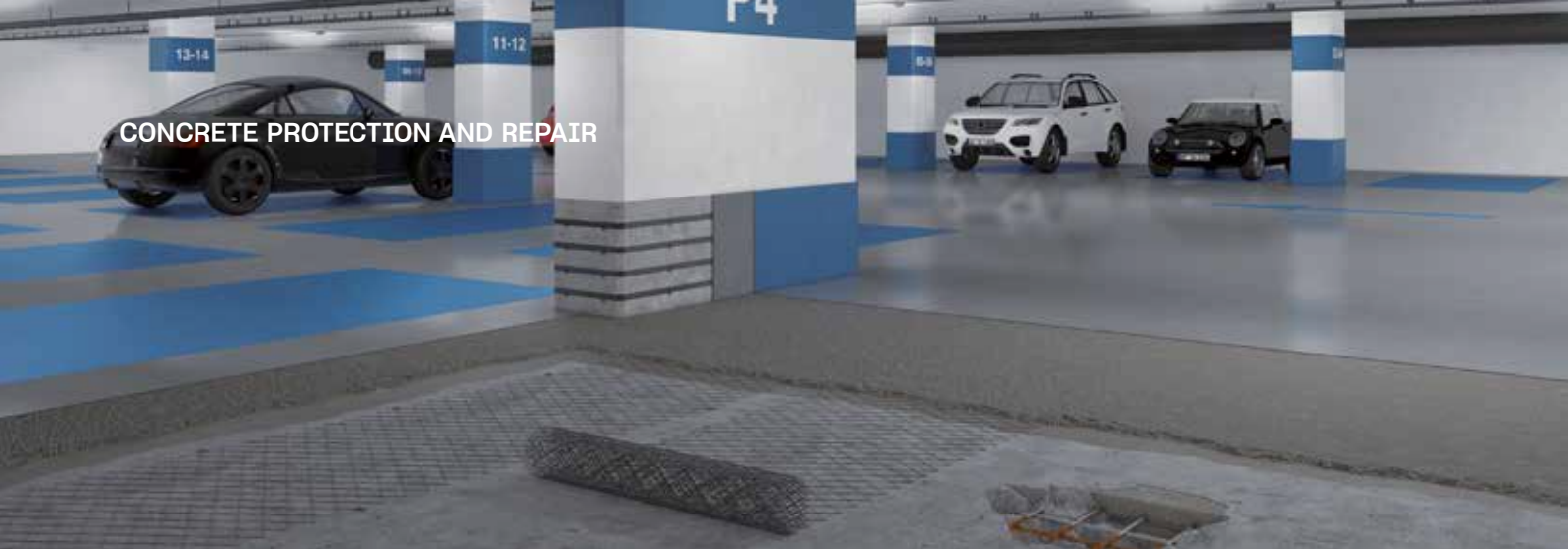
- Compressive strength class C50/60
- Shrinkage class SKVB 0
- Flow class a3
- Early strength class C
- Reaction to fire class A1
- Suitable for moisture classes W0, WF, WA
- Max. grain size 6 mm
- Resistant to frost/de-icing salts

Test certificates

- Initial testing as per DIN EN 1504-6
- Test of fire behaviour as per DIN EN 13501-1
- CDF procedure as per DIN CEN/TS 12390-9 & CEN/TR 15177
- Test report on sulphate resistance as per DIN 19573
- Test of pull-out resistance & chloride content as per DIN EN 1015-17



Structure	Product/details		Application rate
1 Concrete replacement	Betofix HQ6	P. 119	~ 2.1 kg/m²/mm
2 Scratch coat (optional)	Betofix OS 5b+	P. 91	depending on the substrate condition
3 Surface protection (optional)	Betofix OS 5b+	P. 91	~ 1.7 kg/m²/mm
4 Colour finish (optional)	Color PA	P. 88	~ 0.2 l/m² per coat
5 Surface protection system as required			



Cathodic corrosion protection

Durability is our focus!

Why cathodic corrosion protection?

Thanks to its many useful properties, reinforced concrete has become the number one building material. In addition to its high compressive strength, the possibilities for its use in combination with reinforcing steel are virtually unlimited.

However, reinforced concrete components are also exposed to enormous stresses. In particular, **chloride-induced reinforcement corrosion**, such as in multi-storey car parks, underground car parks and bridge structures, means that the planned service life cannot be achieved without interim repairs or further protective measures. Various methods are available for this.

Conventional repair

Conventional repair methods generally involve a great deal of **effort and expenditure**. In addition to accessing the concrete construction and dismantling and disposing of the damaged concrete, other time-consuming and costly steps include setting up and storing machinery, tools and other building site equipment. It is not uncommon for **long downtimes** to be involved too.

A viable, cost-effective alternative

The state of the art is currently an electrochemical process known as **cathodic corrosion protection (CCP)**. This is a steel reinforcement technique that makes use of a connection to an anode. The primary protective effect is immediate prevention of the corrosion process. It has a long-term, secondary effect too: re-alkalisation of the reinforced concrete.

An important prerequisite for the use of CCP is proof of **sufficient load-bearing capacity** of the existing building fabric as part of the building inspection.

The key difference between cathodic corrosion protection for concrete and its traditional application in shipbuilding and container construction is the need for a conductive bedding mortar. This bedding mortar fulfils the central function since it is responsible for evenly distributing the protective current over the surface requiring protection.

Durable mortar systems for CCP

Until now, existing product systems that had been tested for conductivity in accordance with DIN EN 12696 were generally used for cathodic corrosion protection. However, these test methods do not allow any conclusions to be drawn about the durability of the products. As a consequence, many systems failed after just a few years.

System solutions for cathodic corrosion protection

Concrete replacement system	Exposure class	Application	Class as per SIB GL	Class as per 1504-3	Old concrete class	Reaction to fire	CCP	Application manual	concreting	spraying
Betofix EM 4 2K	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA3 WO, WF, WA XW1-XW2 XSTAT	PCC I RM	M2	R4	A3-A4	A2 $_{fl-s1}$	✔	✔	✔	
Betofix EM 8 2K	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA3 WO, WF, WA XW1-XW2 XSTAT	PCC I RC	M3	R4	A3-A4	A2 $_{fl-s1}$	✔	✔	✔	
Betofix SPCC TS	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1-XA2 XM1-XM2 WO, WF, WA XW1-XW2 XSTAT	SPCC SRM	M3	R4	A3-A4	A1 F120	✔			✔ dry spraying
Betofix R4 S CP	XALL XC1-XC4 XD1-XD3 XS1-XS3 XF1-XF4 XA1 XM1-XM2	PCC / SPCC RM / SRM		R4	A3-A4	A1	✔	✔	✔	✔ wet spraying
Betofix HQ3 CP	XC1-XC4 XD1-XD3 XO XS1-XS3 XF1-XF4* XA1-XA2 XM1*-XM2*	Grouting mortar	VeBMR GL from DAfStb			A1	✔		✔	

* Exposure classes XM1, XM2 and XF4 are excluded from the VeBMR guideline.

CCP system PCC II / RM / SRM

System for all installation positions

Repair and anode embedding mortar for cathodic corrosion protection (CCP)

CCP system Betofix R4 S CP (manual application)
Properties
- CCP repair and anode embedding mortar
- Class R4 as per DIN EN 1504-3
- Old concrete classes A3-A4
- Procedures 3.1, 3.2, 4.1, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4, 10.1
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates
- Initial testing as per DIN EN 1504-3
- Examination report on CCP compatibility

CCP system Betofix SPCC TS (dry spraying)
Properties
- CCP repair and anode embedding mortar
- SPCC as per SIB GL
- Class R4 as per DIN EN 1504-3
- Old concrete classes A3-A4
- Procedures 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4, 10.1
- Resistant to frost/de-icing salts
- Reaction to fire class A1 / F90 / F120

Test certificates
- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Examination report on CCP compatibility

CCP system Betofix R4 S CP (wet spraying)
Properties
- CCP repair and anode embedding mortar
- Class R4 as per DIN EN 1504-3
- Old concrete classes A3-A4
- Procedures 3.1, 3.2, 3.3, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4, 10.1
- Resistant to frost/de-icing salts
- Reaction to fire class A1

Test certificates
- Initial testing as per DIN EN 1504-3
- Examination report on CCP compatibility

CCP system Betofix R4 S CP (manual application)

Structure	Product/details		Application rate
1 Bonding layer	Betofix KHB	P. 106	~ 1.8 kg/m²/mm
2 Concrete replacement mortar	Betofix R4 S CP	P. 110	~ 2.0 kg/m²/mm

CCP system Betofix SPCC TS (dry spraying)

Structure	Product/details		Application rate
2 Concrete replacement mortar	Betofix SPCC TS	P. 114	~ 2.1 kg/m²/mm

CCP system Betofix R4 S CP (wet spraying)

Structure	Product/details		Application rate
2 Concrete replacement mortar	Betofix R4 S CP	P. 114	~ 2.0 kg/m²/mm

CCP system PCC I/RM

System for horizontal and slightly sloping surfaces

Repair and anode embedding mortar
CCP system Betofix EM 4 2K and Betofix EM 8 2K
Application

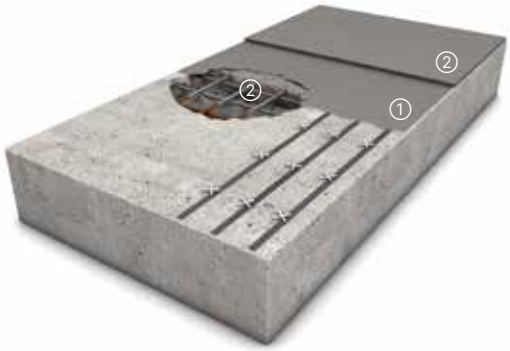
- Repair and anode embedding mortar for cathodic corrosion protection (CCP)

Properties

- CCP repair and anode embedding mortar
- Class R4 as per DIN EN 1504-3
- Old concrete classes A3-A4
- Procedures 3.1, 3.2, 4.4, 5.3, 6.3, 7.1, 7.2, 7.4, 10.1
- Resistant to frost/de-icing salts
- Reaction to fire class A2 $_{fl-s1}$

Test certificates

- Test report (abP) as per SIB GL (DAfStb)
- Initial testing as per DIN EN 1504-3
- Examination report on CCP compatibility



Structure	Product/details		Application rate
1 Bonding layer	Betofix KHB EM	P. 112	~ 1.5 kg/m²/mm
2 Concrete replacement mortar	Betofix EM 4 2K / Betofix EM 8 2K + Betofix EM LQ	P. 112 P. 113 P. 113	~ 2.0 kg/m²/mm

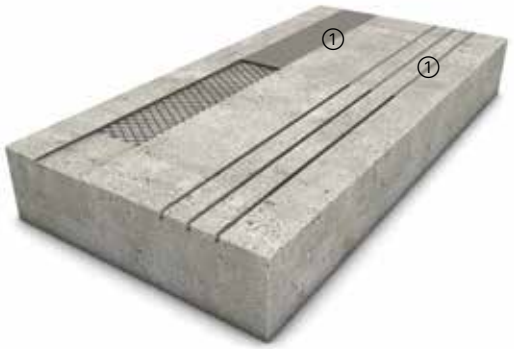
Betofix HQ3 CP

High-strength, swelling capable, conductive casting mortar for cathodic corrosion protection

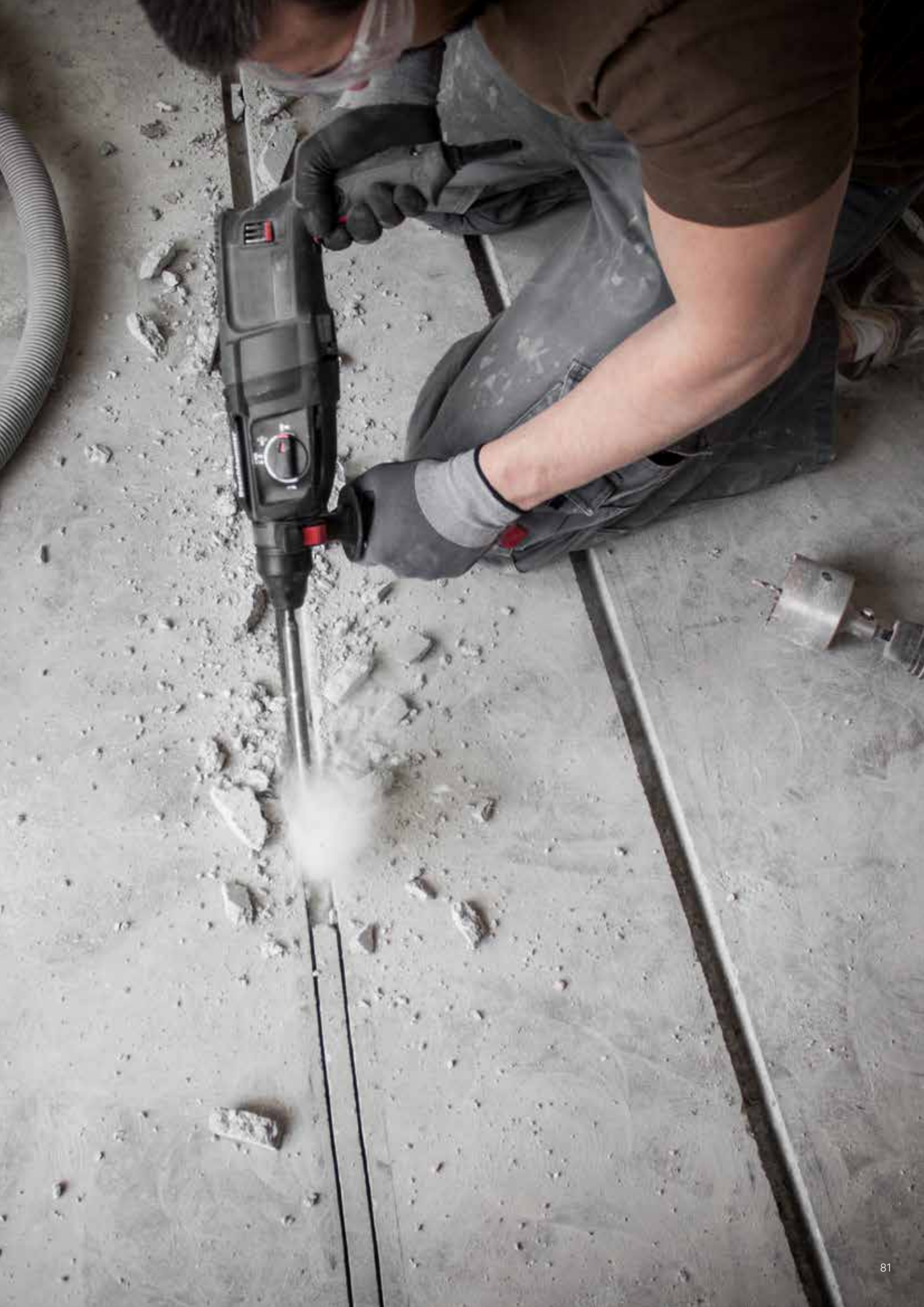
Application rate
- ~ 2.1 kg/dm³

Properties
- Embedding mortar for cathodic corrosion protection
- For embedding flat and strip anodes and milled slot anodes
- for tightly spaced anodes and complex installations

Test certificates
- Compressive strength class C 70/85
- Early strength class A (20 °C)
- Degree of swelling 0.5% by volume
- Shrinkage class SKVM I
- Flow class f3
- Reaction to fire class A1
- Water impermeable
- Inhibits corrosion
- Suitable for moisture classes W0, WF, WA
- Resistant to frost/de-icing salts
- Max. grain size 3 mm



Structure	Product/details	Application rate
1 Concrete replacement mortar	Betofix HQ3 CP P. 111	~ 2.1 kg/m²/mm



Crack injection – frictionally coupled or waterproofing

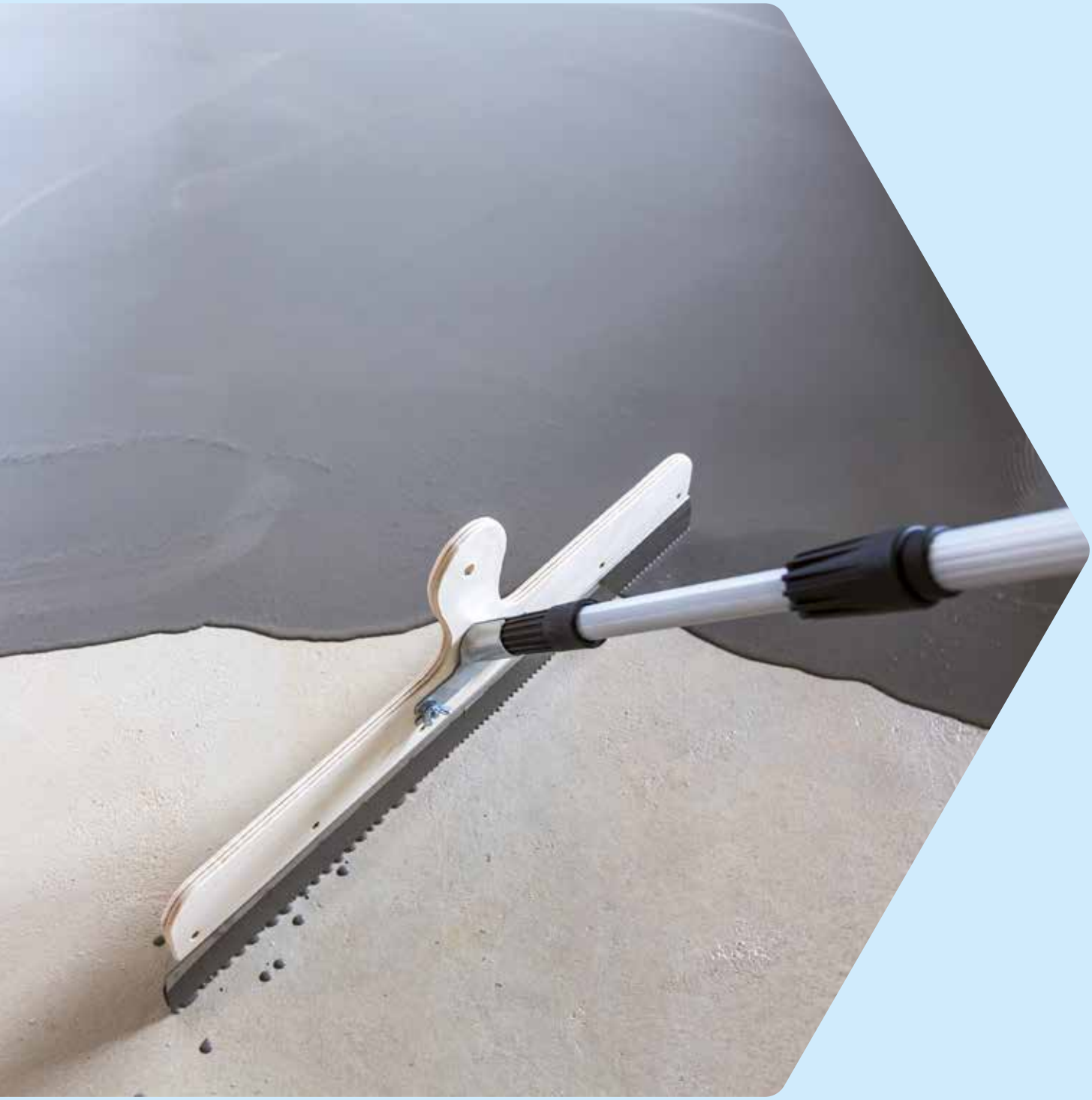
Product	Crack type	Contact with drinking water	Crack filler type	Intended use	Procedures
IR Epoxy 100	Detachment Bending Shearing Surface Near-surface		F-I (P)/F-V (P) F: frictional I: injection V: casting	Closing (limiting crack width by filling)	1.5a, 7.6a, 1.5b, 7.6b
				Waterproofing	1.5a, 2.6, 1.5b
				Frictionally coupled bonding	4.5a, 4.5b
IR Epoxy 360	Detachment Bending Shearing Surface Near-surface	✓ D1	F-I (P)/F-V (P) F: frictional I: injection V: casting	Closing (limiting crack width by filling)	1.5a, 7.6a, 1.5b, 7.6b
				Waterproofing	1.5a, 2.6, 1.5b
				Frictionally coupled bonding	4.5a, 4.5b
IR PUR 2K 150	Detachment Bending Shearing	✓ D1	D-I (P) D: elastic I: injection	Closing (limiting crack width by filling)	1.5a, 7.6a
				Waterproofing	1.5a, 2.6
				Limited elastic bonding	1.5a, 2.6, 7.6a
IR PUR 250	Detachment Bending Shearing		D-I (P) D: elastic I: injection	Closing (limiting crack width by filling)	1.5a, 7.6a
				Waterproofing	1.5a, 2.6
				Limited elastic bonding	1.5a, 2.6, 7.6a
IR PUR 2K WW	Detachment Bending Shearing		D-I (P) D: elastic I: injection	Closing (limiting crack width by filling)	1.5a, 7.6a
				Waterproofing	1.5a, 2.6
				Limited elastic bonding	1.5a, 2.6, 7.6a
IR PUR 2K rapid	Detachment Bending Shearing	✓ D1	SPUR D-I (P) D: elastic I: injection	Closing (limiting crack width by filling)	1.5a, 7.6a
				Waterproofing	1.5a, 2.6
				Limited elastic bonding	1.5a, 2.6, 7.6a
ICS 2K Injection Paste	Detachment Bending Shearing Near-surface		F-I (H) F-V (H) F: frictional I: injection V: casting	Closing (limiting crack width by filling)	1.5a, 7.6a, 1.5b, 7.6b
				Waterproofing	1.5a, 2.6, 1.5b
				Frictionally coupled bonding	4.5a, 4.5b

Moisture level of the crack				Workability Minimum crack width	Working temperature		CE	Crack classification
Dry DY	Damp DP	Wet WT	Waterflow WF		Min.	Max.		
✓	✓			0.1 mm	8 °C	30 °C	✓	U(F1) W(1) (1/2) (8/30)
✓	✓ (1.5b, 2.6)							
✓	✓ (4.5a)							
✓				0.2 mm	8 °C	30 °C	✓	U(F1) W(2) (1) (8/30) (1)
✓								
✓								
✓	✓	✓	✓*	0.2 mm	5 °C	30 °C	✓	U(D1) W(2) (1/2/3/4*) (5/30)
✓	✓	✓	✓*					
✓	✓	✓	✓*					
	✓	✓	✓**	0.3 mm	8 °C	30 °C	✓	U(D1) W(3) (2/3/4**) (8/30)
	✓	✓	✓**					
	✓	✓	✓**					
✓	✓	✓	✓*	0.3 mm – 0.5 mm	5 °C	30 °C		U(D1) W(3/4/5) (1/2/3/4*) (5/30)
✓	✓	✓	✓*					
✓	✓	✓	✓*					
			✓***	0.1 mm – 0.3 mm	5 °C	30 °C		U(D1) W(1/2/3) (4***) (5/30)
			✓***					
			✓***					
✓ ****	✓		✓ (1.5a, 7.6a)	0.1 mm – 0.5 mm	5 °C	30 °C		
✓ ****	✓							
✓ ****	✓		✓ (4.5a)					

* A preliminary injection of IR PUR 2K rapid must be made into water-bearing cracks
** Only for water-bearing cracks under gravity
*** Temporary waterproofing only
**** Pre-wetting required
***** CE declaration of performance 1504-5 for swelling-capable filling in combination with IG Acryl comp. S.

System elements: surface protection systems

Durable protection and repair systems



Recommended products

Funcosil IC

Aqueous, solvent-free impregnation cream, silane-based

Color PA Fill

Quartzite filled, fibre-reinforced intermediate coating for levelling out concrete surfaces

Color PA

High-quality, pure acrylate façade paint

Color Flex

Highly elastic façade coating

Epoxy Primer PF

Pigmented primer and base layer

Epoxy Color Top

Pigmented roll-on coating and topcoat

PUR Color ZS

Intermediate or wearing layer

PUR Color VS

Flexible wearing layer

Funcosil IC

Aqueous, solvent-free impregnation cream on a silane base

Range of use	▪ Deep hydrophobic treatment of concrete and reinforced concrete in bridge and road construction and civil engineering ▪ Protection against the ingress of road salt ▪ Protection against frost/de-icing salt damage
Property profile	▪ Improves resistance to freeze/thaw stresses ▪ Repels water ▪ Water vapour diffusion open ▪ Highly concentrated (80% active substance content) ▪ Alkali resistant ▪ Excellent long-term effect ▪ Tested according to ZTV-ING, TL/TP OS-A and DAfStb, RL-SIB OS 1 ▪ BASt-listed ▪ Lightweight, can be applied with pinpoint accuracy and no losses ▪ Excellent penetration ▪ Solvent-free ▪ UV-resistant

Quantity per pallet	**64**	**16**	**2**
Packaging unit	**5 l**	**30 l**	**180 l**
	Plastic bucket	Plastic bucket	Tin drum
Container code	05	30	67
Art. no.			
0710	■	■	■

System application	Page
Remmers OS 1 (OS A)	18

Primer Hydro HF

Aqueous deep primer with strengthening and hydrophobising properties

Range of use	▪ Sanding and absorbent mineral substrates ▪ Weathered old coatings capable of supporting a load
Property profile	▪ Strengthening ▪ Evens out differences in absorption ▪ Aqueous

Quantity per pallet	**90**	**24**
Packaging unit	**5 l**	**30 l**
	Plastic canister	Plastic canister
Container code	05	30
Art. no.		
0725	■	■

System application	Page
Remmers OS 2 (OS B)	18

Color PA Fill

Quartzite filled, fibre-reinforced intermediate coating for levelling out concrete surfaces

Range of use	▪ Filling pores and pipes up to 1 mm ▪ Levelling concrete surfaces and load-bearing dispersion coatings ▪ Intermediate coating in the OS 4 (OS-C) and OS 5a (OS-DII) system as per DIN EN 1540 / DIN V 18026 **Remmers OS C / OS 4-System:** Color PA Fill (OS Concre Fill) + Color PA (Concrete Acrylic) **Remmers OS-DII / OS 5a system:** Color PA Fill (OS Concre Fill) + Color Flex (Elastoflex Façade Paint)
Property profile	▪ Crack bridging up to 0.3 mm (static) ▪ Good adhesion on concrete and load-bearing mineral or synthetic resin bonded coatings ▪ Apply by brush, roller, sprayer or filler knife ▪ Fibre-reinforced, contains mineral fillers ▪ BASt-listed ▪ Tested according to DIN EN 1504-2

System application	**Page**
Remmers OS 4 (OS C)	20
Remmers OS 5a (OS DII)	22

Quantity per pallet	**32**	**18**
Packaging unit	**12.5 l**	**30 l**
	Plastic bucket	Plastic bucket
Container code	13	30
Art. no.		
6490	■	■

Color PA

High-quality, pure acrylate façade paint

Range of use	▪ Façades and concrete surfaces ▪ Surface protection systems for concrete as per DIN EN 1504/DIN V 18026 **Remmers OS-B / OS 2 system:** Primer Hydro HF + Color PA **Remmers OS-C / OS 4-System:** Color PA Fill + Color PA **Remmers OS-C / OS 4-System:** Betofix Fill + Color PA
Property profile	▪ Carbonation inhibiting s_d CO2: ≥ 252 m ▪ Highly water repellent w ≤ 0.1 kg/(m² · $h^{0.5}$) ▪ Water vapour permeable S_d < 0.3 m ▪ Weather-resistant ▪ Excellent hiding power ▪ Colourfast ▪ BASt-listed ▪ Tested according to DIN EN 1504-2

System application	Page
Remmers OS 2 (OS B)	19
Remmers OS 4 (OS C)	20

Quantity per pallet		**48**	**32**
Packaging unit		**5 l**	**12.5 l**
		Plastic bucket	Plastic bucket
Container code		05	13
Art. no.			
6500	white	■	■
6530	colour collection	■	■
6529	special colours	■	■
Only adjustable following consultation - no intense colours possible			

white

colour collection

special colours

Color Flex

Highly elastic façade coating

Range of use	▪ Façades and concrete surfaces ▪ Surface protection system for concrete structures acc. to DIN EN 1504 / DIN V 18026 as per Class OS 5a (OS-DII) **Remmers OS-DII / OS 5a-System:** Betofix Fill (Betofix Filler) + Color Flex (Elastoflex Façade paint) **Remmers OS-DII / OS 5a system:** Color PA Fill (OS Concre-Fill) + Color Flex (Elastoflex Façade Paint) ▪ Firmly adhering old coatings on a mineral or synthetic resin base that are capable of supporting a load ▪ Cracked façade surfaces
Property profile	▪ Highly crack-bridging ▪ UV-curing binder ▪ Carbonation inhibiting s_d CO_2 ≥ 115 m ▪ Highly water repellent w ≤ 0.1 kg/(m² · $h^{0.5}$) ▪ Water vapour permeable ▪ Excellent hiding power ▪ BASt-listed ▪ Tested according to DIN EN 1504-2

System application	Page
Remmers OS 5a (OS DII)	22

Quantity per pallet		**32**
Packaging unit		12.5 l Plastic bucket
Container code		13
	Art. no.	
2976	white	■
2978	colour collection	■

white

colour collection

Betofix Fill

PCC fine filler

Range of use	■ Concrete replacement acc. to - DIN EN 1504-3 - SIB GL DAfStb 2001 ■ Interiors and exteriors ■ Levelling concrete surfaces ■ Repairing broken-out areas, pores and defects ■ System component for OS 4 (OS C) / OS 5a (OS DII) ■ System component for the PCC/M3 system
Property profile	■ High early strength ■ Good smoothing and adhesion capacity ■ Low-stress and sets without cracking ■ Good overhead workability ■ Resistant to frost/de-icing salts

Quantity per pallet	**130**	**42**
Packaging unit	**6 kg**	**25 kg**
	PE bag	PE bag
Container code	06	25
Art. no.		
1008	■	■

System application	**Page**
Remmers OS 4 (OS C)	20
Remmers OS 5a (OS DII)	22

Betofix OS 5b+

Crack-bridging, mineral surface protection system (OS 5b, OS DI) with general certificate acc. to DIN 18533/PG-FBB

Range of use	■ Surface protection system for concrete as per DIN EN 1504-2 for methods 1.3, 2.2, 2.3, 7.7, 8.2 and 8.3 ■ Meets the requirements of the OS 5b/OS DI system at 2 mm layer thickness ■ Coating for exposed concrete surfaces without wheel loads, with near-surface cracks also in the spray area of de-icing salts ■ Waterproofing under permeable road surfaces ■ Waterproofing according to DIN 18533 ■ Sealing of structural joints as per PG-FBB
Property profile	■ Freeze/thaw resistant ■ Plastic modified ■ Tested crack bridging of more than 3 mm (acc. to DIN EN 14891) ■ Resilient at low temps down to -20 °C (B2) ■ Rainproof after 2 hours ■ Fire behaviour class B-s1, d0 (DIN EN 13501-1) ■ Machine processable ■ Radon impermeability (verified through testing)

System application	Page
Remmers OS 5b (OS DI)	23

Quantity per pallet	**18**
Packaging unit	**25 kg** Combi-container (8.7 kg PC+ 16.3 kg LC)
Container code	25
Art. no.	
1113	■

Epoxy BS 4000

Water-based, pigmented levelling layer and base coat

Range of use	■ Primer in Remmers WDD systems ■ Levelling and base layer in Remmers WDD systems ■ Primer and base coat in the systems Remmers Deck OS 8 WD and Deck OS 8 WD-LE ■ System component in TÜV PROFICERT-product interior certified systems (707106482-1, -5)
Property profile	■ Highly fillable ■ Ideal base for even flake coatings ■ Water vapour diffusible ■ Freeze/thaw resistant ■ System tested against backfacing water ■ Coating compatibility test ■ Free from plasticisers, nonylphenols and alkylphenols ■ Physiologically safe in the reacted state

Quantity per pallet			
Packaging unit		**10 kg** Tin bucket	**25 kg** Tin bucket
Container code		11	26
Art. no.			
6321	pebble grey	■	■
6322	silver grey	■	■
6323	light grey	■	■
6320	special colours > 200 kg	■	■

pebble grey

silver grey

light grey

special colours from 200 kg

System application	Page
Deck OS 8 WD (LE)	29
Detailed solution	54

Epoxy BS 3000 SG

Water-based, pigmented, silk gloss sealant

Range of use	■ Sealant in Remmers WDD systems ■ Topcoat on Remmers WDD blinded coatings ■ Topcoat in the system Remmers Deck OS 8 WD ■ System component in TÜV PROFICERT-product interior certified systems (707106482-4, -5)
Property profile	■ Silk gloss ■ Can be made slip-resistant ■ Water vapour diffusible ■ Free from plasticisers, nonylphenols and alkylphenols ■ Physiologically safe in the reacted state

Quantity per pallet		**200**			
Packaging unit		**1 kg**	**5 kg**	**10 kg**	**25 kg**
		Tin bucket	Tin bucket	Tin bucket	Tin bucket
Container code		01	06	11	26
Art. no.					
6381	pebble grey	■	■	■	■
6382	silver grey	■	■	■	■
6383	light grey	■	■	■	■
6386	stone grey	■	■	■	■
6389	basalt grey	■	■	■	■
6380	special colours > 5 kg		■	■	■

System application	Page
Deck OS 8 WD (LE)	29


pebble grey


silver grey

light grey


stone grey


basalt grey


special colours from 5 kg

Epoxy BS 3000 M

Water-based, pigmented, matt sealant

Range of use	■ Sealant in Remmers WDD systems ■ Topcoat on Remmers WDD blinded coatings ■ Topcoat in the system Remmers Deck OS 8 WD ■ System component in TÜV PROFICERT-product interior certified systems (707106482-4, -5)
Property profile	■ Matt ■ Can be made slip-resistant ■ Water vapour diffusible ■ Free from plasticisers, nonylphenols and alkylphenols ■ Physiologically safe in the reacted state

Quantity per pallet				
Packaging unit		**5 kg** Tin bucket	**10 kg** Tin bucket	**25 kg** Tin bucket
Container code		06	11	26
Art. no.				
6371	pebble grey	■	■	■
6372	silver grey	■	■	■
6372	light grey		■	■
6370	special colours from 5 kg	■	■	■

System application	**Page**
Deck OS 8 WD (LE)	29

pebble grey

silver grey

light grey

special colours from 5 kg

Epoxy MT 100

Fast-acting primer for slightly damp substrates

Range of use	▪ Primer, bonding layer, levelling layer for slightly damp substrates ▪ Producing compression-resistant mortars, flow coatings ▪ Base layer for blinded coatings
Property profile	▪ Substrate-tolerant up to 6% residual moisture (CM method) ▪ Good adhesion on weakly absorbent substrates ▪ Quick setting/overcoating ▪ Full hardening from +5 °C ▪ High mechanical durability ▪ High chemical durability ▪ Coating compatibility test ▪ Free from plasticisers and nonylphenols ▪ Physiologically safe in the reacted state ▪ Can be used as a primer without subsequent blinding under Remmers PU and EP coatings

Quantity per pallet	**168**	**120**		
Packaging unit	**1 kg**	**2.5 kg**	**10 kg**	**25 kg**
	MCB	MCB	Tin bucket	Tin bucket
Container code	01	03	11	26
Art. no.				
0936			■	■
6362	■	■		

System application	**Page**
Detailed solutions	50, 52, 53

Epoxy ST 100

Transparent priming and mortar resin

Range of use	▪ Primer, bonding layer, levelling layer ▪ Producing compression-resistant mortars, flow coatings ▪ Base layer for blinded coatings ▪ Primer in the system Remmers Deck OS 8 classic
Property profile	▪ High mechanical durability ▪ High chemical durability ▪ Good penetration ▪ Coating compatibility test ▪ Free from plasticisers, nonylphenols and alkylphenols ▪ Physiologically safe in the reacted state ▪ Can be used as a primer without subsequent blinding under Remmers PU and EP coatings

Quantity per pallet	**168**	**120**				
Packaging unit	**1 kg**	**2.5 kg**	**10 kg**	**25 kg**	**240 kg**	**720 kg**
	MCB	MCB	Tin bucket	Tin bucket	Drum	Drum
Container code	01	03	11	26	71	70
Art. no.						
1160			■	■	■	*
6361	■	■				

*720 kg drums on request

System application	**Page**
Deck OS 8 (classic)	28
Deck OS 8 WD (LE)	29

Epoxy Primer PF

Pigmented primer and base layer

Range of use	■ Pigmented primer, levelling layer ■ Base layer for blinded coatings ■ Primer in the systems Remmers Deck OS 8, OS 11a-II, OS 11b-II and the system Remmers Deck OS 10 M ■ Primer in the system Remmers Deck OS 14 as per Regulatory Guideline on Maintenance (draft, 2016)
Property profile	■ High mechanical durability ■ Excellent adhesion to concrete and cement screed ■ Coating compatibility test ■ Free from plasticisers, nonylphenols and alkylphenols ■ Physiologically safe in the reacted state ■ Can be used as a primer without subsequent blinding under Remmers PU and EP coatings

Quantity per pallet

Packaging unit		**12 kg**	**30 kg**
		Tin bucket	Tin bucket
Container code		13	31
Art. no.			
1224	silver grey	■	■
1225	light grey	■	■
1226	neutral	■	■

silver grey

light grey

neutral

System application	Page
Deck OS 8 (classic)	32
Deck OS 10 M (EP/PUR)	33
Deck OS 11a – II (EP/PUR)	34
Deck OS 11b – II	35
Deck OS 14 (EP/PUR)	37
Deck M Flex (EP/PUR)	39

PUR Color ZS

Intermediate, sealing and wearing layer in Remmers Deck OS systems

Range of use	▪ Crack-bridging intermediate and blinding layer in Remmers Deck OS systems
Property profile	▪ Crack-bridging ▪ Solvent-free ▪ Highly elastic

Quantity per pallet	
Packaging unit	**25 kg** Tin bucket
Container code	26
Art. no.	
6826	■

System application	Page
Deck OS 10 M (EP/PUR)	33
Deck OS 11a – II (EP/PUR)	34
Deck OS 11b – II	35
Deck OS 14 (EP/PUR)	37
Deck M Flex (EP/PUR)	39

PUR Color VS

Flexible sealing and wearing layer in Remmers OS systems

Range of use	▪ Crack-bridging intermediate and sealing layer in the Remmers Deck OS 8 Hybrid system ▪ Crack-bridging wearing layer in Remmers Deck OS systems
Property profile	▪ Solvent-free ▪ Flexible ▪ High mechanical durability

Quantity per pallet	
Packaging unit	**30 kg** Tin bucket
Container code	31
Art. no.	
6056	■

System application	Page
Deck OS 10 M (EP/PUR)	33
Deck OS 14 (EP/PUR)	37
Deck M Flex (EP/PUR)	39

Epoxy Color Top

Pigmented roll-on coating and topcoat

Range of use	■ Topcoat in the systems Remmers Deck OS 8 and Deck OS 8 classic ■ Topcoat in the systems Remmers Deck OS 11a-II and OS 11b-II ■ Topcoat in the system Remmers Deck OS 14 as per Regulatory Guideline on Maintenance (draft, 2016) ■ Topcoat for blinded coatings ■ Coloured roll-on coating
Property profile	■ Good protection against carbamate formation ■ Good hiding power on blinded coatings ■ High mechanical durability ■ High chemical durability ■ Coating compatibility test ■ Free from plasticisers, nonylphenols and alkylphenols ■ Physiologically safe in the reacted state

Quantity per pallet

Packaging unit		**10 kg**	**30 kg**
		Tin bucket	Tin bucket
Container code		11	31
Art. no.			
6186	agate grey	■	■
6191	silver grey	■	■
6192	light grey	■	■
6193	pebble grey	■	■
6194	stone grey	■	■
6195	basalt grey	■	■
6196	traffic grey A	■	■
6188	traffic grey B	■	■
6190	special colours > 10 kg	■	■

agate grey

silver grey

light grey

pebble grey

stone grey

basalt grey

traffic grey A

traffic grey B

special colours from 10 kg

System application	Page
Deck OS 8 (classic)	32
Deck OS 10 M (EP/PUR)	37
Deck OS 11a – II (EP/PUR)	38
Deck OS 11b – II	39
Deck OS 14 (EP/PUR)	41
Deck M Flex (EP/PUR)	43

PUR Color Top OS

Pigmented topcoat in Remmers Deck OS systems

Range of use	▪ Topcoat in the systems Remmers Deck OS 11a - II and Remmers Deck OS 10 M ▪ Topcoat in the system Remmers Deck OS 14 as per Regulatory Guideline on Maintenance (draft, 2016)
Property profile	▪ Lightfast ▪ Tough-elastic ▪ High mechanical durability ▪ High chemical durability

Quantity per pallet		
Packaging unit		**30 kg** Tin bucket
Container code		30
Art. no.		
6055	Special colours > 120 kg	■

Special colours from 120 kg

System application	Page
Deck OS 10 pro	34
Deck OS 10 M (EP/PUR)	37
Deck OS 11a – II (EP/PUR)	38
Deck OS 11b – II	39
Deck OS 14 PRO	40
Deck OS 14 (EP/PUR)	41
Deck M Flex (EP/PUR)	43

Epoxy Primer OS

Special primer in the Remmers OS 10 EP pro system

Range of use	▪ Priming and levelling
Property profile	▪ High mechanical durability ▪ Excellent adhesion to concrete and cement screed ▪ Tested effectiveness against backfacing water ▪ Suitable for slightly damp substrates ▪ Physiologically safe in the reacted state

Quantity per pallet	
Packaging unit	**25 kg** Tin bucket
Container code	26
Art. no.	
6057	■

System application	Page
Deck OS 10 pro	34
Deck OS 10 PUA PRO	36
Deck OS 14 PRO	40

PUA Hybrid OS pro

Spray-on waterproofing

Range of use	▪ Spray-on waterproofing in the system Remmers Deck OS 10 pro
Property profile	▪ Solvent-free ▪ Highly elastic ▪ Suitable for machine processing only ▪ Sets at low temperatures ▪ Ready for overcoating after a very short time

Quantity per pallet		**4**	**4**
Packaging unit		**200 kg** Drum	**215 kg** Drum
Container code		69	69
Art. no.			
6051	Component A	■	
6052	Component B		■

System application	Page
Deck OS 10 pro	34
Deck OS 10 PUA PRO	36
Deck OS 14 PRO	40

PUR Color ZS OS pro

Intermediate and sealing layer

Range of use	▪ Intermediate layer in the Remmers Deck OS 10 PUA PRO system
Property profile	▪ Solvent-free and plasticiser-free ▪ Highly elastic ▪ Suitable for manual application ▪ Crack-bridging

Quantity per pallet	
Packaging unit	**25 kg** Tin bucket
Container code	26
Art. no.	
6048 grey	■

grey

System application	Page
Deck OS 10 pro	34
Deck OS 10 PUA PRO	36
Deck OS 14 PRO	40

PUR Color VS OS pro

Flexible wearing layer

Range of use	▪ Crack-bridging wear layer in the system Remmers Deck OS 10 EP pro
Property profile	▪ High mechanical durability ▪ Tough-elastic

Quantity per pallet	
Packaging unit	**25 kg** Tin bucket
Container code	25
Art. no.	
6053	■

System application	Page
Deck OS 10 pro	34
Deck OS 14 PRO	40

PUA Color WL OS pro

Wearing layer in Remmers Deck OS systems

Range of use	▪ Wearing layer in the Remmers Deck OS 10 PUA PRO system
Property profile	▪ Low emissions ▪ Slip-resistant ▪ Abrasion-resistant ▪ UV stable ▪ Colour stable ▪ Quick curing

Quantity per pallet			
Packaging unit		**25 kg**	
		Tin bucket	
Container code		26	
Art. no.			
6049	neutral	■	

System application	Page
Deck OS 10 PUA pro	36

Epoxy Top OS

Pigmented topcoat in the Remmers Deck OS 10 EP pro system

Range of use	▪ Topcoat in the Remmers Deck OS 10 EP pro system
Property profile	▪ Flexible ▪ High mechanical durability ▪ High chemical durability

Quantity per pallet		**22**	**60**	
Packaging unit		**24.5 kg**	**5.5 kg**	
		Comp. A	Comp. B	
Container code		25	05	
Art. no.				
6076	Special colours > 30 kg	■	■	

Note: Order components A and B separately. Contact Remmers Customer Service for more information.

Special colours from 30 kg

System application	Page
Deck OS 10 pro	34
Deck OS 11b – II	39
Deck OS 14 PRO	40

System elements: concrete repair

Corrosion protection, replacement mortar, repair mortar and injection resin

Recommended products

Betofix R4

Fibre-reinforced PCC for static repair of concrete structures

Betofix SPCC

Fibre-reinforced SPPC for the repair of concrete structures SPCC / SRM

Betofix SPCC TS

Fibre-reinforced SPCC/SRC repair and embedding mortar for cathodic corrosion protection

Betofix EM 4 2K

Concrete replacement mortar PCC I / RM

IR Epoxy 360

Rigid 2K epoxy injection resin, F-I (P)/F-V (P)

IR PUR 250

Flexible, moisture-reactive 1K PU injection resin, D-I (P)

IR PUR 2K 150

Highly flexible 2K PU injection resin, D-I (P)

IG Acryl 3K

Acrylate gel

Betofix KHB

Mineral corrosion protection and bonding layer

Range of use	▪ Interiors and exteriors ▪ Corrosion protection ▪ In the Betofix concrete repair system for concrete coverage ≤ 10 mm ▪ Bonding layer on mineral building material surfaces ▪ System component for the PCC/M3 system
Property profile	▪ Pigments with active rust protection ▪ Polymer-modified ▪ High adhesive pull strength ▪ BASt-listed ▪ Certified to DIN EN 1504-7 ▪ Sulphate-resistant

Quantity per pallet		**130**	**42**
Packaging unit		**5 kg** PE bag	**25 kg** PE bag
Container code		05	25
Art. no.			
1087	grey	■	■

Betofix R4

Fibre-reinforced PCC (RM) for static repair of concrete structures

Range of use	▪ Concrete replacement acc. to - DIN EN 1504-3 - SIB GL DAfStb 2001 - ZTV-ING - ZTV-W LB 219 ▪ Concrete replacement for statically relevant repairs
Property profile	▪ High chloride penetration resistance ▪ Sulphate-resistant ▪ High carbonation resistance ▪ Resistant to freeze/thaw stresses ▪ Good water retention capacity ▪ Very low shrinkage

Quantity per pallet		**36**
Packaging unit		**25 kg** Paper bag
Container code		25
Art. no.		
1096	grey	■

Betofix SPCC

Fibre-reinforced SPCC (SRM) for the static repair of concrete structures

Range of use	■ Concrete replacement for statically relevant repairs ■ Concrete replacement acc. to - DIN EN 1504-3 - SIB GL DAfStb 2001 - ZTV-ING ■ Wet spraying
Property profile	■ High chloride penetration resistance ■ High carbonation resistance ■ Sulphate-resistant ■ Very low shrinkage ■ Good overhead workability ■ Resistant to frost/de-icing salts

Quantity per pallet	**36**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
1100 grey	■
Minimum order quantity 3 pallets	

Betofix KHB SR

Mineral corrosion protection and bonding layer, sulphate-resistant

Range of use	▪ Bonding layer on mineral building material surfaces ▪ Corrosion protection ▪ In the Betofix concrete repair system for insufficient concrete cover ▪ Interiors and exteriors
Property profile	▪ High sulphate resistance ▪ Pigments with active rust protection ▪ Polymer-modified ▪ High adhesive pull strength

Quantity per pallet		**42**
Packaging unit		**25 kg** PE bag
Container code		25
Art. no.		
1079	grey	■

Betofix Fill SR

PCC (RM) Fine Filler

Range of use	▪ Concrete replacement according to DIN EN 1504-3 ▪ Levelling concrete surfaces ▪ Repairing broken-out areas, pores and defects ▪ Interiors and exteriors
Property profile	▪ High sulphate resistance and low effective alkali content (SR/NA) ▪ High early strength ▪ Good smoothing and adhesion capacity ▪ Low-stress and sets without cracking ▪ Good overhead workability

Quantity per pallet		**42**
Packaging unit		**25 kg** PE bag
Container code		25
Art. no.		
1080	concrete grey	■

Betofix R3 SR

Fibre-reinforced PCC/SPCC (RM/SRM) for static repair of concrete structures

Range of use	▪ Wet spraying ▪ Concrete replacement for statically relevant repairs ▪ Concrete replacement acc. to - DIN EN 1504-3 - DIN 19573 ▪ Repair and coating mortar for wastewater applications acc. to DIN 19573
Property profile	▪ Sulphate-resistant ▪ Low effective alkali content (SR/NA) ▪ Very low shrinkage ▪ Resistant to frost/de-icing salts ▪ Good overhead workability

Quantity per pallet		**36**
Packaging unit		**25 kg** Paper bag
Container code		25
Art. no.		
1107	grey	■

Betofix R4 SR

Fibre-reinforced PCC/SPCC (RM/SRM) for static repair of concrete structures

Range of use	▪ Wet spraying ▪ Repair and coating mortar acc. to DIN 19573 ▪ Concrete replacement for statically relevant repairs ▪ Concrete replacement acc. to - DIN 19573 - DIN EN 1504-3 - Rili-SIB DAfStb 2001 - ZTV-ING ▪ In the drinking water sector, meets the requirements of DVGW Code of Practice W 270 and W 347
Property profile	▪ High chloride penetration resistance ▪ Sulphate-resistant ▪ Resistant to frost/de-icing salts ▪ Low effective alkali content (SR/NA) ▪ Can be applied by spraying and centrifuge ▪ Good overhead workability

Quantity per pallet		**36**
Packaging unit		**25 kg** Paper bag
Container code		25
Art. no.		
1084	grey	■

Betofix R4 S CP

Fibre-reinforced PCC/SPCC (RM/SRM) for static repair of concrete structures / Repair and anode embedding mortar for cathodic corrosion protection

Range of use	▪ Concrete replacement for statically relevant repairs ▪ Concrete replacement according to DIN EN 1504-3 ▪ Repair and anode embedding mortar for cathodic corrosion protection ▪ Wet spraying
Property profile	▪ High carbonation resistance ▪ High water penetration resistance ▪ Good water retention capacity ▪ Very low shrinkage ▪ Resistant to frost/de-icing salts ▪ Max. particle size: 2 mm ▪ Reaction to fire: Class A1 ▪ Compressive strength after 28 days: ≥ 50 N/mm²

Quantity per pallet	**36**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
1106 grey	■

Betofix HQ3 CP

High-strength, swelling capable casting mortar and anode embedding mortar for cathodic corrosion protection

Range of use	▪ Repair and anode embedding mortar for cathodic corrosion protection ▪ Interiors and exteriors ▪ Mineral substrates in dry, damp, wet and underwater areas ▪ Setting and underfilling of machines, steel structures, train tracks, wind power stations and bridge bearings. ▪ Filling joints between precast units, precast elements and basement floors ▪ Setting of columns in sleeve foundations ▪ Small-scale concrete repairs ▪ Filling large voids in concrete elements as per the 3rd amendment to Rili-SIB
Property profile	▪ High early and final strength ▪ High carbonation resistance ▪ Swelling capable ▪ Water impermeable ▪ Inhibits corrosion ▪ Max. particle size: 3 mm ▪ Compressive strength after 28 days: ≥ 105 N/mm²

Quantity per pallet		**36**
Packaging unit		**25 kg** Paper bag
Container code		25
Art. no.		
1055	grey	■

Betofix KHB EM

Mineral corrosion protection and bonding layer

Range of use	▪ Interiors and exteriors ▪ Corrosion protection and bonding layer in one product
Property profile	▪ Polymer-modified ▪ Certified to DIN EN 1504-7

Quantity per pallet		**40**
Packaging unit		**15 kg** Paper bag
Container code		15
Art. no.		
5779	grey	■

Betofix EM 4 2K

Concrete replacement mortar PCC I (RM) for static repair of concrete structures

Range of use	▪ Concrete replacement for statically relevant repairs ▪ Concrete replacement acc. to - DIN EN 1504-3 - SIB GL DAfStb 2001 - ZTV-ING ▪ Repair and anode embedding mortar for cathodic corrosion protection
Property profile	▪ High mechanical resistance ▪ High water penetration resistance ▪ Very low shrinkage ▪ Suitable for machine processing ▪ Resistant to frost/de-icing salts

Quantity per pallet		**24**	**30**	**1**	
Packaging unit		**25 l** Plastic can	**40 kg** Paper bag	**1000 l** Container	Silo
Container code		25	40	61	62
Art. no.					
5778	Betofix EM 4 2K		■		■
5780	Betofix EM LQ	■		■	

Please note:
Betofix EM LQ is the corresponding mixing liquid; please order separately under its own article number.
Minimum order quantity: 3 pallets, 6 t/silo for silo goods.

Betofix EM 8 2K

Concrete replacement mortar PCC I (RC) for static repair of concrete structures

Range of use	▪ Concrete replacement for statically relevant repairs ▪ Concrete replacement acc. to - DIN EN 1504-3 - SIB GL DAfStb 2001 - ZTV-ING ▪ Repair and anode embedding mortar for cathodic corrosion protection
Property profile	▪ High mechanical resistance ▪ High water penetration resistance ▪ Very low shrinkage ▪ Suitable for machine processing ▪ Resistant to frost/de-icing salts

Quantity per pallet		**24**	**30**	**1**	
Packaging unit		**25 l**	**40 kg**	**1000 l**	
		Plastic can	Paper bag	Container	Silo
Container code		25	40	61	62
Art. no.					
5777	Betofix EM 4 2K		■		■
5780	Betofix EM LQ	■		■	

Please note:
Betofix EM LQ is the corresponding mixing liquid; please order separately under its own article number.
Minimum order quantity: 3 pallets, 6 t/silo for silo goods.

Betofix EM LQ

Liquid component for Betofix EM two-component systems

Range of use	▪ Liquid component for producing Betofix EM 2-component concrete substitute mortars
Property profile	▪ Liquid ▪ Solvent-free ▪ Aqueous plastic dispersion

Quantity per pallet		**24**	**1**
Packaging unit		**25 l**	**1000 l**
		Plastic canister	Container
Container code		25	61
Art. no.			
5780	white	■	■

Betofix SPCC TS

Fibre-reinforced SPCC (SRM) for the static repair of concrete structures

Range of use	▪ Concrete replacement for statically relevant repairs ▪ Concrete replacement acc. to - DIN EN 1504-3 - SIB GL DAfStb 2001 - ZTV-ING - ZTV-W LB 219 ▪ Repair and anode embedding mortar for cathodic corrosion protection ▪ Dry spraying
Property profile	▪ High carbonation resistance ▪ High water penetration resistance ▪ Very low shrinkage ▪ Good overhead workability ▪ Resistant to frost/de-icing salts

Quantity per pallet		**40**	
Packaging unit		**25 kg**	
		Paper bag	Silo
Container code		25	62
Art. no.			
5781	grey	■	■

Minimum order quantity: 3 pallets, 6 t/silo for silo goods.

Betofix HQ6

High-strength, swellable infill concrete

Range of use	▪ Mineral substrates in dry, damp, wet and underwater areas ▪ Setting and underfilling of machines, steel structures, train tracks, wind power stations and bridge bearings. ▪ Filling joints between precast units, precast elements and basement floors ▪ Embedding of columns in sleeve foundations ▪ Concrete repairs as per the 3rd amendment to Rili-SIB ▪ Filling large voids in concrete elements as per the 3rd amendment to Rili-SIB ▪ Complies with the DAfStb guideline: “Production and Use of Cement-Bound Poured Concrete and Poured Mortar” ▪ Interiors and exteriors
Property profile	▪ Good flow properties ▪ Self-compacting ▪ Swelling capable ▪ Water impermeable ▪ High sulphate resistance and low effective alkali content (SR/NA) ▪ Max. particle size: 6 mm ▪ Fire behaviour: Class A1 ▪ Compressive strength after 28 days: ≥ 60 N/mm² ▪ Resistant to frost/de-icing salts ▪ Inhibits corrosion

Quantity per pallet	**36**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
0556 grey	■

IR Epoxy 100

Rigid 2K EP resin for frictional injection into concrete elements, F-I (P)/F-V (P)

Range of use	▪ Crack injection in concrete as per DIN EN 1504-5 ▪ Classification: U(F1) W(1) (1/2) (8/30) ▪ Moisture level: DY, DP ▪ Frictional coupling and bonding of components ▪ Consolidation of open-pored concrete structures ▪ Bonding of hollow components
Property profile	▪ Resistant to freeze/thaw stresses ▪ High resistance to chemicals ▪ Total solid (based on Deutsche Bauchemie e.V. testing method) ▪ Fire behaviour B2 according to DIN 4102-4 ▪ Low viscosity

Quantity per pallet	**200**	
Packaging unit	**10 × 1 kg**	**5 kg**
	Tin bucket	Tin bucket
Container code	01	06
Art. no.		
0944	■	■

IR Epoxy 360

Rigid 2K epoxy injection resin, F-I (P)/F-V (P)

Range of use	▪ Crack injection in concrete as per DIN EN 1504-5 ▪ Classification: U(F1) W(2) (1) (8/30) (1) ▪ Moisture level: DY ▪ Tested according to ZTV-Ing (RISS), (BASt list) ▪ Tested according to DIN V 18028 ▪ Frictional coupling and bonding of components ▪ Consolidation of open-pored concrete structures ▪ Bonding of hollow components
Property profile	▪ Resistant to freeze/thaw stresses ▪ High resistance to chemicals ▪ Total solid (based on Deutsche Bauchemie e.V. testing method) ▪ Fire behaviour B2 according to DIN 4102-4 ▪ Low viscosity

Quantity per pallet	**300**	
Packaging unit	**1 kg**	**7 kg**
	Tin canister	Tin canister
Container code	01	07
Art. no.		
6872	■	■

IR PUR 250

Flexible, moisture-reactive 1K PU injection resin, D-I (P)

Range of use	▪ Crack injection in concrete as per DIN EN 1504-5 ▪ Classification: U(D1) W(3) (2/3/4*) (8/30) *Only for water-bearing cracks under gravity! ▪ Moisture level: DP, WT, WF ▪ Waterproofing of buildings with pressing water ▪ Sealing of damp and water-bearing cracks ▪ Caution! Moisture/water must be present
Property profile	▪ Reacts with moisture ▪ High resistance to chemicals ▪ High flank adhesion ▪ Very high elasticity

Quantity per pallet	**300**	
Packaging unit	**1 kg**	**5.3 kg**
	Tin canister	Tin canister
Container code	01	05
Art. no.		
6870	■	■

IR PUR 2K 150

Highly flexible 2K PU injection resin, D-I (P)

Range of use	▪ Crack injection in concrete as per DIN EN 1504-5 ▪ Classification: U(D1) W(2) (1/2/3/4*) (5/30) ▪ Moisture level: DY, DP, WT, WF* - * A preliminary injection of IR PUR 2K rapid must be made into water-bearing cracks ▪ Tested according to ZTV-Ing (RISS), (BASt list) ▪ Tested according to DIN V 18028 ▪ For use with injection hoses ▪ Horizontal barrier and waterproofing in masonry ▪ Sealing of damp and water-bearing cracks
Property profile	▪ High resistance to chemicals ▪ Total solid (based on Deutsche Bauchemie e.V. testing method) ▪ Low viscosity ▪ High flank adhesion ▪ Very high elasticity

Quantity per pallet	**300**	
Packaging unit	**1 kg**	**7.75 kg**
	Tin canister	Tin canister
Container code	01	08
Art. no.		
6871	■	■

IR PUR 2K rapid

Rapid expanding 2K PU injection foam resin, SPUR, D-I (P)

Range of use	▪ Crack injection in concrete as per DIN EN 1504-5 ▪ Classification: U(D1) W(1/2/3) (4*) (5/30) *Temp. waterproofing only! ▪ Moisture level: WF ▪ Pre-injection in water-bearing cracks (WF) ▪ Tested according to ZTV-Ing (RISS), (BASt list) ▪ Tested according to DIN V 18028 ▪ Void filling in masonry/concrete with water inrush ▪ Curtain injection
Property profile	▪ Temporary waterproofing ▪ Expands rapidly and strongly ▪ High resistance to chemicals ▪ High flank adhesion

Quantity per pallet	**300**		
Packaging unit	**1 kg**	**11.2 kg**	
	Tin canister	Tin canister	
Container code	01	11	
Art. no.			
6876	■	■	

IG Acryl 3K

Acrylate gel

Range of use	▪ Curtain injection ▪ Substrate strengthening and waterproofing ▪ Joint backfilling
Property profile	▪ Three components ▪ Swells with water ▪ Low viscosity ▪ Solvent-free ▪ Highly elastic ▪ Swelling capable ▪ Resistant to frost/de-icing salts

Quantity per pallet		**24**	**36**	
Packaging unit		**1 kg**	**1 pc**	**22.95 kg**
		Plastic canister	Plastic canister	Kit
Container code		01	01	23
Art. no.				
6873	IG Acryl 3K			■
6875	MIXCAN (20 l)		■	
6877	IG Acryl COMP S	■		

IG Acryl 3K kit contains: component A1 (21.50 kg) & component A2 (1.05 kg) & component B (0.4 kg)
Note: mixing container (Mixcan) and accelerator (IG Acryl Comp S) sold separately

Accessories and Supplementary products

Synthetic resin coatings, adhesion promoters and sealants

Recommended products

QP Color

Very fast reacting, pigmented synthetic resin coating

PUR Primer S 2K

Solvent-based adhesion promoter

ADD TX NEU

Polymer modified thixotropic agent

WP RH rapid

Quick-setting plugging mortar

Selectmix 01/03

Fire-dried quartz sand

Quarz 07/12 DF

Fire-dried quartz sand mixture

Quarz 03/08 DF

Fire-dried quartz sand mixture

MS 150

Elastic sealant based on MS hybrid polymers

PUR Primer S 2K

Solvent-based adhesion promoter

Range of use	▪ Adhesion promoter in the system Remmers Deck OS 11a - II ▪ For exterior use only
Property profile	▪ Moisture-curing ▪ Solvent-based ▪ Single-component ▪ Blue, translucent

Quantity per pallet	**50**
Packaging unit	**10 kg** Tin canister
Container code	10
Art. no.	
6062	■

ADD TX NEW

Polymer-modified thixotropic agent

Range of use	▪ Thixotropic agent for epoxy resin and polyurethane systems
Property profile	▪ Generates very little dust ▪ Easy to portion out ▪ Easy to mix in

Quantity per pallet	**33**	**4**
Packaging unit	**1 kg** Plastic bucket	**10 kg** Carton
Container code	01	10
Art. no.		
0949	■	■

Packaging units: 1 kg PE bag in a bucket (094901) or
10 × 1 kg PE bags in a carton (094910).

WHG TX

Inorganic thixotropic agent

Range of use	▪ Thixotropic agent for synthetic resins ▪ Thixotropic agent in the system SL Floor WHG (AbZ Z-59.12-302) ▪ Thixotropic agent in the system SL Floor WHG AS (AbZ Z-59.12-303)
Property profile	▪ High stability

Quantity per pallet	**30**
Packaging unit	**1 kg** Paper bag
Container code	01
Art. no.	
1221	■

System application	Page
Deck OS 10 pro	34
Deck OS 14 PRO	40

QP Color

Very fast reacting, pigmented synthetic resin coating

Range of use	▪ Coloured roll-on coating ▪ Base layer for blinded coatings ▪ Base layer for blinded coatings ▪ Topcoat for blinded coatings
Property profile	▪ Full hardening from +3 °C ▪ Wear resistant ▪ High mechanical durability ▪ High chemical durability

Quantity per pallet		
Packaging unit		**11.2 kg** Tin bucket
Container code		11
Art. no.		
6891	pebble grey	■
6892	light grey	■
6893	silver grey	■
6894	dusty grey	■
6895	special colours from 11.2 kg	■

System application	Page
Detailed solutions	54

pebble grey

light grey

silver grey

dusty grey

special colours from 11.2 kg

QP Cat

Accelerator in the Remmers QP system

Range of use	▪ Accelerator in the Remmers QP system (QP 100; QP Color)
Property profile	▪ Accelerates full hardening

Quantity per pallet	**2000**
Packaging unit	0.1 kg Can
Container code	81
Art. no.	
6898	■

MS 150

Elastic sealant based on MS hybrid polymers

Range of use	▪ Joints in concrete and precast construction ▪ Façade joints, masonry joints ▪ Façade cladding, steel and assembly construction ▪ Joints connecting door and window frames to the building structure ▪ Universal, elastic polymer adhesive
Property profile	▪ High adhesion to many substrates ▪ Quick, blister-free curing ▪ Can be painted and coated over ▪ Coating compatible acc. to DIN 52452 ▪ Very low emissions (GEV-EMICODE EC 1^{Plus}) ▪ Isocyanate-free

Quantity per pallet	**1056**	**880**
Packaging unit	**12 × 290 ml**	**20 × 600 ml**
	Cartridge	Aluminium bag
Container code	12	59
Art. no.		
7505	■	■

MultiSil NUW

Plasticiser-free, alkoxy-crosslinking silicone sealant

Range of use	▪ Natural stone ▪ Joints subjected to high mechanical and chemical stress ▪ Permanently underwater areas ▪ Food industry ▪ Medical treatment rooms
Property profile	▪ No discolouration on natural stone ▪ Highly resistant to mechanical and chemical stresses ▪ Highly elastic

Quantity per pallet		**1056**	**864**
Packaging unit		**12 × 310 ml**	**20 × 600 ml**
		Cartridge	Aluminium bag
Container code		01	60
Art. no.			
027528	manhattan	■	■
027529	special colours*	■	■

* upon request

Selectmix SBL DF

Filler mixture with special aggregate grading curve

Range of use	▪ Special filler for suitable Remmers epoxy resin systems
Property profile	▪ High degree of filling possible even at low layer thicknesses ▪ Generates very little dust

Quantity per pallet	**70**	**63**
Packaging unit	**10 kg**	**15 kg**
	Paper bag	Paper bag
Container code	**10**	**15**
Art. no.		
6751	■	■

Selectmix 01/03

Fire-dried quartz sand

Range of use	▪ Filler for suitable Remmers systems
Property profile	▪ Washed ▪ Fire-dried

Quantity per pallet	**42**
Packaging unit	**25 kg**
	Paper bag
Container code	25
Art. no.	
4405	■

System application	Page
Deck OS 8 (classic)	32
Deck OS 8 WD (LE)	33
Deck OS 10M	37
Deck OS 11a II	38
Deck OS 11b II	39
Deck OS 14	41
Deck M FLEX	57

Quarz 03/08 DF

Fire-dried quartz sand mixture

Range of use	▪ Blinding sand in Remmers systems
Property profile	▪ Washed ▪ Fire-dried ▪ Dust-free

Quantity per pallet	**40**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
4406	■

System application	Page
All flooring systems	32-43
Deck OS 8 Hybrid	57

Quarz 07/12 DF

Fire-dried quartz sand mixture

Range of use	▪ Blinding sand in Remmers systems
Property profile	▪ Washed ▪ Fire-dried ▪ Dust-free

Quantity per pallet	**40**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
4407	■

System application	Page
Deck OS 10 pro	34
Deck OS 14 PRO	40

Ceramix HS 08

Special hard material

Range of use	▪ Blinding material in Remmers systems
Property profile	▪ Dust-free ▪ Abrasion-resistant ▪ Grain size: 0.3 - 0.8 mm

Quantity per pallet	**40**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
6647	■

Ceramix HS 14

Special hard material

Range of use	▪ Blinding material in Remmers systems
Property profile	▪ Dust-free ▪ Abrasion-resistant ▪ Grain size: 1.0 - 1.4 mm

Quantity per pallet	**40**
Packaging unit	**25 kg** Paper bag
Container code	25
Art. no.	
6648	■

Selectmix 0/10

Filler mixture with special aggregate grading curve

Range of use	■ Special filler for suitable Remmers systems ■ Hollow cove mortar ■ Repair mortar
Property profile	■ Universal ■ For achieving high strengths ■ Easy to smooth and self-compacting

Quantity per pallet	**52**
Packaging unit	**10 kg** Plastic bucket
Container code	10
Art. no.	
6750	■

Epoxy Quick Fix

Fast-reacting synthetic resin mortar

Range of use	■ Hollow and triangular coves ■ Filling and repairing missing and broken-out areas ■ Producing sills and transitions
Property profile	■ Pre-packaged set including primer ■ Fast setting ■ Sets at low temperatures ■ Easy to apply

Quantity per pallet	**33**
Packaging unit	**10 kg** Plastic bucket
Container code	10
Art. no.	
6272	■

Note: Set consists of 1.0 kg epoxy resin in mixing bag, 9.0 kg special filler, 1 brush and 1 pair of disposable gloves in mixing bucket

WP RH rapid

Quick-setting plugging mortar

Range of use	▪ Rapid repair of leaking areas, seepage areas and water inrushes ▪ Plugging under Remmers mineral waterproofing slurries ▪ Repair and waterproofing of concrete, masonry, render and shafts
Property profile	▪ Reacts within seconds (starts to set after approx. 30 seconds) ▪ Water pressure-tight ▪ Low shrinkage ▪ Resistant to frost

Quantity per pallet	**288**	**64**	**32**
Packaging unit	**1 kg** Plastic bucket	**5 kg** Plastic bucket	**15 kg (3 × 5 kg)** Plastic bucket
Container code	01	05	15
Art. no.			
1010 grey	■	■	■

V 101

Cleaning and thinning agent

Range of use	▪ Universal solvent for thinning and cleaning reactive resins that have not yet reacted
Property profile	▪ Good cleaning action ▪ Good thinning action

Quantity per pallet	**360**	**84**	**50**	**24**
Packaging unit	**1 l** Tin canister	**5 l** Tin canister	**10 l** Tin canister	**30 l** Tin canister
Container code	01	05	10	30
Art. no.				
0978	■	■	■	■

V 103

Cleaning and thinning agent

Range of use	▪ Universal solvent for thinning and cleaning reactive resins that have not yet reacted ▪ Cleaning of non-absorbent, non-mineral substrates before using sealants of the MB PUReactive series
Property profile	▪ Good cleaning action, especially on polyurethane-based binders ▪ Good thinning action, especially with Epoxy Universal

Quantity per pallet	**360**	**84**
Packaging unit	**1 l** Tin canister	**5 l** Tin canister
Container code	01	05
Art. no.		
5699	■	■

Product overview

Functional, economical and decorative

Floor coatings for practically any application

From large production halls to retail spaces, recreation rooms and offices, we offer highly durable floor coatings for industrial or commercial use. Whether you are looking for an economical and practical solution, or something more decorative – we will help you find the perfect coating system. We offer a 360° all-round service: from the initial consultation to the execution of the work, all the way through to the finished floor.

Perfectly tailored floors for the food industry

In the food processing industry, high demands are placed on the floor coatings used. The type of load that predominates depends on the particular production environment. In the production of dairy products, highly concentrated acids and aggressive media in particular attack the floor covering. In fish and meat processing, heavyweight transport containers exert high point loads on the floor. Large roasters and heavy ovens generate enormous mechanical and thermal stresses in confectionery and bakery production. The permanently wet conditions and alternating temperature loads found in beverage production and bottling require, above all, strong and slip-resistant floors.

The PU concrete systems from Remmers are the perfect solution and can be flexibly adapted to accommodate the expected loads and stresses. For instance, the surfaces can be finished with a blinding material for texture, giving the floor slip-resistant properties that meet the applicable guidelines for workplaces.

High performance industrial flooring

Floors that are not used in residential buildings or as roads fall into the category of industrial flooring. In addition to having a guaranteed load-bearing capacity, industrial floorings must exhibit long-term resistance against all manner of stresses, all while requiring only minimal care and maintenance.

The multi-layered high performance industrial floors from Remmers were developed precisely to meet these needs. They offer long-lasting resistance against surface loads and point loads caused by warehouse goods, high-bay shelving and containers, as well as wheel loads from forklift trucks and other vehicles. They also ensure that surfaces exposed to chemicals do not become slippery.

Conductive and dissipative floor coverings

In the electronics industry, choosing the right ESD-compliant floor coating (ESD = electrostatic discharge) is essential. Electrostatic charge is a ubiquitous problem in the electronics industry that can make its presence felt in a number of ways. People usually pick up electric charges from the floor. If a person who had been charged in this way then touched a metal object, for instance, the excess charge would jump to it suddenly. This short burst of current is enough to cause permanent damage to electronic components and elements. The high-quality ESD-compliant floor coatings from Remmers prevent the electrostatic charging of people and machinery.

Decorative design flooring

Decorative design flooring from Remmers offers a wealth of brand new design possibilities for architects, developers and companies. The floor coatings are made from polyurethane and epoxy resin, and every detail of their colour and texturing can be customised. Single-colour flow coatings, exciting colour combinations or eye-catching blinded finishes – with the range of choices on offer, any floor can become a stylish focal point.
In commercial properties such as food retailers and fashion boutiques, as well as in highly visible areas such as offices, conference rooms and foyers, the decorative flooring systems offer high recognition value, optimum walking comfort and improved slip resistance. They are also easy to clean and create a pleasant atmosphere for working and leisure activities alike.

We get it done so that you can get things done

Whatever you have in mind:
We at Remmers do everything to personally support you, your work, your project, your idea, your vision, to reach your goal.

We never stand still and we always go one step further for you.
We drive tomorrow's products and services forward. And strive for sustainable development. Because we know from over 75 years of experience: Progress comes from getting things done, success comes from getting things done, the future comes from getting things done.

What can we get done for you?
Don't hesitate to get in touch.

"Never stop starting and never start stopping."

Guiding principle of Bernhard Remmers, founder

Remmers is one of the leading specialists for construction chemicals, wood paints and coatings, and industrial coatings. Founded in 1949 by Bernhard Remmers, we are an independent and owner-managed family business to this day. Our head office is located in the German town of Löningen in the Lower Saxony region – this is where we have our roots. At the same time, we have an international presence with 18 subsidiaries.

Exceptional range of products and services

Tailored solutions

Production in Germany

≈ 1600

Highly qualified specialists Europe-wide

All the extras that we get done for you

- **Personal service on site**
- **Digital services**
- **Delivery within 24 hours in Germany**
- **Remmers International Guarantee**
- **Competence Centres, Training and Service Centre**
- **Bernhard Remmers Academy**
- **Remmers Professional Planning**
- **Bernhard Remmers Institute for Analytics**

We get it done!

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We are there for you with a fast and personal response.

Find your local contact

Find out what we can get done for you:

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Colour variations are possible.
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