

FLOORING

Reinventing concrete floors



New technologies for the traditional flooring material CONCRETE FLOORS

There is more to concrete than just pouring it out and watching it set. Here is what you need to know to shape fresh concrete into an attractive, long-lasting floor system.

Freshly polished and ready to take centre stage REINVENTING CONCRETE FLOORS

Strong, durable, and extremely long lasting: The production and use of concrete has a long tradition. Modern advancements have given us a variety of design options that allow us to reinvent one of the most basic building materials.

More than a layer in floors: Screed

Screed is primarily used as a floor base in domestic and residential buildings as well as trafficked surface in factories and warehouses. Thanks to its initially soft consistency, it is to some extent self-levelling and compensates for unevenness of the material below. If it is cured, a floor covering can be laid on it – but it does not have to.

Screed is not merely something for "down below". In recent years, screed has become increasingly popular and is now considered one of the most stylish floor coverings. Screed can be laid with relatively little effort, is hard wearing, easy to maintain and comes in various colours. These properties, together with an extravagant loft and industrial hall charm, are well received in modern architecture.

Concrete floors

Concrete flooring is no longer only an option for locations where utility, durability, and ease of maintenance are more important than design and beauty.

The design options that have become available for concrete floors in recent years, make it also a popular flooring option for public areas and residential applications.

For indoor & outdoor

- ✓ Swimming pool areas
- ✓ Plazas, parks
- ✓ Driveways
- ✓ Pathways
- ✓ Architectural design
- ✓ Public institutions & building

How to showcase concrete floors?

More and more, modern architecture puts emphasis on concrete with concrete floors increasingly becoming the focus. Concrete floors combine craftsmanship, technical knowhow, sustainability and aesthetic design.

Concrete cannot only be shaped into practically any form, but a wide selection of various textures and finishes can be applied to provide a unique look. Concrete floors can be polished smooth, or textured, they can also be painted or stained with a variety of techniques replicating the look of natural materials, or embedded with complex printed designs.

Materials and/or systems for concrete floors include but are not limited to:

- ✓ Stamped concrete floors
- ✓ Stained concrete floors
- ✓ Exposed aggregates concrete floors
- ✓ Polished concrete floors
- ✓ Coloured concrete floors

Talking about benefits...

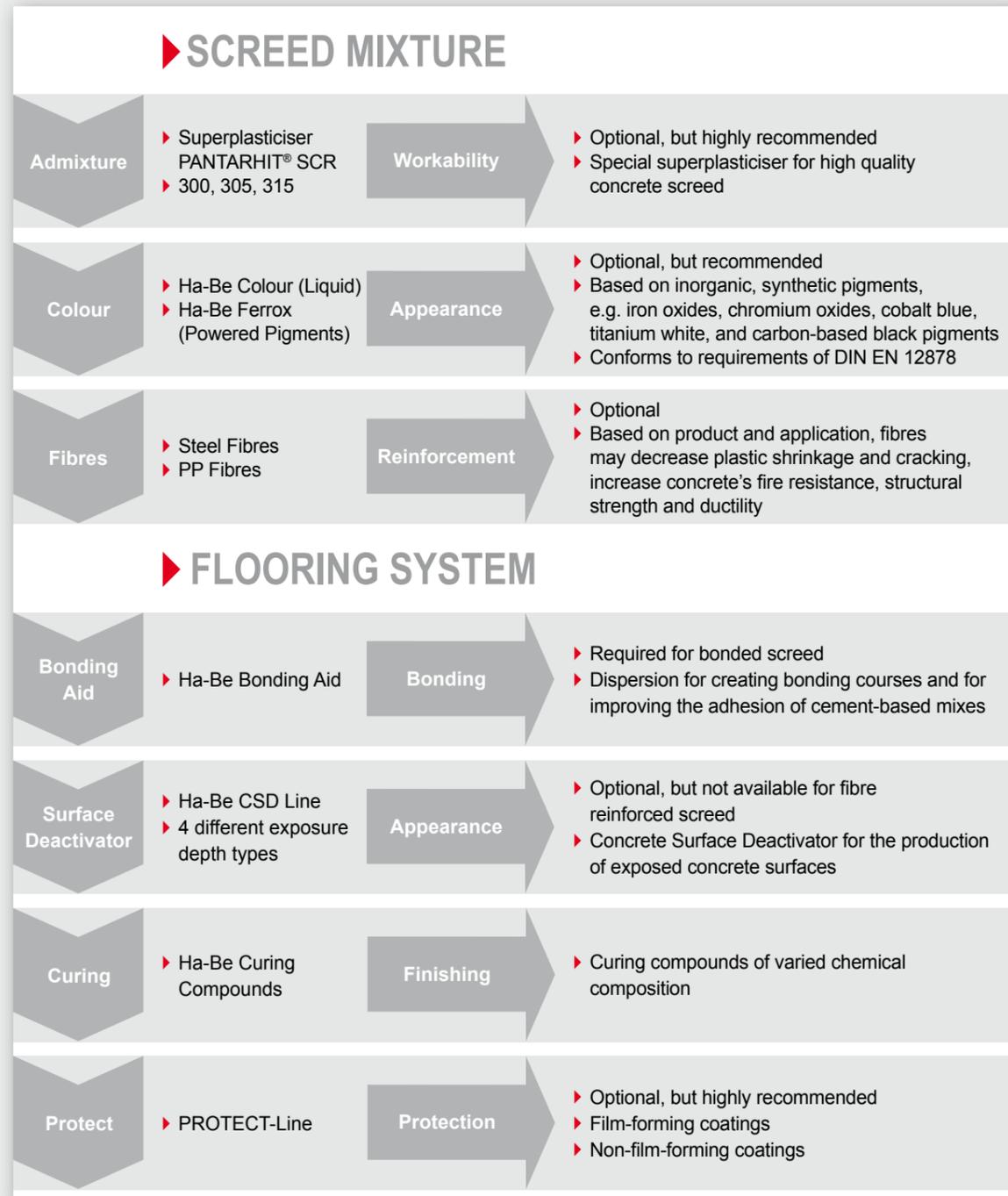
Concrete is a highly versatile material, allowing professionals as well as homeowners to achieve any look imaginable to suit design tastes and budget. Some additional benefits of concrete floors include:

- ✓ Enhancement of the integrity of architect's designs
- ✓ Available in almost any colour
- ✓ May blend seamlessly with other elements
- ✓ Easy to clean
- ✓ Easy to maintain
- ✓ Cost-effective options available
- ✓ Highly versatile, coloured, stained, stamped etc.
- ✓ Suit design tastes and budget
- ✓ Suitable in regions with a lot of sand
- ✓ Good alternative to carpet, if you have allergies

Everything from one source

FLOORING MADE EASY CONCEPT

The floor, as one of the most heavily stressed constructional components, requires careful planning and application. Therefore, Ha-Be has developed the "flooring made easy" concept. that provides one solution and one source to all customers, from product planning, through to designing of the system, commissioning and permanent technical support.



A holistic solution

FLOORING MADE EASY CONCEPT

We provide complete floor screeding solutions with a wide range of products to select for your construction project. From bonding the screed layer to the effective coating and sealing it to the desired aesthetics and durability.

PANTARHIT® SCR LINE

Screed mixtures require a well-dispersed particle suspension. Therefore, Ha-Be has developed its PANTARHIT® SCR LINE: Special superplasticisers that act as dispersants and restrain the screed's particles from segregation. While improving screed's flow characteristics, PANTARHIT® SCR LINE allow to reduce the water to cement ratio, while retaining the workability of the screed.

FIBRES

Cement based material is prone to shrinkage, as a result of water evaporating and being used up in the hydration reaction. Fibres distribute tensile forces that the young concrete is not able to withstand and reduce the width of cracks forming. In addition, the use of fibres in screed carries additional benefits that are not generally available with conventional steel mesh.

HA-BE COLOUR

Concrete flooring no longer has to be grey and boring. Colouring concrete or applying textures, patterns, etc., can bring new life to this traditional building material. Stained concrete is an incredibly popular choice for interior as well as exterior floors because of its warm, earthy tones. The wide range of colours available allow us to colour concrete so naturally that it blends seamlessly with other elements and its surroundings. While stains are the most common, other colouring options for concrete flooring includes painting, dying and the application of tinted sealers.

CURING COMPOUNDS

To avoid the early loss of water required for the hydration process is an important factor to prevent plastic shrinkage at an early age. Therefore, Ha-Be has developed its curing compounds. They seal the surface with a film impregnable to water vapour and prevent concrete from drying out.

HA-BE CSD

HA-BE CSD products are reactive surface deactivators for the production of exposed aggregate concrete surfaces, for all exposure depths, from micro-exposure to coarse aggregate exposure.

HA-BE BONDING AID

Applying cementitious building materials in layers requires the proper measures. The special bonding agent properties offer you almost shrinkage-free, high strength screeds: The decisive factors for a long and trouble-free service life.

HA-BE PROTECT

No decorative concrete floor installation is complete without the subsequent protection. Applying a sealer may not only extend the life of the floor, but also highlight and preserve its appearance. To make concrete floors even more durable, it is necessary to protect them from degradation and deterioration. Protective treatments for concrete are available for almost any degree of durability required. Properly protected concrete floors also feature easy-to-clean properties.

Ensure proper installation SCREED CONSTRUCTION

Screed provide a level surface in a floor to which a finish is applied. Screed construction is generally of 3 types: It can be installed using the bonded, unbonded or floating (heated or unheated) method.

Considerations

Many floor failures have been traced to poor screed construction: Laid without much supervision and inspection, defective screed can soon become very costly. Choosing the wrong screed, applying the wrong thickness or using the wrong installation method may cause the screed to fail and thus may require high effort for corrective action. Therefore, it's important to consider the floor's requirements and being aware of the different types of screeds and their methods of application.

While the designer's specification of a floor screed may vary depending on the requirement for its load-bearing capacity, durability, surface levelling requirements, final floor usage and covering, and economical and environmental considerations, international standards exist to ensure a proper screed laying:

- ▶ BS EN 13813 – 'Screed material and floor screeds – Screed material – Properties and requirements'
- ▶ BS 8204-1 – 'Screeds, bases and in situ floorings. Concrete bases and cementitious levelling screeds to receive floorings – Code of practice'
- ▶ BS 8204-7 – 'Screeds, bases and in situ floorings. Pumpable self-smoothing screeds – Code of practice'
- ▶ DIN 18560 – 'Floor screeds in Building Construction'

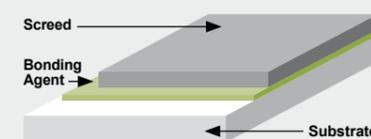
Installation

The method of installing a screed depends primary on the project's requirements. However, contractors can be assured of a long lasting screed so long as the right option is chosen and it is laid correctly. The common forms of installation are defined by the manner in which they bond to the concrete substrate: bonded or an unbonded.

While unbonded systems are being considered more economically as resources are saved, e.g. time and effort needed to prepare concrete, bonded systems are considered being less prone to shrinkage or cracking.

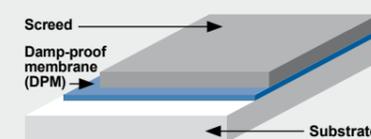
Ha-Be Bonding Aid

As bonded screeds are fixed directly onto the concrete underneath, the key to its successful implementation is a strong bond between the substrate and the applied bonding coat. Therefore, the concrete base slab on which the screed is laid should be mechanically roughened and cleaned, i.e. shot-blasted/scabbled. This step is crucial as the process removes the weaker top surface of the concrete, allowing the screed to bond better with the harder aggregates underneath. To further assist bonding to the base slab, we recommend the Ha-Be Bonding Aid, a wet bonding slurry, that is laid on the prepared concrete base.



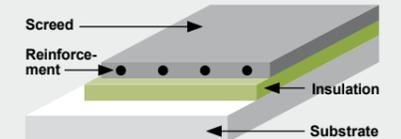
Unbonded Screed

Unbonded screeds are laid on a separating layer i.e. they are not bonded to the base, as typically a damp proof membrane (DPM) is placed under the screed. It is a popular choice, when there is not enough space for the equipment required to shot-blast the concrete. Unless a proprietary flowcrete screed is used, this screed needs to be at least 50mm thick.



Bonded Screed

This is the type of screed where the screed layer is bonded fully to the substrate using a primer or bonding agent. A bonded screed is generally 25-30mm thick; thicker screeds and self-levelling screeds in particular are usually applied using the bonded method.



Floating Screed

An insulation layer is used to allow the installation of thermal or acoustic insulation. The screed is laid on top of insulation to create a thermally efficient floor. Floating screeds are commonly used where under-floor heating systems are provided or thermal or acoustic insulation is required. The thickness is determined by the binder type, projected live loads and final floor finish.

Properly installed screed ESSENTIAL IN A FLOOR

Screed supports the floor's finishing layer to the concrete structure of the building. If properly installed, screeds last the life of the building. However, failures in screed construction often go undetected until the floor is eventually in use. The subsequent repair is then costly, because not only the screed, but also the covering needs to be restored.



Did you know...?

PANTARHIT® SCR LINE

The name of our special formulated high performance superplasticisers derive from the Greek phrase πάντα ρεῖ (panta rhei) and either was spoken by the philosopher Heraclitus or survived as a quotation of his. It means "everything flows" – and it's exactly what our PANTARHIT® products do: Highly fluid and stable concrete mixes that even at low temperatures and without external heat, ensure a high strength, particularly at early age. In doing so, PANTARHIT® reduces stripping time. In conjunction with an optimised compaction, production expenditure can be reduced and productivity enhanced.

Special superplasticisers for high quality concrete screed

IMPROVE WORKABILITY

Superplasticisers are the improved chemical admixtures over Plasticisers with highly effective plasticising effects on wet concrete. Superplasticisers result in substantial enhancement in workability at a given water-cement ratio.

PANTARHIT® SCR LINE

Screed mixtures require a well-dispersed particle suspension. Therefore, Ha-Be has developed its PANTARHIT® SCR LINE: Special superplasticisers that act as dispersants and restrain the screed's particles from segregation. While improving screed flow characteristics, PANTARHIT® SCR products also reduce the water to cement ratio, but are not affecting the workability of the screed.

PANTARHIT® SCR superplasticisers may also be used in producing high strength concrete or flowing concrete used in a heavy reinforced structure with inaccessible areas.

PANTARHIT® SCR 300

PANTARHIT® SCR 300 is suitable for concrete designs containing OPC or SRC cement or silica fume, fly ash (PFA) and ground granulated blast furnace slag (GGBS). PANTARHIT® SCR 300 should be added to the ready-mixed concrete screed, with a minimum amount of 70 % of the added water content, but it should not be used in conjunction with any naphthalene based admixture.

PANTARHIT® SCR 305

PANTARHIT® SCR 305 is a high-performance superplasticiser for ready-mix concrete screed with prolonged workability retention and allows high early and final strength developments in concrete screed. PANTARHIT® SCR 305 has excellent plasticising effects which are able to enhance concrete's consistency by several consistency classes e.g. from low slump up to high flow. The high performance superplasticizer is especially suitable for producing high flowable concrete screed.

Due to the controlled increase in air content we create a stable and easy to pump concrete screed. PANTARHIT® SCR 305 improves the cement dispersion within the concrete significantly. This property allows the formation of a homogenous and low-viscosity cement paste which ensures an improved workability and facilitates the compaction of concrete. Its special built extends the processing time purposefully and meets the special requirements challenging the ready-mix concrete industry.

PANTARHIT® SCR 315

PANTARHIT® SCR 315 is a high performance superplasticiser for ready-mix concrete screed with prolonged workability retention and allows high early and final strength developments in concrete screed. PANTARHIT® SCR 315 has excellent plasticising effects which enhance concrete's consistency by several consistency classes e.g. from low slump up to high flow. The high performance superplasticiser is especially suitable for producing high flowable concrete screed. Due to the controlled increase in air content we create a stable and easy to pump concrete screed. PANTARHIT® SCR 315 may reduce the compaction energy applied to concrete screed. Concrete manufacturers, contractors and applicators may therefore achieve an economical and technical benefit.

Your creativity is your only limitation COLOURISE YOUR SCREED

Colouring screed is not only about choosing a colour. The resulting colour depends on various parameters. To limit and preclude the risk of any colour deviations, we consider its properties and ingredients.

Range of colours

Within our product portfolio, we are offering different pigments: synthetic red, yellow, orange, brown and black iron oxide, carbon black, cobalt blue, and chromium oxide green. While these pigments already cover a wide range of muted, natural shades of colours, an even further variety of additional shades is possible. Concrete colours are offered in powder, liquid/slurry or paste form.

Certified quality

For colouring concrete, the quality of the colour used is of crucial importance. Therefore, concrete colours manufactured and used within the European Union, must meet several requirements, specified in DIN EN 12878. This European Standard specifies the requirements and the methods of test for pigments for use in the colouring of building materials based on cement and cement/lime combinations. In line with the commitment to manufacture high-quality admixtures, Ha-Be adopted these requirements also for its Middle Eastern operation. Ha-Be is certified to this DIN EN standard and thus only manufactures and offers pigments and liquid colours meeting the requirements. Consequently, our concrete colours bear the CE mark.

DIN EN 12878

According to DIN EN 12878, concrete colours must be weather-, UV- and alkaline-resistant. Furthermore, the European standard requires a constant colour intensity and a consistent colour stability to ensure the reproducibility of concrete products. The normative specifications in this standard also says that concrete colours must be based on inorganic, synthetic pigments, e.g. iron oxides, chromium oxides, cobalt blue, titanium white, and carbon-based black pigments.

Reinforced concrete

The standard distinguishes its requirements on colours for concrete into two categories and in regards to the intended use or uses of the final construction product: In category A, for colours used in non-reinforced concrete such as manufactured concrete products and in category B, for colours used in steel-reinforced concrete. In category B, the standard determines limits to ensure that adding colour to concrete does not cause any adverse reactions. A defined maximum chloride content for example protects steel-reinforced concrete from steel corrosion.

Category A (non-reinforced):

- ✓ Alkaline-resistant
- ✓ Weather and light resistant
- ✓ Colour may not adversely affect setting process of concrete
- ✓ Constant colour intensity and a consistent colour stability

Category B (steel-reinforced):

- ✓ Requirements determined in category A
- ✓ Maximum chloride content of 0.1% from entire substance
- ✓ Maximum content of water-soluble substances:
 - ▶ for pigments: 0.5% from entire substance
 - ▶ for liquid colours: 5.0% from entire substance
- ✓ Compressive strength of the coloured concrete may not be lower than 8% compared to the concrete used as reference

Customised colours

If a special blend is required, we reproduce or design unique colours. Having a sample or being advised with the closest colour tone using standard colour codes like RAL or PANTONE®, is the most accurate way to match or design a specific colour.

Think out of the box SCREED MAY BE ANY COLOUR

Cold, grey and plain – characteristics concrete has long left behind. More and more architects and builders are designing and building public and private areas with coloured architectural concrete along with concrete products such as paving stones and terrace slabs.



Steel and polypropylene fibres SCREED REINFORCEMENT

Fibre technology in concrete and screeding has been extensively used throughout the civil and construction industry. Ha-Be offers the full range of fiber products for large and small scale applications.

Adding resistance to screed FIBRES

Fibres ensure concrete with a high quality, virtually crack-free finish and an excellent surface hardness improving resistance to wear and tear. Adding to this, the use of fibres in screed carries additional benefits that are not generally available with conventional, welded steel mesh.

Screed reinforcement

The very nature of cementitious concrete products, like concrete, mortar, plaster and screed is to lose volume while water is either evaporating or being used in the chemical reactions. The result is shrinkage. As the cement binders are not able to withstand the resulting tensile forces resulting from the change in dimensions, the formation of cracks occurs. This is especially the case in the setting process and young age, when only minimal strength has developed. To counter the shrinkage and distribute the tensile forces, various options to reinforce screed, e.g. the ones consisting of fibres or metal mesh, exist. The reinforcement is designed that if a crack occurs, the tensile force is absorbed by the reinforcing material, which in turn has a much higher tensile strength than the cementitious product. The use of fibres gives numerous advantages as this is added to the mix, the reinforcement is throughout the screed and gives a logistical advantage for placement. Furthermore, fibres reduce plastic shrinkage, bleeding, permeability, the risk of delamination, and increase bond, increase impact and abrasion.

Product range

We are able to offer individual solutions for various construction projects with a product range of polymer fibres, and different types of steel fibres. There are various fields of application for polymer fibres. Depending on the product and application, fibres increase the fire resistance of concrete, optimise the green strength, reduce shrinkage cracks or improve the resistance against impact stress. Steel fibres have significant advantages over the conventional mesh reinforcement: Steel fibres are distributed three-dimensionally in the concrete, causing an even tensile stress and a reduction of crack formation in the concrete.

Polymer fibres

Most common fields of applications of polymer fibres are:

- ▶ Shotcrete
- ▶ Precast, tubing & tunnel inner linings
- ▶ Concrete goods
- ▶ Industrial flooring

- ▶ Agricultural buildings
- ▶ Trafficked areas of concrete and maritime structures and hydraulic engineering
- ▶ Foundations, slabs, floors and screeding

Steel fibres

In addition to the technological advantages of using steel fibres, customers benefit economically: Omitted working processes save time and ensure rapid construction progress and thereby a reduction of costs. Most common fields of applications of steel fibres are:

- ▶ Floors, slabs and foundations
- ▶ Industrial flooring
- ▶ Basement walls
- ▶ Open spaces and roadways
- ▶ Shotcrete with steel fibres

Talking about benefits...

- ✓ Transportation, storage and installation of mesh is work-intensive
- ✓ Cracks due to shrinkage will be reduced
- ✓ Improved shrinkage characteristics
- ✓ Load-bearing strength will be increased
- ✓ Increased flexural strength
- ✓ Improved ductility
- ✓ Increased impact resistance
- ✓ Areas of application: screeds on insulation layer, heated screeds, bond screeds
- ✓ Screeds on separation layer, industrial screeds
- ✓ No special machines needed
- ✓ Shorter construction times
- ✓ Cost savings

Alternative to steel mesh?

Fibres can be considered as an alternative to the steel meshes – if they are used primarily for crack control. They may not be used as a substitute for steel mesh reinforcements, which are necessary from a static point of view. Fibres will only replace steel meshes for standard applications and advice should be sought from a specialist as they do not replace the need for structural steel.



Our solution for

- ✓ Concrete pavements, airport runways, bridge decks, industrial floors
- ✓ Canal linings, dams and other irrigation related structures
- ✓ Sport arenas and ice ring
- ✓ Precast concrete components
- ✓ Roof slabs, columns and beams
- ✓ Chimneys, cooling towers and other tall structures

Increased strength, decreased permeability

CURING COMPOUNDS

The process of curing is essential in achieving maximum strength and durability of the finished concrete structure: As concrete floors have a large area exposed to drying, they essentially require good curing – especially when the exposed area becomes the wearing surface.

Designed to maximise strength and durability

CURING COMPOUNDS

Concrete left to dry out of its own accord does not develop the full bond between all of its ingredients. As a result, it is not as strong as it could be and tends to crack. Therefore, Ha-Be has developed its curing compounds. They prevent concrete from drying out too quickly.

Maximise final strength and durability

Maintaining an adequate moisture content can be achieved by either a continuous or frequent application of water, saturated cover materials or by the application of a membrane forming curing compound to the freshly placed concrete.

Liquid membrane curing compounds

Membrane-forming curing compounds are used to re-tard or reduce evaporation of moisture from concrete. Today, they represent the most feasible and economical means of curing concrete properly.

Our specially designed curing compounds are sprayed onto the finished concrete as soon as the final trowelling has been completed. Forming a protective film on the surface of the slab, the curing agent inhibits the loss of mix water. This membrane is about 0.03 mm thick, but keeps a minimum of 90 percent of the mix water present in the concrete mass at the time of application.

Wax resin or all resin agent?

What type of curing compound to use depends primarily on whether the surface are to receive additional concrete, paint, or tile that require a positive bond. As the wax contained in wax-based agents remains on the concrete surface, wax resin types are more suitable for concrete that will not subsequently be painted, tiled or treated, e.g. concrete used in transport infrastructure constructions like roads, airfield, etc. and floor screeds and striped concrete elements.

For areas that require a subsequent treatment, we recommend the application of all resin type agents: They not only prepare the concrete surface for future treatment, but their residual film is even harder and therefore provides more resistance to abrasion.

Ensured quality

Our translucent curing compounds meet the requirements of QCS 2014 – Part 10 – CURING – Section 10.2.7 – Liquid Membrane Curing:

- ▶ Liquid membrane curing shall be in accordance with the requirements of BS 7542, ASTM C 309 or C1315 when tested at the rate of coverage use on the job.
- ▶ ASTM C 156 shall be used as a test method to evaluate water-retention capability of liquid membrane forming compounds. ASTM C 1151 provides an alternative laboratory test for determining the efficiency of liquid membrane-forming compounds.
- ▶ Membrane forming curing compounds shall be applied in accordance with the manufacturer's recommendations immediately after any water sheen which may develop after finishing has disappeared from the surface and within 2 h of stripping formwork on formed surfaces.
- ▶ Membrane forming curing compounds shall not be used on surfaces against which additional concrete or other material is to be bonded unless:
 - ▶ it is proven that the curing compound will not prevent bond, or
 - ▶ positive measures are taken to remove it completely from those areas which are to receive bonded applications
 - ▶ on fair faced concrete surfaces.

Talking about benefits...

- ✓ Minimise the loss of water during concrete setting and beyond
- ✓ Producing concrete which is free of cracks
- ✓ Generates a dense stain-resistant surface
- ✓ Ensures minimal porosity to prevent the ingress of water, chlorides, and other corrosive elements which will attack reinforcing steel
- ✓ Suitable for areas where wet curing is not possible and for large areas that are directly exposed to sunlight, heavy winds and other environmental influences

Spectacular effects at a reasonable cost CONCRETE DEACTIVATOR

HA-BE CSD products are reactive surface deactivators for the production of exposed aggregate concrete surfaces, for a wide range of exposure depths, from micro-exposure to coarse aggregate exposure.

What are exposed aggregate surfaces?

An exposed-aggregate surface is obtained by placing concrete and then removing the outer 'skin' of cement paste to uncover decorative coarse aggregate (either batched into the concrete mix or seeded onto the surface). Because of its durability and skid resistance, an exposed aggregate finish is ideal for most flatwork, e.g. sidewalks, driveways, patios, pool decks, plazas etc.

What aggregates to use?

When selecting aggregates, their colour, hardness, size and gradation, shape, the method of exposure, durability, costs and availability should be considered. Natural stones, e.g. basalts, granite, quartz, or limestone, but also manufactured materials such as recycled coloured glass have proven suitable.

For positive (top-surface) application:

CSD products should be sprayed onto the fresh concrete surface, taking care to cover the surface thoroughly and evenly. We recommend application with an airless spray-gun, nozzle size 2.5 mm. The concrete surface must be smooth, free of excess surface water and especially free of any segregations. The drying time depends on the outside temperatures and the consumption of the material and may vary between 10 and 60 minutes. For cast-in-place applications we especially recommend our CSD products because they additionally incorporate a curing membrane and rain-protection-function.

Wash-out:

Normally takes place within 24 hours, resp. when the concrete has reached demoulding stability. It is very important to keep the same washing-rhythm when producing a coherent series of elements. The washing-rhythm may have to be adjusted if the outside temperatures change considerably. The panels should remain in the moulds until washing and should then be washed immediately after stripping/demoulding. If this is not possible, it is recommended to keep the surface moist. The most efficient way of washing the panels is with a high-pressure water-jet. If the CSD product is applied appropriately and skilfully (thin coating), no traces of the active ingredients of the CSD should be found in the wash-off water, as the active ingredients are used up during the reaction with the concrete.

Exposure types

HA-BE CSD are available in 4 different exposure depth types:

	050	150	250	400
Aggregate sizes of concrete (in mm)	0-4/8	2-8	6-8/12	8-16/22
Approximate exposure depth (in mm)	0.5	1.5	2.5	4.0

Differences to surface retarders

Unlike most sugar-based "retarders", Ha-Be CSD products can also be applied for microexposure, in difficult weather conditions, for weekend-productions, for application on vertical moulds and under conditions where other products are likely to fail. Furthermore, their special chemical formulation lower the consumption rate and is usually several times higher per sqm than the one of "retarders". Therefore, Ha-Be CSD products are very competitive and more cost-efficient per sqm.

Talking about benefits...

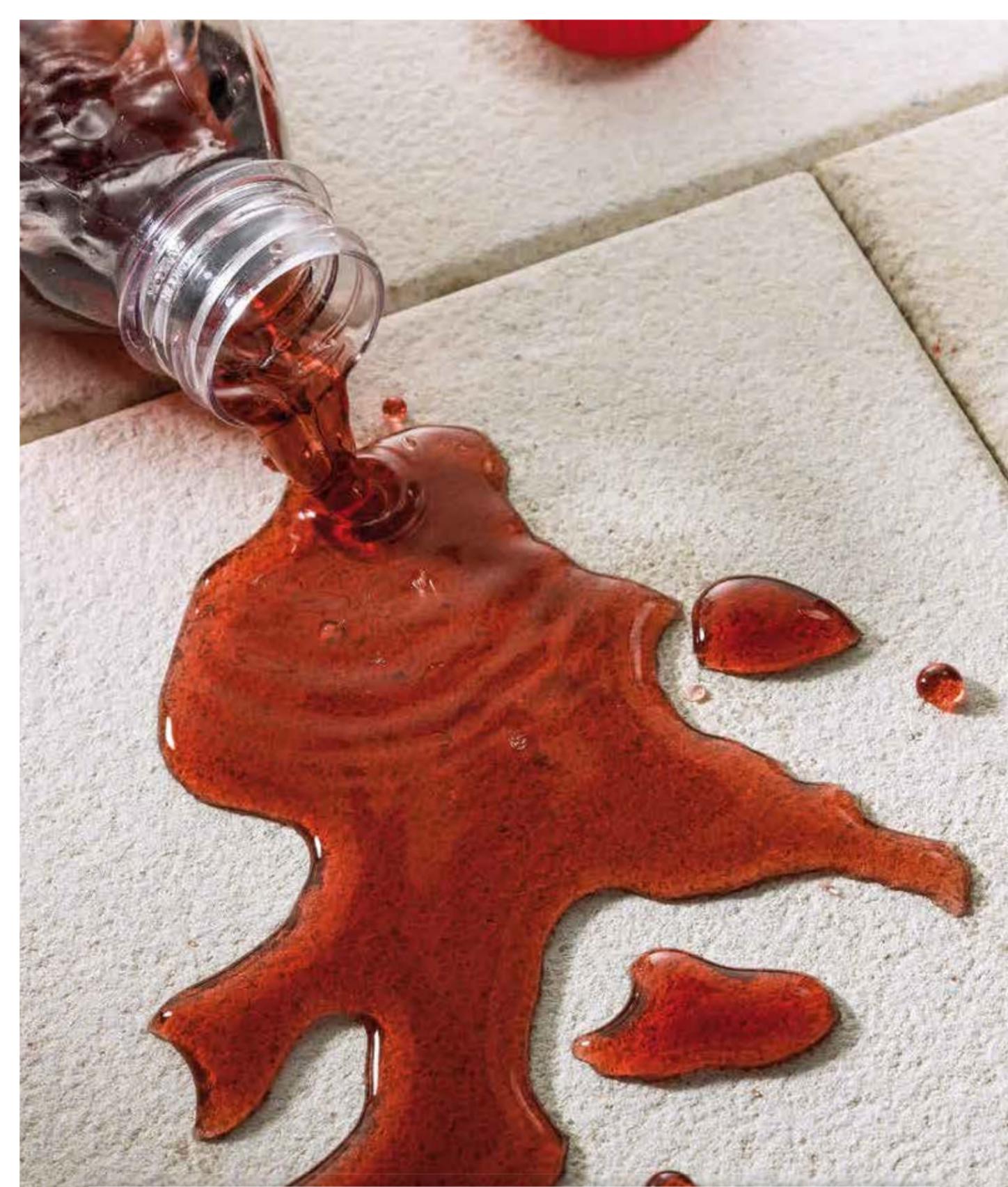
- ✓ Suitable for negative and positive application
- ✓ Suitable for horizontal, vertical and structured moulds
- ✓ Available in 4 different exposure depth types
- ✓ Good coverage and easy workability
- ✓ Suitable for all kinds of moulds/form liners
- ✓ Easy and fast mould cleaning
- ✓ Improved slip resistance at the surface
- ✓ Enhanced dirt and stain protection
- ✓ Attractive and easily maintained decorative pavement
- ✓ Cost effective with competitive life time costs

Protect it

Protecting and properly maintaining that concrete will keep it looking spectacular for many years to come while extending its service life. And even if the surface begins to show wear after years of exposure to traffic and the environment, you can often restore its original beauty with special cleaning, stain removal, and polishing products.

Taking exposed aggregate to a new level SPECIAL TECHNOLOGY

Well before pattern stamping, stencilling, and decorative overlays became popular, the decorative process of exposing aggregate has been used. As exposed aggregate finishes offer numerous advantages, it is still a popular option for many designers.



The link between durability and protection
MAINTAINING & PROTECTION

Considering that floors take more abuse than any other surface, they need to be maintained and protected from chemical and physical attacks. But while protecting from deterioration or contamination, sealers may also provide some added benefit such as aesthetics, wear, non-skid, chemical resistance, ease of maintenance and physical performance.

Against degradation and deterioration
COMBINED PROTECTION

As concrete is often exposed to aggressive environments, it is necessary to protect it from degradation and deterioration. Protective treatments for concrete are available for almost any degree of durability required. What kind of protection a floor needs, depends on various factors. Considering these and choosing the right product, is therefore the key to durable floor systems.

Lost in protection

Protecting floors means choosing the most effective material and application that will result in the best performance and lowest life cycle cost. But with an ever growing product range and various installation parameters and requirements that must be considered and met, this might be exactly the problem: What type of protective material to choose? At Ha-Be, we support our customers in evaluating the existing surface, determining types and degree of abuse, considering additional benefits that may affect the floor's final appearance, installation parameters, life expectancy and economics.

According to the results, we are able to offer the perfect solution within our PROTECT product line. These are high performance surface protection systems of varied chemical composition, designed to restore, protect, and transform concrete surfaces, adding beauty, function, and value to any indoor or outdoor space.

How to protect concrete floors?

To minimise damages and defects caused by environmental conditions, chemical and physical attacks, the concrete needs to be protected from the ingress of water, sulphates and chlorides and other harmful water-borne chemicals. Furthermore, concrete's ability to resist physical and chemical attacks and to cope with environmental conditions needs to be increased. In short: concrete requires a permanent and effective protection against water, oil and grease.

Does appearance matter?

The question is not if a floor needs a protection, but what a protection. Sealing the concrete surface is essential in order to create durable concrete. There are a several options for an effective application that give concrete floors the finishing touch. Whether matte, glossy, transparent or bright – almost everything is possible.

Film-forming sealing agents

Film-forming sealing agents can provide an aesthetic finish, e.g. gloss, semi-gloss or matt shining and thus intensify the original concrete colour. This film seals the capillary pores and protects them from water and stain contamination.

Non-film-forming sealing agents

Non-film forming sealing agents are invisible. Treated surfaces may turn slightly darker, but it should not be noticeable, if the entire area is treated. The pores and capillaries are internally coated and protected from the ingress of water, chlorides and other harmful water-borne chemicals.

How to clean concrete floors?

In terms of care and cleanliness, concrete floors are modest. Once cured and sealed, it can be cleaned with standard detergents, wiped and vacuumed.



PROTECTS
 AGAINST
 OIL SPILLS



PROTECTS
 AGAINST
 WEATHERING



PROTECTS
 AGAINST
 FOOD STAINS



PROTECTS FROM
 FROST



PROTECTS
 AGAINST
 EFFLORESCENCE

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