

FLOORING

Sika® SOLUTIONS FOR STORAGE & WAREHOUSING

BUILDING TRUST





BENEFIT OF OUR SOLUTION

Sika has continued to strengthen its position as the worldwide market leader in construction chemicals during the last few years, despite the global economic situation. As part of this expansion, Sika has maintained a strong focus on providing flooring and coating systems for many different applications and extending them worldwide. Today Sika provides a full range of flooring and coating solutions, which meet or exceed all of the latest standards and requirements for both new and refurbishment works. The latest developments from our new technologies and new systems from our acquisitions, together with testing and approvals to updated standards, make it necessary to update and expand this brochure for our flooring products and their system build-ups.

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Sikafloor® SOLUTIONS FOR STORAGE, LOGISTICS AND SALES AREAS

LARGE QUANTITIES OF GOODS have to be produced, distributed and delivered quickly and on time for an efficient economy to function. In the manufacturing industries where these goods are handled and stored, the warehouses, their loading bays etc., all need to have their floors designed and installed to suit the specific conditions of each areas operation.

It is always essential to ensure that the stresses imposed are all able to be safely accommodated by the flooring system. Therefore, fully understanding each areas operations and then defining all of the performance requirements for the floor is most important. This includes the required mechanical impact, abrasion and chemical resistance, thermal exposure plus ease of cleaning, and dust prevention, etc.

NEW BUILDINGS

Concrete slabs produced from mix designs using Sika Control 40 or Sika ViscoCrete technology form a sound foundation

and allow accurate levels with the necessary falls to be achieved. Concrete curing agents, plus surface hardening and sealing compounds complete the Sikafloor range.

Additionally, Sika EpoCem technology can be used on relatively new "green" or existing damp concrete, where it acts as a temporary moisture barrier to reduce waiting times for the application of vapour-tight floor systems.

REFURBISHMENT

Cementitious, self-smoothing Sikafloor Level pumped screeds and toppings are used to provide a uniform and level surface for the application of floor finishes.

These vapour permeable and rapid drying screeds provide very economic solutions. Sika EpoCem Technology is again frequently used in refurbishment projects when the existing floors have rising or high moisture contents but need to be over-coated quickly.

RACKING AREAS

Sikafloor solutions provide a bright coloured floor that can be installed in a wide range of thicknesses and with a variety of surface textures. These floors are seamless, non-porous and non-dusting, with good chemical resistance. Their properties make the floor hygienic and easy to clean as well as being hard and very durable, so they are ideally suited for use in dry process and racked storage areas.

Sikafloor solutions CAN PROVIDE DURABLE FLOORING SOLUTIONS FOR COLD STORAGE AREAS EVEN IN THE MOST SEVERE CONDITIONS WITH EXTREME MECHANICAL, CHEMICAL AND THERMAL EXPOSURE.

COLD STORAGE AREAS

Sikafloor solutions can provide durable flooring solutions for cold storage areas even in the most severe conditions with extreme mechanical, chemical and thermal exposure.



STORAGE, LOGISTICS AND SALES AREAS

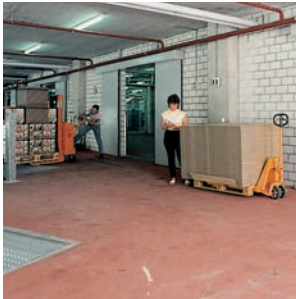


REQUIREMENTS
Concrete overlay for accurate levels and falls



- Adjustment of level tolerances

SIKA SYSTEM / PERFORMANCE
Concrete slab: Using Sika ViscoCrete and Sika Control 40 (NZ) technology.
Bonding bridge: Sikadur-32, epoxy tie coat to existing concrete slab.
Minimum thickness: 50mm



REQUIREMENTS
Repair concrete slab for accurate levels and falls



- Adjustment of level tolerances
- Repair damaged floors
- Reduced waiting time

SIKA SYSTEM / PERFORMANCE
Epoxy levelling screed: Sikafloor-150 Pre-fill.
Total layer thickness: 40mm per application




REQUIREMENTS
Repair damaged concrete surface

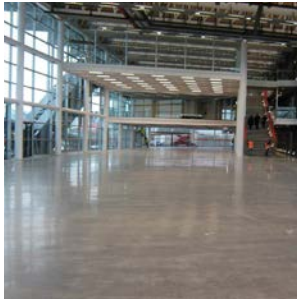


- For surface damaged cementitious floors
- Reduced waiting time to overcoat green concrete
- No blisters on topping when coating damp concrete

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor EpoCem Modul
Screed: Sikafloor-81 EpoCem, three component epoxy modified cementitious, self-smoothing screeds.
Topping: Sikafloor resin to suit
Total layer thickness: 2 - 3mm



* Note: 1) The 3D graphics in this brochure are not to scale and they are only intended to illustrate the system build-ups.
2) The symbols such as  represent typical project related performance requirements and these are all listed and discussed on Pages 46 to 48 of this brochure.



REQUIREMENTS
Clear surface hardener for concrete

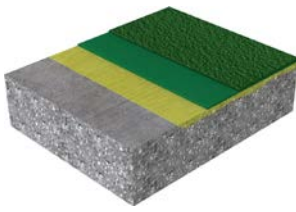


- Economic surface hardening
- Good abrasion resistance
- Prevent surface dusting
- Curing to ASTM C-156

SIKA SYSTEM / PERFORMANCE
1 - 2 x Sikafloor Curehard-24, a sodium silicate based liquid hardener sprayed and brushed into the substrate
OR
1 - 2 x Purigo 5S, a sodium silicate based liquid hardener sprayed and brushed into the substrate.



REQUIREMENTS
Cementitious self-smoothing screed 4 - 30mm Thick (vapour permeable)



- Smooth, level surface
- Rapid drying
- Vapour permeable
- Thin to medium layer thickness
- Heavy duty performance

SIKA SYSTEM / PERFORMANCE
Primer: Sika Level-01 Primer
Screed: Sikafloor Level-30, one-part, polymer modified, cement based screed.
Sealer: (Optional) Sikafloor-2510 W, water dispersed, epoxy resin based, vapour permeable coating



REQUIREMENTS
Cementitious self-smoothing screed 0.5mm - 15mm



- Smooth, level surface
- Rapid drying
- Thin to medium layer thickness
- Underlayment

SIKA SYSTEM / PERFORMANCE
Primer: Sika Level-01 Primer
Screed: Sikafloor Level-15 NZ, one part, polymer modified, cement based screeds.

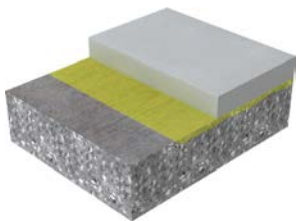


STORAGE, LOGISTICS AND SALES AREAS



REQUIREMENTS

For Timber and concrete floors



- Crack resistance for timber or concrete flooring
- Cementitious self-smoothing
- Fast application
- Smooth, pore-free surface
- Easy to place
- Low shrinkage
- Fast setting and drying

SIKA SYSTEM / PERFORMANCE

Primer: Sika Level-01 Primer
Screed: Sika Level-315 F
Total layer thickness: 3 - 15mm



REQUIREMENTS

Self-smoothing, temporary moisture barrier on "green" or damp concrete



- For concrete floors with damaged or missing DPC membrane
- No waiting time on "green" or damp concrete
- No blistering in the finish when coating damp concrete

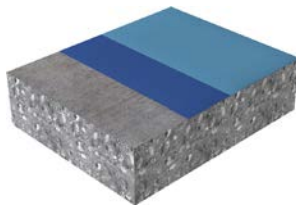
SIKA SYSTEM / PERFORMANCE

Primer: Sikafloor EpoCem Modul
Base coat: Sikafloor-81 EpoCem, three part epoxy modified, cement based, self-smoothing screeds
Topping: Sikafloor resin system to suit
Total layer thickness: 2 - 3mm



REQUIREMENTS

Water dispersed, coloured roll on coating for walls and floors



- Medium wear resistance
- Surface stabilization
- Prevent concrete dusting
- Coloured
- Low odour

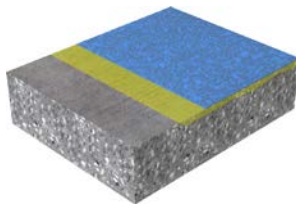
SIKA SYSTEM / PERFORMANCE

Sikafloor MultiDur WS-18
Coating: 2 x Sikafloor-2510 W, a two part, water dispersed, coloured, epoxy resin based coating.
Total layer thickness: 150 - 250 microns



REQUIREMENTS

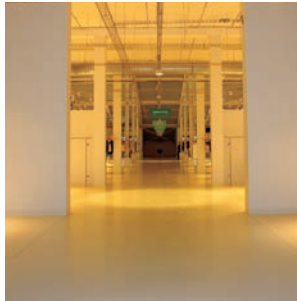
Textured, coloured roll-on coating



- Good wear and abrasion resistance
- Good chemical resistance
- Slip resistant
- Easy cleaning
- Coloured

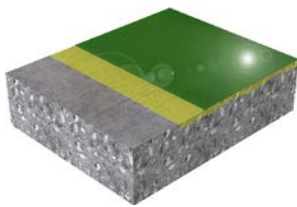
SIKA SYSTEM / PERFORMANCE

Sikafloor MultiDur ET-19
Primer: Sikafloor-150/151
Coating: Sikafloor-264 T, a two part, total solid, coloured, epoxy binder for textured coatings.
Total layer thickness: 600 - 800 microns



REQUIREMENTS

Smooth, coloured roll-on coating



- High wear and abrasion resistance
- Good impact resistance
- Good chemical resistance
- Medium thermal resistance
- Easy cleaning
- Coloured

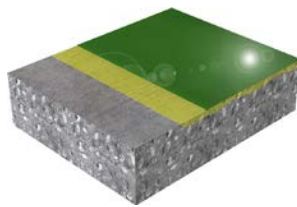
SIKA SYSTEM / PERFORMANCE

Sikafloor MultiDur ES-15
Primer: Sikafloor-150/151
Coating: Sikafloor-264, a two part, total solid, coloured, epoxy binder.
Total layer thickness: 600 - 800 microns



REQUIREMENTS

Very smooth, glossy, coloured rigid screed



- High wear and abrasion resistance
- Good impact resistance
- Good chemical resistance
- Medium thermal resistance
- Easy cleaning
- Coloured

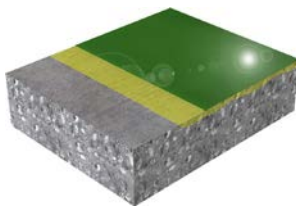
SIKA SYSTEM / PERFORMANCE

Sikafloor MultiDur ES-21
Primer: Sikafloor-150/151
Wearing course: Sikafloor-264 SL, a two part, coloured epoxy binder for self-smoothing screed systems.
Total layer thickness: 1 - 3mm



REQUIREMENTS

Smooth, coloured roll-on coating for walls and floors



- High wear and abrasion resistance
- Good impact resistance
- Good chemical resistance
- Medium thermal resistance
- Easy cleaning
- Coloured
- Potable/drinkable water suitable

SIKA SYSTEM / PERFORMANCE

Wearing course: Sikagard-62, a two part, high build, protective, epoxy coating for walls and floors. three coats, no primer necessary
Total layer thickness: 400 - 600 microns



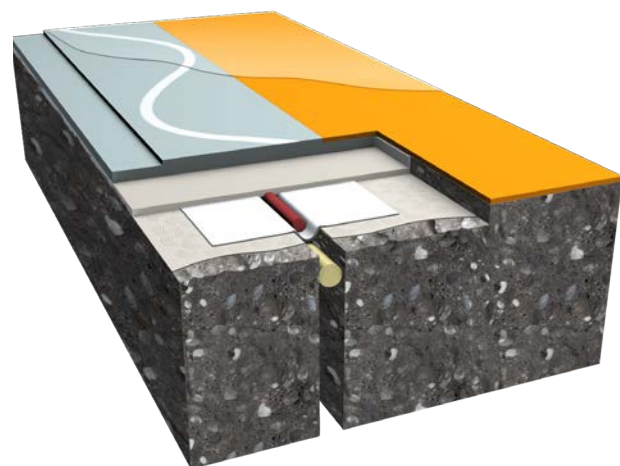
INNOVATIVE Sika® FloorJoint

Innovative joint panel – vibration-free, noiseless and quick return to service.

THE SOUND AND FEELING of rumbling over crossing joints in parking garages and warehouses is familiar to most people. It can feel uncomfortable and cause irritation for your ears and body but up until now there hasn't been a suitable solution. Even hospital patients have had to endure the unpleasant experience. Sika can now offer the perfect solution with ultra-thin and almost invisible joint profiles. The profiles are installed on the same surface level as the floor, which means no more thresholds. One benefit of this new system is reduced damage to vehicles, meaning the cost of spare parts for trucks decreases significantly too. A real added value in every respect.

AESTHETICS AND SILENCE IN MULTI-STOREY CAR PARKS Sika® FloorJoint PD

DRIVING WITHOUT RUMBLING: OUR INNOVATIVE JOINT PANELS ARE SEAMLESSLY CONNECTED TO THE FLOOR SURFACE, WHICH MEANS THERE IS NO VISIBLE DIFFERENCE TO THE NORMAL CAR PARK FLOOR COVERING.



REQUIREMENTS

Floor joints in parking garages are a major challenge in both new buildings and when refurbishing existing structures. In addition to the water tightness in modern buildings, aesthetics plays an increasingly important role. Traditional metal solutions show clear limits in cases where a complicated joint line is present, or when noise reduction is required. Here the Sika FloorJoint PD joint panel proves its strengths. The carbon fibre reinforced polymer concrete prefabricated panel fits seamlessly and virtually invisibly to the adjacent resin coverings.

ADVANTAGES

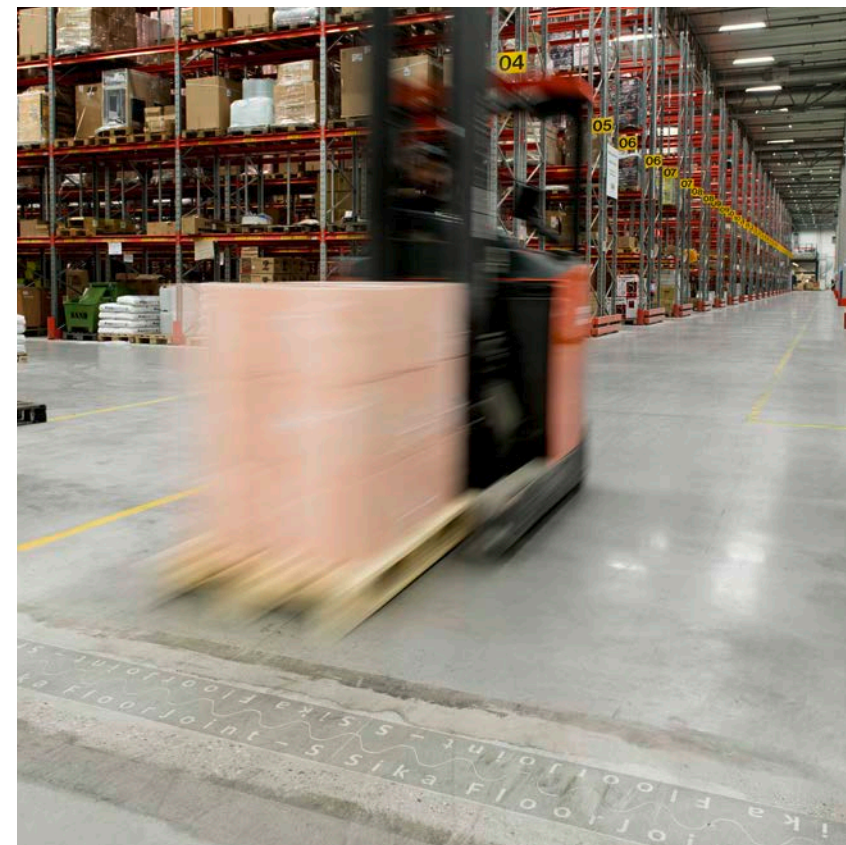
- No noise and no vibration when trafficked
- Almost invisible, can be overcoated with many Sikafloor coating systems
- Absolutely corrosion-free
- Waterproof because of the separate waterproofing level below the panel
- Easy installation and easy repair
- Easy solution for the connection between horizontal and vertical construction elements

RANGE OF USE

Suitable for use in new constructions and in the refurbishment of parking garages

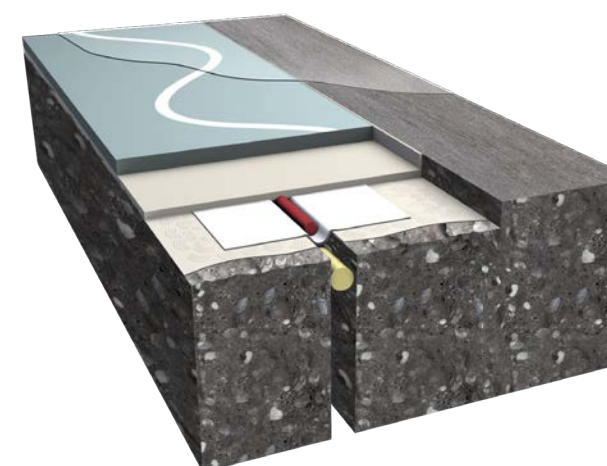
APPLICATION

Complicated joint gradients can be realized by a simple cutting of the panels. The flat components allow a minimal cutting depth in the concrete substrate. This guarantees short down time. When water tightness is required a separate waterproofing membrane (Sikadur Combiflex SG System) is installed below the profile which is perfectly compatible to the Sika FloorJoint system. The result is a waterproof and ultra-flat profile system that can be trafficked silently



LOW-VIBRATION AND NOISELESS TRAFFICKING Sika® FloorJoint S

MOVEMENT OF SENSITIVE GOODS CAN BE DONE QUICKLY AND WITH EASE. NOTHING IS GOING TO BREAK. THRESHOLD-LESS AND NOISELESS FORKLIFT DRIVING IS MADE POSSIBLE.



REQUIREMENTS

Floor joints in industrial areas equipped with conventional steel profiles are subject to high loads when they are trafficked by fork-lifts. If the profiles are not absolutely flat they can cause noise, vibration and blows on wheel bearings. This causes the fork-lifts to suffer and can contribute to a high wear rate of spare parts. The Sika FloorJoint S joint system is the perfect solution. The prefabricated, carbon fibre reinforced polymer concrete profile can also be retrofitted with little effort. The result is a noiseless and vibration-free ride suitable for all kinds of fork-lifts.

ADVANTAGES

- Maintenance and repair can be done over the weekend
- No vibrations when trafficked
- Significant reduction of wear to components such as wheel bearings, etc. from fork-lifts
- Grindable, therefore ultra-flat
- High chemical resistance
- Easy installation and easy repair
- Easy solution for the connection between horizontal and vertical construction elements

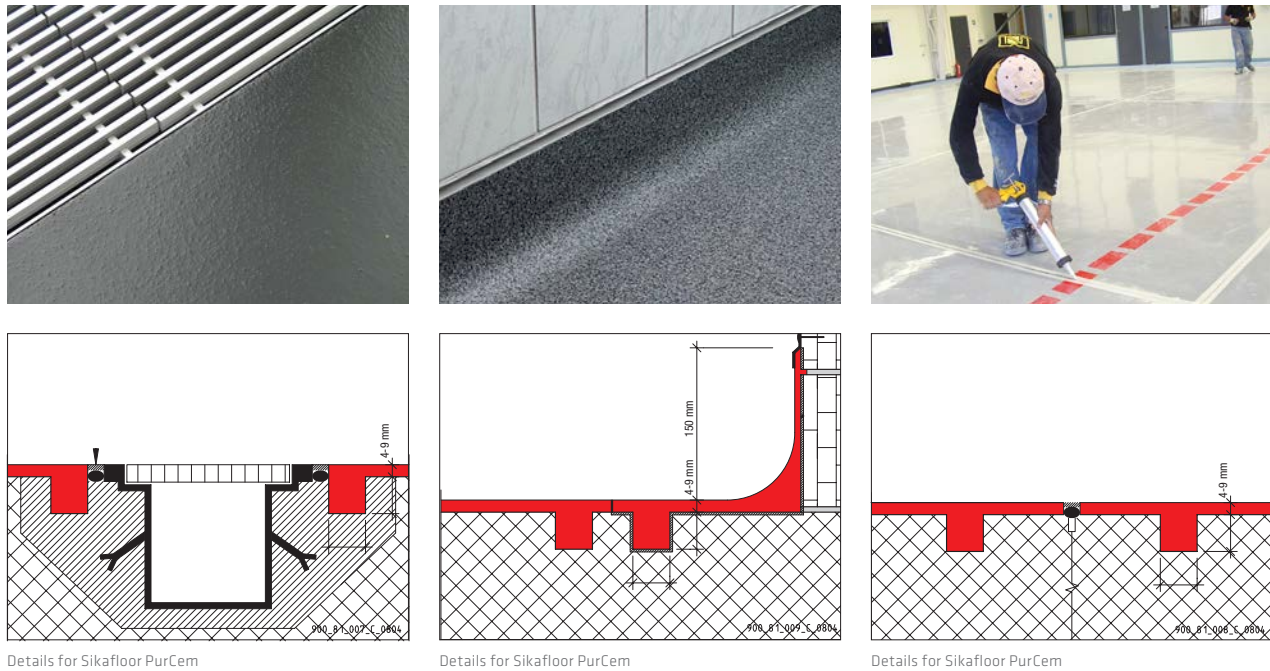
RANGE OF USE

Suitable for use in new constructions and in the refurbishment of all areas where a joint is needed and where the floor joint can be trafficked.

APPLICATION

Sika® FloorJoint S is not only suitable for new buildings but also for the refurbishment of defective joint panels where it can be installed easily and smoothly. Only a very short time is needed because rapid resin systems are used to bond the panels to the concrete substrate. This minimizes the interruption of daily operation and thus relieves budget pressure. A smooth plane is achieved by grinding, which prevents reliable beats and noise. Critical floor joints in warehouses and assembly halls, workshops, hospitals and shops disappear quickly and easily.

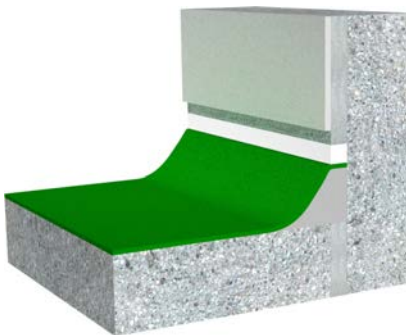
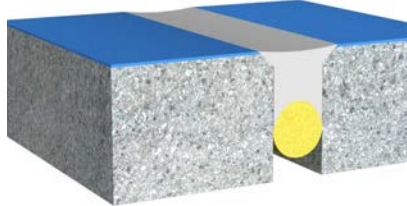
DETAILING AND JOINTING FOR FLOORING APPLICATIONS



DRAINAGE CHANNELS / GULLIES
Drainage channels / gullies should always be designed to be outside of trafficked areas wherever possible. Falls on the floors should be adequate to discharge liquids as quickly as possible to the channels. When traffic over channels / gullies is unavoidable, considerable attention should be given to the channel arises and cover grating fixings, as these are the most susceptible areas for premature failure.

JOINTING
There is no way to prevent all of the joints in floors, but they are causes of the major damages in flooring applications due to different reasons. Therefore, the proper planning, design of a floor joint, has to be performed with specific precautions to prevent future damage. Furthermore, industrial floors require reliable joint sealants to resist chemical and mechanical wear, particularly floors designed for vehicular traffic, or cleaning machines, etc. Sika solutions for these joint sealants include the well proven and reliable

Sikaflex-11 FC Purform, Sikaflex Pro-3 Purform, Sikasil Pool or Sikdur-61 for many types of floor joints including connecting joints between different materials.



High Performance Sealant for Flooring

- Compliance for contract with Foodstuff, i.e ISEGA
- Clean Room Certification
- In accordance with relevant international guidelines and standards
- Applicable for damp substrates in floor joints
- High mechanical resistance
- Resistant to floor cleaning machines brushes
- Excellent tear resistance
- 25% moveability capability
- Resistance against most cleaning agents
- Compatible with Sikafloor Systems
- Bubble-free curing
- Easy to apply

Primer: Sika Primer-3 N
Joint sealant: Sikaflex-11 FC Purform, Sikaflex Tank, a moisture curing, one part elastic sealant based on polyurethane designed for flooring.
Joint sealant: Sikaur-51, epoxy sealant for cured floors over 18 months old.



DESIGN SUSTAINABLE CONSTRUCTION WITH SIKA HIGH PERFORMANCE FLOORING SYSTEMS

DESIGN LIFE

This is possibly the most fundamental criterion and is certainly the first question to ask when selecting a floor: What is the required design life – 2, 5, 10 or 20 years? Is frequent or regular maintenance feasible or desirable? The floor specification must obviously be designed to meet this life expectancy and durability, including the intended maintenance-free periods.

STRUCTURAL REQUIREMENTS

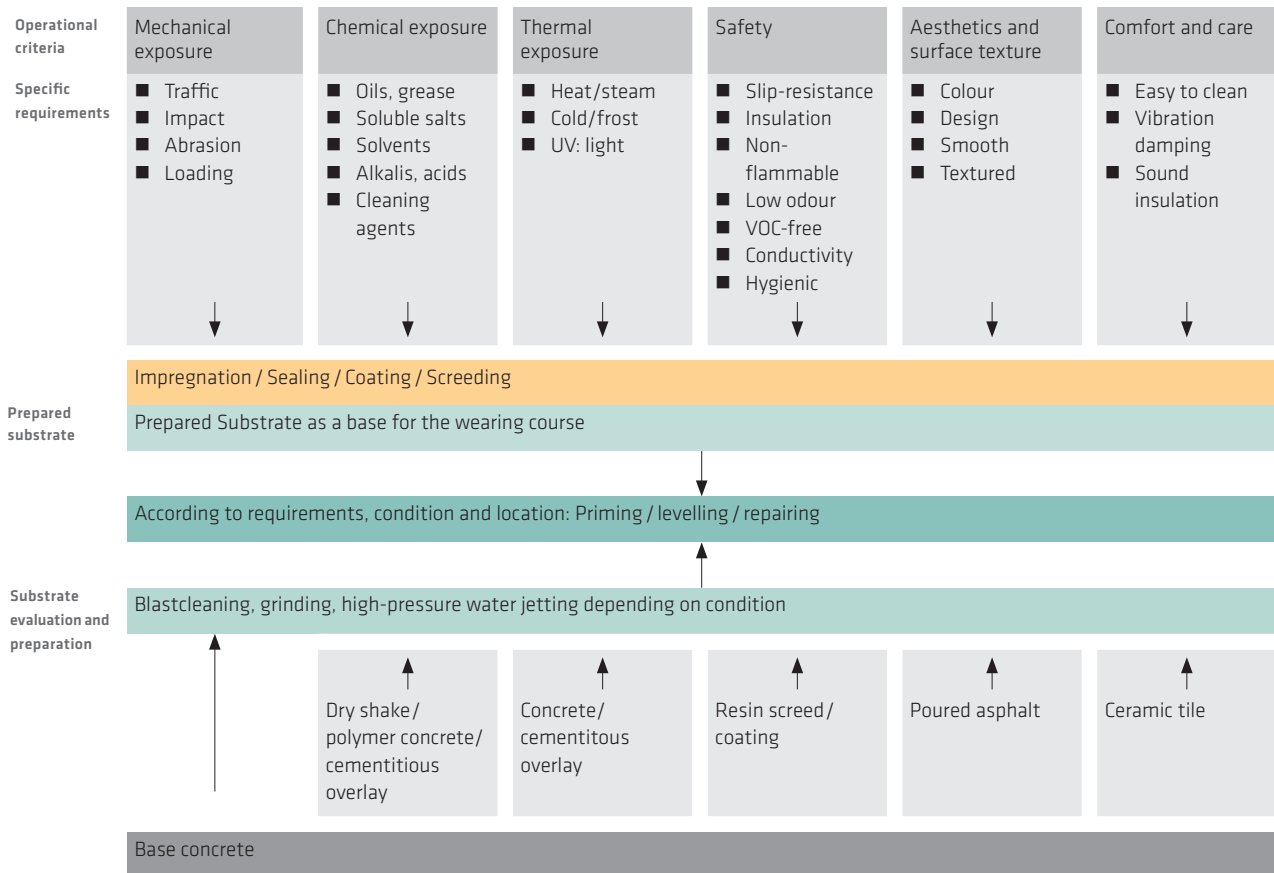
The static and dynamic loadings that will be imposed during both construction and service have to be considered. The floor topping must be capable of withstanding these demands, but it can only function as well as the substrate to which it is applied, i.e. the structural concrete slab or screed.

Note: In some instances the floor slabs may require additional structural strengthening – for example with Sika CarboDur Composite Strengthening systems.

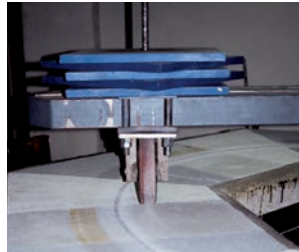
COLOUR AND APPEARANCE

In addition to providing seamless concrete protection against corrosive liquids and mechanical wear, flooring systems should also meet easy-care, hygiene, safety and durability requirements with the appropriate colour for the environment. Achievement of both the architect and the owner's requirements always requires consideration of both functional and aesthetic criteria. With Sikafloor systems a wide variety of colours, textures and visual effects can be produced in floors which will also provide the overall functional performance.

KEY REQUIREMENTS FOR CONSIDERATION IN SELECTING A FLOOR SYSTEM



PROJECT RELATED PERFORMANCE REQUIREMENTS



TRAFFIC AND MECHANICAL WEAR



Heavy and frequent traffic increases the physical requirements for mechanical resistance measured as abrasion. Often the greatest wear or exposure occurs in localised areas. Trucking aisles or sections around specialised plant for example, may require different or additional treatment to the surrounding general floor area.



CHEMICAL RESISTANCE



Resistance to chemical attack is a major factor for many floor finishes. Assess the effects on the floor of the individual chemicals present plus their combined or mixed effects and the consequences of any chemical reactions. Higher temperatures usually increase the aggressive nature of chemicals.



SERVICE TEMPERATURE



Thermal shock resistance can be a major requirement for floors. It is important to consider not only the temperature of operating machinery and the products in the processes, but also the temperature of adjacent areas. At either end of the scale, the temperature extremes from hot water or steam used for cleaning and cold from blast freezers for example can create extremely demanding environments; fortunately many Sikafloor systems can durably accommodate these.



SLIP RESISTANCE



Floor areas may require different degrees of slip resistance, dependent on their environment, i.e. 'wet' or 'dry' processing areas. This is principally a question of reconciling the floor's surface profile and finish, with the demands for ease of cleaning and the type and likelihood of spillages. Generally speaking the greater the profile, the greater the slip resistance.



RAPID CURING



Flooring systems with rapid curing characteristics can be of tremendous benefit in reducing the necessary delays due to waiting times in new construction and in keeping the downtime in refurbishment and maintenance situations to a minimum. Fast curing systems are also an advantage for applications that have to be undertaken at lower temperatures. Sikafloor systems therefore include a wide range of fast curing and accelerated systems.



FLOOR COATING ON GREEN AND DAMP CONCRETE



In new construction the delay before fresh concrete slabs can be coated and allow the building works to continue, or the area to be put into service is a major problem. In refurbishment projects waiting for existing concrete moisture content to reduce to an acceptable level for over coating with impermeable resin coatings is also a big problem. Sika EpoCem Technology is an innovative solution that can be used to reduce all of this waiting time dramatically.



CRACK-BRIDGING ABILITY



Static and dynamic crack-bridging properties are often required for floor coating systems in order to adequately protect the substrate and accommodate movement and vibration. This is a particular requirement on exposed car park decks for example. The crack-bridging properties of selected Sikafloor systems can safely accommodate this movement and the Sika systems are tested for crack-bridging performance down to at least -20 °C.



DAMPING OF IMPACT NOISE



Public transit and gathering places, such as entrance halls, corridors and display or sales areas require higher underfoot comfort levels and protection against the transmission of both impact noise and airborne noise. For this reason, flexible Sika flooring systems are recommended, plus SikaBond elastic adhesives are available for wood floor systems to meet these same standards, including European Part E sound transmission regulations.



FIRE RESISTANCE



Fire classifications for floors are generally given in Building Regulations by the responsible national and local authorities and cover such aspects as their difficulty to ignite and their actual behaviour in the event of a fire. Floor finishes produced with liquid polymers obviously also have to meet these requirements and limitations, which is no problem for Sikafloor systems.



HYGIENE



Today's floors have to fulfil the highest hygiene demands and increasingly very specific requirements for the prevention of contamination, particularly in the nuclear, pharmaceutical, cosmetic, food, beverage, chemical and electronics industries. There are many Sikafloor systems designed to meet even the strictest requirements of the latest cleanroom hygiene conditions.



IMPACT RESISTANCE, POINT LOADING



In areas where goods are mechanically handled such as production areas, warehouses, loading bays and the like, compressive and dynamic loads are generated by the movement of these goods on the lines, forklifts and pallet trucks etc. It is essential to ensure that the stresses generated are not higher than the strength of the floor topping material and / or its bond to the substrate, which is reliably achieved with Sikafloor systems.



WATERPROOFING



Sikafloor systems can provide an impermeable seal to protect both the concrete from attack by aggressive liquids and the underlying groundwater and the environment from the leakage of pollutants. This includes flexible and crack-bridging systems that help to ensure the reliable containment of any ecologically harmful materials, or conversely to maintain the purity of contained drinking water.



NEUTRAL ODOUR, VOC-FREE



Total solids, 100% solids, or solvent free flooring systems that also have neutral odour and low VOC emissions should now always be considered wherever possible to be sustainable and help to meet Green Building objectives, which all helps to protect the environment. This is especially the case in occupied indoor / internal or closed areas, where Sika ComfortFloor systems are the ideal solution.



ELECTRICAL CONDUCTIVITY/ ESD



There is an increasing demand for conductive flooring solutions, including ESD, DIF and ECF systems. These types of flooring systems are used to protect sensitive devices from damage or to avoid the potentially explosive effects in flammable atmospheres. Sika is a world leader in this technology for both floor and wall coatings. Please also see Pages 24 to 27 of this brochure.



CLEANING AND MAINTENANCE



In order to ensure that Sika flooring solutions stay in good condition and continue to perform and function as required to protect your investment and give years of satisfaction, we also provide fully detailed cleaning and maintenance advice and guidelines. These are available for your assistance in the Sikafloor Cleaning Regime, which is available to download from: www.sika.co.nz



THERMAL CONDUCTIVITY




Users can perceive the warmth of a floor to their feet very differently and subjectively. In addition to the ambient room and floor surface temperatures, the thermal conductivity of the substrate is usually the most significant factor. Sika provides the highly insulated and elastic Sika ComfortFloor solutions where this is a requirement. Please also refer to Page 34 of this brochure.

PROJECT RELATED PERFORMANCE REQUIREMENTS



MULTIPLE COLOUR SHADES

 The Sikafloor range is available in almost every colour shade with stable pigments available and special colours can be made to order or matched to a client's specific requirements. This includes Sika flooring systems produced to all major national and international colour standards including RAL, BS 4800 and NCS.




FOR FOOD CONTACT

 Flooring in the food and beverage industry has to be suitable for direct contact, or to be in close proximity to food stuffs, without adversely affecting them: as well as being able to withstand the extremely intensive cleaning regimes and frequent exposure to aggressive chemicals. Many Sikafloor® Systems have full foodstuffs and potable water contact approvals.




UV LIGHT RESISTANCE

 Where colour is important and / or where high UV Light radiation exposure is anticipated, suitably resistant and light fast Sikafloor Systems are available. This can be particularly important on exposed or partially exposed car park or balcony decks for example. Equally UV light and colour stability should always be considered for any floors with doors or windows where natural sunlight enters the building for significant periods of time.




PARTICLE EMISSIONS

 Cleanroom suitability also considers all of the additional parameters relevant to the manufacture of the specific products under clean conditions, such as particle emissions, which are tested and assessed for this purpose in accordance with ISO 14644. Sika has developed special floor and wall systems with the lowest particle emissions results. Please also refer to the Sikafloor CR systems on Pages 22 to 23.



RESISTANCE TO FURNITURE CASTORS

 The wheels or castors on many chairs and other furniture and equipment are relatively small in diameter and therefore they can create heavy point loads on the floor. Only highly abrasion resistant or resilient flooring systems with proven performance such as many of the Sikafloor systems should be used in these situations for long term durability.




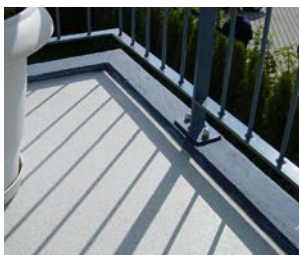
FLATNESS AND LEVEL

 Underlayments required for providing a smooth (flat) or horizontal (level) surface for low performance requirements, such as prior to the application of carpets, resilient flooring, wood floors, sports floors or tiling in indoor residential areas; plus for high performance specifications requiring extreme values, such as for forklift traffic in high bay storage facilities for example.




VOC/AMC EMISSIONS

 One of the main objectives for flooring and wall coatings in cleanrooms is to prevent the potentially damaging effects of VOC/AMC's (Volatile Organic Compounds/ Airborne Molecular Contaminants) being released into the atmosphere and affecting the quality of the sensitive materials produced in these areas. The Sikafloor CR systems are the 'state of the art' in this technology and have been tested to give the best performance on the global market.



1-COMPONENT SYSTEMS

 1-Component polyurethane based systems incorporate a unique technology that allows the material to use atmospheric moisture to trigger the curing process. This means these moisture curing 1-component polyurethane coatings can be applied almost without dependence on the weather (temperature, humidity or dew point) and they dry quickly.

CUT THE WAITING TIME IN BOTH NEW CONSTRUCTION AND REPAIR WORKS

THE SCHEDULED FLOORING "START" AND "FINISH" ON SITE, does not always match the overall construction time required (i. e. necessary waiting times / delays due to substrate condition or environmental limitations, etc.).

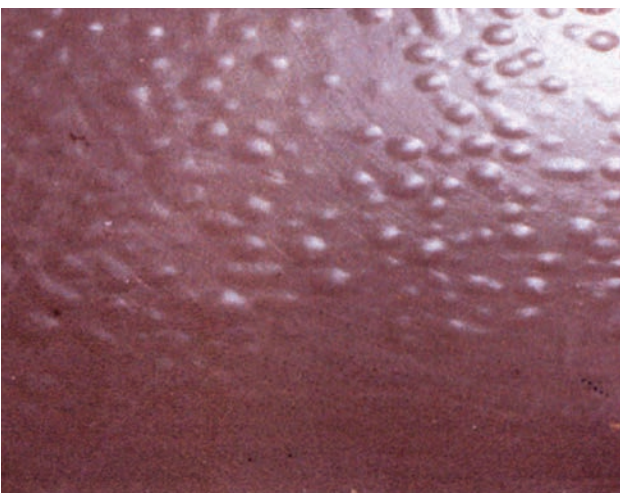
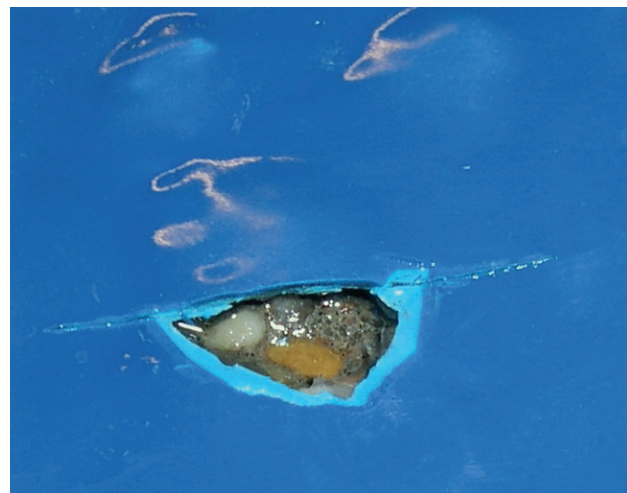
The floor finishes on most construction sites are one of the last applications and so they are usually done under time pressure. If you have to wait until the ideal conditions (pull-off strength 1.5 N/mm²) and humidity (<4 % pbv) in the concrete slab are achieved, then most flooring materials require a waiting time of at least 28 days, according to their data sheets and the respective standards. You can cut this waiting time significantly by using the unique intermediate layers Sikafloor-81 or Sikagard-720 EpoCem. These can be applied directly onto the new concrete after just 7 to 10 days and also directly on concrete substrates recently prepared by high pressure water-jetting, in refurbishment works for example.

An additional opportunity for the use of Sikafloor EpoCem is when you are not sure if the concrete slab has an intact waterproofing membrane underneath it or not. Rising moisture can cause serious problems on ground bearing slabs for many types of resin based floor coatings, frequently leading to blistering or delamination.

The advantages of Sikafloor EpoCem are based on the unique system components. It consists of an epoxy dispersion in a cementitious self-leveling mortar screed. Application thickness varies from 2 to 8mm, dependent on the system. With this material you can achieve a fully homogeneous,

sound and smooth substrate for the floor topping. The combined epoxy-cement matrix forms a temporary barrier against rising moisture and damp concrete; it also provides a high strength substrate. This uniform and homogeneous intermediate layer allows over-coating with vapour impermeable high solids and high build resin based coatings within a short waiting time of 18 to 36 hours after application. There is no additional surface preparation and conditioning necessary to achieve a pore free smooth floor.

Sika® EpoCem® TECHNOLOGY PREVENTS OR OVERCOMES COATING FAILURES RELATED TO COATING FRESH AND DAMP CONCRETE.

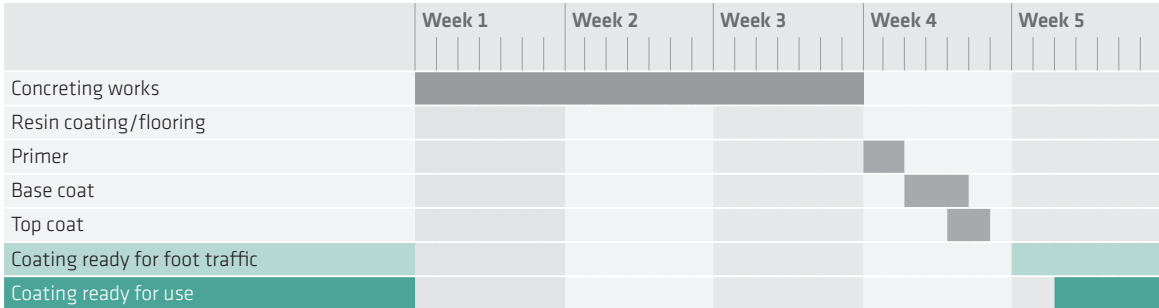


CUT THE WAITING TIME IN BOTH NEW CONSTRUCTION AND REPAIR WORKS

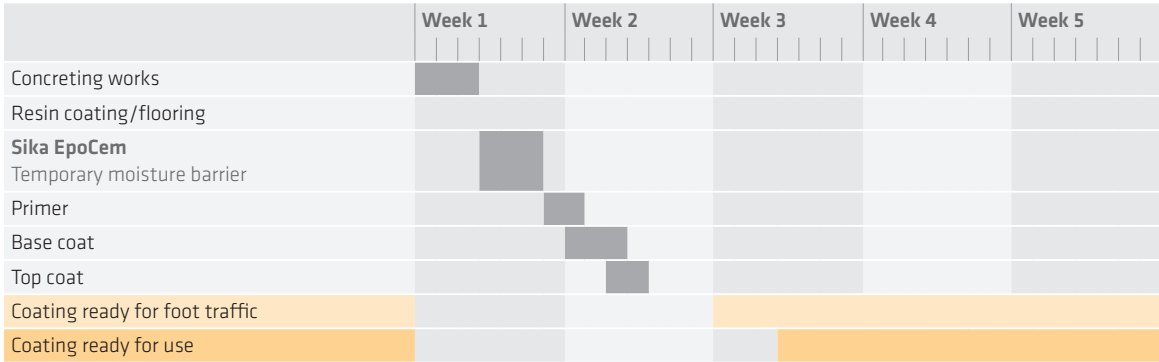
SCHEMATIC OF PLANNED TIME SAVINGS WITH Sika® EpoCem® TECHNOLOGY:

The installation of the floor finishes and the time before additional works can continue or they can be put into operational service, represents a major time factor on many projects. The time saving and cost advantages obtained with Sika EpoCem Technology can be very substantial.

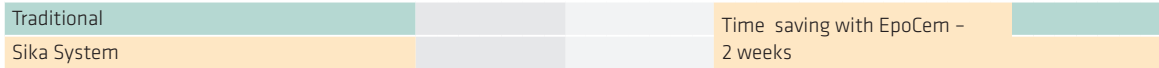
TRADITIONAL CONSTRUCTION PROGRAMME



PROGRAMME SIKA SYSTEM



TIME SAVING WITH Sika EpoCem



No more Waiting. No more Delays.

Sikafloor® APPLICATION PROCEDURES

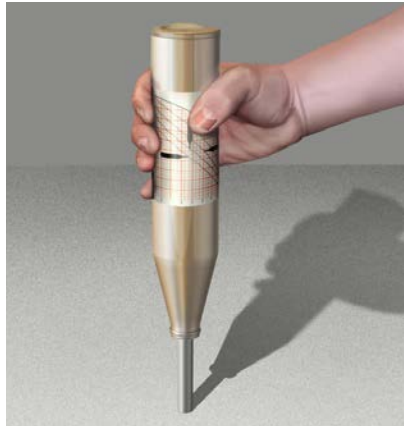
Substrate Inspection and Preparation

THE CONCRETE SUBSTRATE IS THE BASIS OF A NEW FLOOR, WHETHER IT IS NEW OR EXISTING.

Thorough inspection and assessment are essential to determine its condition and the necessary surface preparation for a successful flooring system to be applied.

A durable bond must be achieved between the new flooring system and the substrate, which requires a clean and

contaminant free, dry (according to the system requirements) and sound surface to be mechanically prepared to remove any cement laitance, loose or friable particles and provide the profile required for the selected floor system. The final surface should be vacuumed to remove any dust prior to the application.



MEASURING THE COMPRESSIVE STRENGTH

The compressive strength of the substrate should not be less than 25 N/mm² (25 MPa). To meet defined loads, a higher strength may be required. It is advisable to take a number of measurements across the floor and in all parts of the proposed installation to confirm the compressive strength i.e. with a Schmidt hammer.



MEASURING THE COHESIVE STRENGTH

Concrete floors generally have some cement laitance with low cohesive strength in the top few mm. This weak layer must always be removed during the substrate preparation. Withstanding stresses from concrete shrinkage, thermal shock or loading requires a minimum cohesive strength. This should be: ≥ 1.5 N/mm² (≥ 1.5 MPa) and this is usually measured by a number of Pull-off tests across the floor.



SUBSTRATE MOISTURE CONTENT

It is extremely important to measure the substrate moisture content because cement bound substrates should normally only be over-coated at a moisture level of < 4% pbv. ASTM D4263 is a simple test using a polyethylene-sheet taped to the concrete surface. This should be left in position for at least 24 hours, prior to removal and testing. Moisture Meters such as the Tramex Concrete Encounter CME 4 can then give a clear reading of the moisture content as a % pbv. Moisture content > 4% by volume (or 6% if Sikafloor-161 primer is used), or visible rising moisture (condensation) on the bottom of the sheet, indicates the need for additional drying time or the use of Sikafloor EpoCem Technology.

Sikafloor® APPLICATION PROCEDURES



AMBIENT CONDITIONS

If atmospheric and climatic factors are ignored, serious flooring defects such as poor adhesion, water marks, blistering, irregular surfaces and inadequate curing may occur. The following must therefore be checked and recorded several times a day, before, during and after application to ensure that they are within the system limitations:

- Ambient temperature (air)
- Substrate temperature
- Relative humidity (air)
- Dew point



PREPARATION AND CLEANING

If not fully removed, any weak areas or cement laitance on the substrate will reduce the adhesion, performance and durability of any floor system. Concrete surfaces must therefore always be mechanically prepared to a sound substrate. Any dirt, dust, oils, grease or any other contaminants will also reduce or prevent adhesion of any topping, so these must also be removed by thorough cleaning and vacuuming of all residues.

Sikafloor® APPLICATION PROCEDURES

Product Mixing

EACH Sikafloor® PRODUCT NEEDS TO BE THOROUGHLY MIXED PRIOR TO APPLICATION. THE MIXER USED SHOULD ALWAYS BE OF A LOW SPEED, COMPULSORY/FORCED ACTION TYPE.



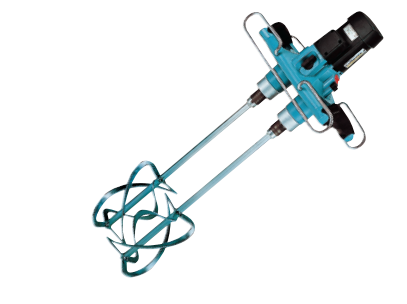
DRILL AND MIXING PADDLE

This mixing equipment is recommended for unfilled binders and the mixing of liquid components of filled screeds and mortars (for filled screeds and mortars please use the Double Mixing Paddle or Forced Action Pan Mixer equipment outlined below). First of all premix Component A. Then add Component B and mix thoroughly for a minimum of 3 minutes until the mix is fully homogeneous.



DOUBLE MIXING PADDLE (FREE HAND OR ON A STAND)

This is the ideal tool for all types of filled binder systems, including screed and mortar mixes. First of all, mix Components A + B together, then put the premixed A + B Components or the liquid binder into the mixing pail, and then add the powder Component C whilst slowly stirring constantly. Mix for a minimum of 3 minutes until the mix is fully homogeneous.



FORCED ACTION PAN MIXER

This machine is designed for the correct mixing of larger quantities of all types of heavily filled mortars and screeds. First of all, put the powder component in the mixing pail, and then add the premixed A + B Components or liquid binder whilst slowly stirring constantly and slowly. Mix for a minimum of 3 minutes until the mix is fully homogeneous.





WHO WE ARE

Sika AG, Switzerland, is a globally active speciality chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, façades). Sika is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting loadbearing structures. Sika's product lines feature high quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

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