



FLOORING SIKA TECHNOLOGY AND CONCEPTS FOR FLOORING AND COATING

BUILDING TRUST





BENEFIT OF OUR SOLUTION

Sika has continued to strengthen its position as the worldwide market leader in construction chemicals. 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.

CONTENT

04 Sika's Flooring and Coating Capabilities for a Healthier and Safer Urban Space

06 Sikafloor® Solutions – A Seamless Match for Your Specific Needs

12 Sikafloor® Solutions for Storage, Logistics and Sales Areas

18 Sikafloor® Solutions for Production and Processing Areas

23 Sikafloor®, Sikaflex® and Sikagard® Solutions for Cleanroom Areas

26 Sikafloor® Solutions for Electro Static Discharge (ESD) Protection and Control

30 Sikafloor® and SikaCor® Solutions for Secondary Containment Areas

32 Innovative Sika® FloorJoint

34 Sikafloor® Solutions for Multi-Storey and Underground Car Parks

37 Sikafloor® Solutions for Leveling

39 Sikafloor® Solutions for Commercial, Public and Residential Areas

44 Sikagard® Solutions for Walls and Ceilings

46 Sika Sustainable Solutions

48 Detailing and Jointing for Flooring Applications

49 Design Sustainable Construction with Sika High Performance Flooring Systems

50 Project Related Performance Requirements

53 Time is Money

54 Cleaning and Maintenance of Sikafloor®

56 Quick Renovation and Turn Around Solutions

57 Sikafloor® Application Procedures

SIKA'S FLOORING AND COATING CAPABILITIES FOR A HEALTHIER AND SAFER URBAN SPACE

Sika flooring and coating solutions are based on many technologies including: Epoxy, PUR and PMMA resins; combinations of different binder technologies such as PU & Cement and EP & Cement for solutions covering all types of requirements for industrial and commercial applications. Sika's quality products are designed for the latest trends and requirements and comply with all regulations and standards, e.g. ISO 9001 and 14001, AgBB, CE-MARKING, M1, CSM, etc. Additionally, Sika is the world leader in VOC and ESD/ECF flooring technology, see details on page 30.

Sika flooring and coating solutions are used in various function areas in buildings and facilities, for example for industrial floors with mechanical and chemical resistance, food industry walls with hygienic requirements, floors and walls in clean room environments, and decorative floors and walls in commercial and residential buildings. Their application can be used in almost all project types in an urban space:

- Manufacturing Industry (automotive, electronics, assembly plants, chemicals, etc.)
- Life Science Industry (food and beverage, pharmaceuticals, professional laboratories, etc.)
- Warehouse and Distribution (storage and transportation)
- Car Park, Parking Garages (public, commercial, private)
- Commercial Buildings (hotels, shops, offices, exhibition centers, etc.)
- Institutional Buildings (schools, hospitals, libraries, museums, athletic centers, etc.)
- Interior Finishing (residential and small commercial, distribution business)
- Carriers (marine, trains and rail, trucks and busses)

Sika flooring has more than 50 years experience and is worldwide technology leader in seamless flooring. It is the ideal option for all flooring needs. Its important contributions to the worldwide flooring construction material technology development are:



- Early 80's: the first modular concept for Epoxy systems which is partly still in use today
- EpoCem® - the first hybrid in the market
- Sikafloor® 261 - first self-leveling floor - upright application process
- PU/PUA Hybrid - new technology for carpark coatings

- Sikafloor® Ecoline - global breakthrough with ecological and cost efficient systems
- Sikafloor® Purcem® Gloss - high end industrial floors with best cost / performance ratio
- More innovation to come in the future



Solutions for Storage, Logistics and Sales Areas. Page 12



Solutions for Multi-Storey and Underground Car Parks. Page 34



Solutions for Production and Processing Areas. Page 18



Leveling solution for perfectly even and smooth floor substrate. Page 37



Solutions for Cleanroom Areas. Page 23



Solutions for Commercial, Public and Residential Areas. Page 39



Solutions for Electro Static Discharge (ESD) Protection and Control. Page 26



Solutions for Walls and Ceilings. Page 44



Solutions for Secondary Containment Areas. Page 30



Detailing and Jointing Solutions for Flooring Applications. Page 48

Sika coating is known for its high durability performance when used in critical environments such as:

- Secondary containment areas
- Tank lining
- Water treatment facilities
- Interior walls and ceilings in industrial and commercial facilities
- Steel structures which need corrosion protection
- Structures which need to meet fire protection standards

Sikafloor® SOLUTIONS – A SEAMLESS MATCH FOR YOUR SPECIFIC NEEDS

WHAT MAKES A FLOOR A Sikafloor®? At Sika, the global leader in innovative flooring solutions, we listen carefully to what our customers want and need, stay abreast of changes that can impact your business, and make significant investments in research, development and testing in order to bring you trusted, engineered solutions based on evidence and best practices. Our time-tested, proven approach is rooted in more than 100 years of experience developing technologies used in flooring as well as concrete production, below-ground waterproofing, roofing, sealing and bonding, and other industrial applications.



We know that your business has its own unique flooring requirements in terms of impact resistance, rolling load resistance, wear resistance, safety regulations, antistatic performance, chemical or fire resistance and, increasingly, quick and efficient installation. Because our products can be customized to meet your technical requirements while still complying with government regulations, you're assured of getting excellent solutions that have only the characteristics you want and need.

Sika is a global expert in all core technologies commonly used in our specialty area of seamless flooring. And, all Sikafloor®



solutions are developed and manufactured according to industry standards as well as our own strict standards for quality assurance and business ethics. To ensure the perfect solution for your business, we offer several flooring families for you to choose from. Families are based on core technologies. Variations within each family allow you to find solutions fine-tuned to your individual needs. All of the families are bonded together by our core flooring values: seamless solutions for your needs, innovative designs, durable and sustainable performance by offering more value at less impact, and full professional support by expert field personnel who are not only the best at what they do but who also take great pride in their work and care about your project.

We design every seamless Sikafloor® product using liquid-applied synthetics or synthetic-cementitious-hybrids. Our synthetic solutions are ideal for a wide variety of applications which is why you find them in industrial buildings, food and pharma facilities, car parks, schools, libraries, hospitals, shopping malls, museums, apartment building balconies, private residential properties and other settings.

Our cementitious flooring solutions are designed for ready-to-use and subfloor preparation applications. For time-critical projects, we offer a unique technology that reduces the waiting time for moist concrete to dry – our Sikafloor® EpoCem® intermediate layers can be installed directly on green and damp concrete.

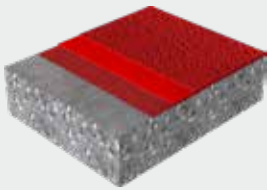
Whether you're a building tenant, owner or applicator, Sika has you covered. In addition to our array of product offerings, we can supply you with industry certifications, proof of product performance and a global network of flooring specialists. For applicators, we also offer training programs to ensure proper installations. We do these things because we believe in Building Trust.



Sikafloor® SOLUTIONS – A SEAMLESS MATCH FOR YOUR SPECIFIC NEEDS

HERE'S A LOOK AT OUR PRODUCT OFFERINGS:

Sikafloor® MultiDur



Epoxy flooring systems by Sika, a global standard. Your workhorse for heavy-duty performance, these flooring systems offer excellent mechanical strength, wear-resistance and chemical-resistance. Although seamless

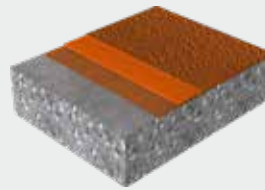
floors, by definition, are aesthetically pleasing, color and design are typically not our customers' major driver in choosing these flooring options. Rather, functionality and delivering long-lasting performance are where these floors excel. Choose from smooth, textured, broadcasted (slip-resistant) and mortar finishes to ensure the usability, safety and cleaning regime best fitting your needs.

Within the Sikafloor® MultiDur family you will find special solutions with extremely high chemical resistance; solutions approved for cleanroom usage; and electrostatic discharging, dissipative and electrically conductive flooring. For more basic flooring use and high performance wall coating needs, we offer water-borne coating systems.

Sikafloor® MultiDur solutions are commonly found in:

- Storage, logistics and sales areas
- Production, processing and cleanroom areas (dry and wet)
- Ground-bearing decks, car parks
- Commercial, public and residential areas

Sikafloor® MultiFlex



Polyurethane flooring systems for heavy duty and industrial usage by Sika. Sikafloor® MultiFlex systems are known for their higher elasticity which allows for crack-bridging designs. Further, these floors excel in absorbing

base floor movements.

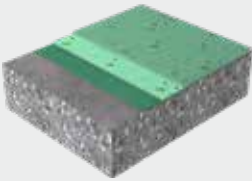
Sikafloor® MultiFlex solutions include designs installed directly on top of elastic waterproofing membranes and are available with or without special surface protection. These floors are installed in smooth, light broadcast and heavy broadcast (high anti-slip) designs.

Sikafloor® MultiFlex can commonly be found in:

- Storage, logistic and sales areas (raised floors)
- Production, processing and cleanroom areas (dry and wet)
- Car parks, intermediate and top decks



Sika ComfortFloor®



With decorative, polyurethane flooring systems for commercial and residential applications by Sika, perfection has never been so close. Global technology leadership in industrial and resilient flooring comes together in our

Sika ComfortFloor® family, offering seamless, high-end aesthetics for even the most discerning clientele. An environmentally friendly solution, Sika ComfortFloor® is mainly based on natural oils and organic raw materials. Its backing – comprised of resilient, acoustic isolation pads – are made of recycled rubber and foam particles.

Sika ComfortFloor® systems offer nearly unlimited design freedom. They are typically installed in a matte finish and are available in 72 standard colors. Custom colors are an option, as are two-tone “concrete-look” designs and the ability to create your own floor art. Additional options include broadcasted colored flakes for a speckled design and a light, anti-slip surface texture for use in wet areas such as showers and toilet rooms. All systems offer very high color stability.

Sika ComfortFloor® solutions are commonly found in:

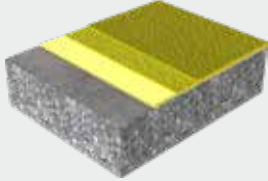
- Institutional buildings such as schools, museums, libraries and hospitals
- Commercial buildings such as shopping malls, hotels, office buildings and restaurants
- Residential buildings of high-end, modern design



Sikafloor® SOLUTIONS – A SEAMLESS MATCH FOR YOUR SPECIFIC NEEDS

Sikafloor® PurCem®

cementitious hybrid systems by Sika. Innovative flooring solutions – extreme performance in terms of mechanical resistance as



Polyurethane hybrid flooring. These innovations deliver performance in cal and chemical as well as re-

duced environmental impact. Because they're durable, low maintenance and available with resurfacing options, our versatile Sikafloor® PurCem® range of systems is gaining global appreciation and can be found in a wide variety of heavy-duty applications. The special core technology of an elastic resinous binder reacting with cementitious fillers is what makes this system family resistant to high temperature variations, even thermo shocks for certain designs. Installation on damp concrete surfaces is possible with Sikafloor® PurCem®.

Typically, Sikafloor® PurCem® floors are installed in a light or heavy anti-slip broadcast or in a full mortar build-up to ensure high performance in wet areas. A smooth/light-textured surface finish is available for dry areas. Sikafloor® PurCem® Gloss is the latest innovation to our Sikafloor® PurCem® family. This system's glossy finish allows for significantly easier floor cleaning. Specified with a smooth surface finish and in a low- to medium- thickness, this solution can be an alternative to some Sikafloor® MultiDur systems.

Sikafloor® PurCem® solutions are commonly found in:

- Food and beverage processing facilities
- Professional kitchens
- Cool storage areas
- Heavy-duty processing areas, especially wet processing

Sikafloor® HardTop



Concrete surface hardening, curing and sealing and heavy-duty industrial screeds, by Sika. Our dry shake Sikafloor® powders are broadcasted directly onto the fresh concrete – before the powerfloat finish is applied – to

create an extremely hard-wearing, monolithic concrete floor. Additional performance can be achieved through various liquid-applied surface hardeners, curing compounds and surface sealers.

Sikafloor® HardTop solutions are commonly found in:

- Storage, logistics and sales areas
- Non-critical, heavy-duty industrial areas such as dry processing facilities
- Car parks



Sikafloor® Level



Subfloor preparation and leveling solutions, by Sika. To assure compatibility of base floor preparation materials with final, high-end synthetic finishes, Sika offers a full range of leveling underlayments. Professional

flooring contractors and general construction craftsmen recognize Sika leveling compounds for excellent performance and workability. Each underlayment has a matching range of primers to ensure solid performance on different types of substrates, both in new and refurbishment projects. We offer solutions for absorbing cementitious and calcium-based slabs, and solutions to go over existing ceramic tile or synthetic flooring.

When time is of the essence, we can help to reduce your project lead time with the Sika® Level Rapid solution. This system's fast-drying properties typically enable underlayment and overlaying on the same day.

Sikafloor® Level systems can be used in combination with our own Sika ComfortFloor®, Sikafloor® MultiDur, Sikafloor® DecoDur and Sikafloor® MultiFlex flooring solutions and with a wide variety of common commercial floors. Within our SikaBond® family, you'll find adhesives for synthetic, textile and wood flooring systems.

Sikagard® WallCoat



A wall coat that blends specific, engineered performance requirements with decorative designs, by Sika. When you need more than just paint, our family of Sikagard® WallCoat performance and decorative wall coating systems

delivers unique benefits for demanding surface finishing. Chemical resistance. Heavy-duty mechanical resistance. The ability to withstand chemicals used in cleaning regimes. In-film preservatives providing finishes that do not promote the development of fungi, bacteria and other micro organisms. Sikagard® WallCoat solutions do it all. Easily. Sikagard® WallCoat solutions are commonly found in:

- Cleanroom certified areas
- Food and beverage processing facilities
- Hospitals and laboratories
- Concrete surface protection
- Tunnels
- Commercial, institutional and residential interior finishing



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 area's operation.

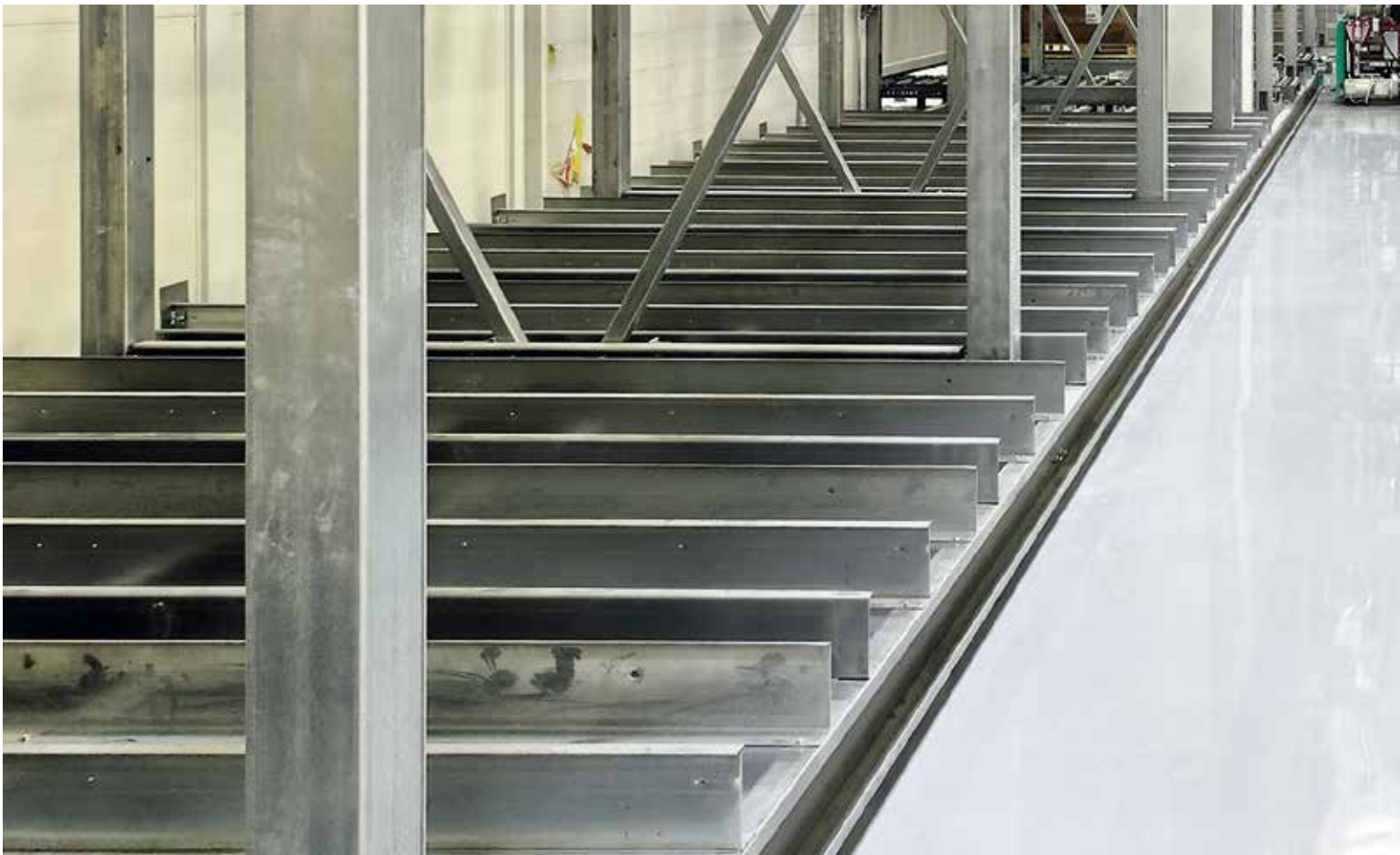
It is always essential to ensure that the stresses imposed are all able to be safely accommodated by the flooring system. Therefore, fully understanding each area's operations and then defining all of the performance requirements for the floor is the most important. This includes the required mechanical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

NEW BUILDINGS

Concrete slabs produced from mix designs using admixtures such as Sikament® or Sika® ViscoCrete® SCC technology form a sound foundation and allow accurate levels with the necessary falls to be achieved. Sikafloor® “dry shake” solutions as

the name suggests, are applied as dry powders directly onto the surface of the freshly laid concrete, where they are power float finished, and then harden monolithically with the base concrete. This creates an integrated and extremely hard-wearing floor. 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® pumped screeds and Sikafloor® Level are used to provide a uniform and level surface for the application of floor finishes. The 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 colored 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.

MANY ONGOING DAILY ACTIVITIES INCLUDING: FORKLIFT OR PALLET TRUCK TRAFFIC CARRYING HEAVY LOADS, PALLETS AND BOXES BEING DRAGGED ACROSS THE FLOOR, STRICT TEMPERATURE REQUIREMENTS FOR CERTAIN GOODS, ETC.









COLD STORAGE AREAS


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









STORAGE, LOGISTICS AND SALES AREAS



SYSTEM	Sikament® or Sika® ViscoCrete®	Sikafloor® EpoCem®	Sikafloor® HardTop	Sikafloor® HardTop
				
DESCRIPTION	Concrete slab with power-float finished screed for accurate levels	Self-smoothing temporary moisture barrier on "green" or damp concrete	Monolithic finish for concrete floors	Heavy duty monolithic finish for concrete floors
NOMINAL THICKNESS / LAYERS	2	2 – 7 mm 2	2.5 – 3 mm 1 – 2	2.5 – 3 mm 1 – 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Fine and level tolerances 	<ul style="list-style-type: none"> ■ Self-smoothing for concrete floors with a damaged or missing waterproof membrane ■ Reduced waiting time to overcoat green concrete ■ No blistering in vapour tight floor toppings when coating damp concrete 	<ul style="list-style-type: none"> ■ Economic surface hardening ■ Good abrasion resistance ■ Good impact resistance ■ Color options 	<ul style="list-style-type: none"> ■ Excellent abrasion resistance ■ Excellent impact resistance ■ Extremely high durable ■ Non corroding metallic finish ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikament® or Sika® ViscoCrete® slab ■ Sika® polymer modified cement 	<ul style="list-style-type: none"> ■ Sikafloor®-80 Epocem Primer ■ Sikafloor®-81 EpoCem® 	<ul style="list-style-type: none"> ■ Sikament® or Sika® ViscoCrete® slab ■ Sikafloor®-3 QuartzTop ■ Sikafloor® ProSeal W / ProSeal 22 	<ul style="list-style-type: none"> ■ Sikament® or Sika® ViscoCrete® slab ■ Sikafloor® Emery MY ■ Sikafloor® ProSeal-22
				

* 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 50 to 52 of this brochure.



SYSTEM FAMILY	Sikafloor® HardTop	Sikafloor® HardTop	Sikafloor® HardTop
			
DESCRIPTION	Surface hardener for concrete floors	Water based curing and sealing compound for concrete floors	Solvent based curing and sealing compound for concrete floors
NOMINAL THICKNESS / LAYERS	< 1 mm 1 - 2	< 1 mm 1 - 2	> 1 mm 1 - 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Economic surface hardening ■ Good abrasion resistance ■ Prevent surface dusting 	<ul style="list-style-type: none"> ■ Surface sealing ■ Curing to ASTM C-309 ■ Prevent surface dusting ■ Very low VOC 	<ul style="list-style-type: none"> ■ Surface sealing and hardening ■ Curing to ASTM C-309 ■ Prevent surface dusting ■ Fast film formation
SYSTEM COMPONENTS	■ Sikafloor® CureHard 24 or CureHard LI	■ Sikafloor® ProSeal W	■ Sikafloor® ProSeal 22
			

STORAGE, LOGISTICS AND SALES AREAS



SYSTEM	Sikafloor® MultiDur WS-10	Sikafloor® MultiDur WS-11	Sikafloor® MultiDur ES-24
DESCRIPTION	Double water based epoxy roller coat	Smooth, water based epoxy floor covering	Smooth unicolor epoxy floor covering
NOMINAL THICKNESS / LAYERS	< 1 mm 2	< 1 mm 2	2 - 3 mm 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Light to medium wear resistance ■ Surface stabilization ■ Prevent surface dusting ■ Color options 	<ul style="list-style-type: none"> ■ Good chemical and mechanical resistance ■ Water vapour permeable ■ Water dilutable ■ Odourless ■ Easy application ■ Green label singapore (032-121-1507) 	<ul style="list-style-type: none"> ■ High wear and abrasion resistance ■ Good impact resistance ■ Good chemical resistance ■ Medium thermal shock resistance ■ Easy cleaning ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-2540 W 	<ul style="list-style-type: none"> ■ Sikafloor®-2530 W LP + 5% wt. water ■ Sikafloor®-2530 W LP 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-263 SL HC





SYSTEM	Sikafloor® MultiDur EB-14 ECC	Sikafloor® MultiDur EB-24	Sikafloor® PurCem® HM-20
DESCRIPTION	Broadcast unicolour epoxy floor covering thin layer over epoxy hybrid screed	Broadcast unicolor epoxy floor covering	Heavy-duty, lightly textured, high chemical, mechanical and temperature resistant polyurethane cementitious hybrid screed
NOMINAL THICKNESS / LAYERS	2 - 4 mm 3	2 - 4 mm 3	6 - 9 mm 1 - 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Cold storage (> -10°C) ■ High wear resistance ■ Good mechanical resistance ■ Medium thermal shock resistance ■ Slip resistant ■ Color options 	<ul style="list-style-type: none"> ■ Cold storage (> -10°C) ■ High wear resistance ■ Good mechanical resistance ■ Medium thermal shock resistance ■ Slip resistant ■ Color options 	<ul style="list-style-type: none"> ■ Highly frost / blast freezing resistant (> -40°C) ■ Heavy duty screed, high wear resistance ■ High chemical resistance ■ Thermal schock resistance ■ Easy cleaning (steam cleaning resistant) ■ Slip resistant ■ Color options ■ Low VOC, low odor
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-80 EpoCem® Primer ■ Sikafloor®-81 EpoCem® ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-264 HC 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-263 SL HC ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-264 HC 	<ul style="list-style-type: none"> ■ Sikafloor®-21 PurCem® LP ■ Sikafloor®-20 PurCem® LP

Sikafloor® SOLUTIONS FOR PRODUCTION AND PROCESSING AREAS

THE BIGGEST CHALLENGES FOR flooring systems in manufacturing facilities are generally in the production areas. These floors not only have to withstand severe exposure, including mechanical, chemical and thermal stresses, but also need to provide the right degree of slip resistance to meet health and safety requirements.

The Sikafloor® systems applied in production areas are based predominantly on Cement, Epoxy and Polyurethane resin technologies, which are developed in our laboratories from more than 50 years of practical experience. For special requirements, different binder and filler systems are combined to achieve specific properties, e.g. polyurethane and cement in the Sikafloor® PurCem® range for high temperature and chemical resistance in wet environments.

DRY AND WET AREAS

Most production areas can be divided into 'dry' or 'wet' processing areas. Flooring systems in 'wet' process areas generally require a higher degree of slip-resistance, which must also be easily cleaned, and yet be resistant to the water and any chemical exposure. In the production areas of the food and beverage industries in particular, a clean floor is obviously of crucial importance to facilitate the necessary hygienic working environment.

'Dry' processing areas also often require a balance or compromise to be made between ease of cleaning and slip resistance to meet the requirements for efficiency and hygiene, plus health and safety.

AREAS WITH EXTREME EXPOSURE (COMBINATIONS OF WET CONDITIONS, CHEMICALS, TEMPERATURES AND ABRASION)

Sika has a complete range of flooring solutions for industrial facilities that are required to be durable under extreme exposures and conditions of use. These conditions can vary from severe chemical attack with thermal shock exposure in the food industry, to high point loading and abrasion in the automotive industry.

The Sikafloor® PurCem® range will perform under the most demanding service environments and can meet all of these and many other different individual exposure requirements with design flexibility. This includes a full range of non-slip / anti-skid profiles.

USING THE FAST CURING Sikafloor® Pronto SYSTEMS FOR FLOOR MAINTENANCE AND REFURBISHMENT PROJECTS CAN REDUCE DOWNTIME TO MINIMUM.

MINIMUM DOWNTIME FOR PRODUCTION

Each day or even each hour of downtime in production can be very expensive in both new construction and in refurbishment projects. It is always therefore essential to finish all of the flooring work within the shortest possible time, but still ensuring the required performance and durability. Using the fast curing Sikafloor® Pronto systems for floor maintenance and refurbishment projects can reduce down time to a minimum. Sikafloor® systems can also be designed to withstand all of the other requirements and conditions with various degrees of slip resistance and surfaces that are easy to clean.



PRODUCTION AND PROCESSING AREAS

Wet Areas



SYSTEM	Sikafloor® MultiDur ET-14	Sikafloor® MultiDur EB-24	Sikafloor® MultiDur EB-31	Sikafloor® MultiDur EB-39
DESCRIPTION	Slip resistant, textured unicolor epoxy roller coat	Slip resistant broadcast unicolor epoxy floor covering	Broadcast unicolor epoxy floor covering over epoxy hybrid screed with high chemical resistance	Broadcast unicolor epoxy floor covering over epoxy hybrid screed with high chemical resistance
NOMINAL THICKNESS / LAYERS	< 1 mm 2	2 - 4 mm 3	2 - 3 mm 3	2 - 3 mm 3
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Good wear and abrasion resistance ■ Good chemical resistance ■ Slip resistant ■ Easy cleaning ■ Color options 	<ul style="list-style-type: none"> ■ Cold storage (> -10°C) ■ High wear resistance ■ Good mechanical resistance ■ Slip resistant ■ Color options 	<ul style="list-style-type: none"> ■ High wear ■ High chemical resistance ■ Color options 	<ul style="list-style-type: none"> ■ Crack bridging ■ High chemical resistance ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-264 HC + Extender T 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-263 SL HC ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-264 HC 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-381 ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-381 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-390 N ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-390 N

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PRODUCTION AND PROCESSING AREAS

Dry Areas



SYSTEM	Sikafloor® MultiDur ES-14	Sikafloor® MultiDur ET-14	Sikafloor® MultiDur ES-24
DESCRIPTION	Unicolor epoxy roller coat	Textured unicolor epoxy roller coat	Smooth unicolor epoxy floor covering
NOMINAL THICKNESS / LAYERS	< 1 mm 2	< 1 mm 2	2 - 3 mm 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Good wear and abrasion resistance ■ Good chemical resistance ■ Easy to clean ■ Color options 	<ul style="list-style-type: none"> ■ Good wear and abrasion resistance ■ Good chemical resistance ■ Slip resistant ■ Easy to clean ■ Color options 	<ul style="list-style-type: none"> ■ High wear and abrasion resistance ■ Good impact resistance ■ Good chemical resistance ■ Easy to clean ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-264 HC 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-264 + Extender T 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-263 SL HC

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SYSTEM	Sikafloor® MultiDur ES-23	Sikafloor® MultiDur ES-31	Sikafloor® MultiDur ES-39
DESCRIPTION	Smooth unicolor epoxy floor covering	Smooth unicolor epoxy floor covering	Smooth unicolor epoxy floor covering
NOMINAL THICKNESS / LAYERS	2 - 3 mm 3	2 - 3 mm 2	2 - 3 mm 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ High wear resistance ■ High chemical resistance ■ Color options 	<ul style="list-style-type: none"> ■ High wear resistance ■ High chemical resistance ■ Color options 	<ul style="list-style-type: none"> ■ Crack bridging ■ High chemical resistance ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-263 SL HC /-264 HC ■ Sikafloor®-316 / -315 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-381 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-390 N

PRODUCTION AND PROCESSING AREAS

Extreme Exposure

(Combinations of Wet Conditions, Chemicals, Temperatures and Abrasion)



SYSTEM	Sikafloor® PurCem® HM-20	Sikafloor® PurCem® HS-21	Sikafloor® PurCem® HS-21 Gloss
DESCRIPTION	Heavy-duty, lightly textured, high chemical, mechanical and temperature resistant polyurethane cementitious hybrid screed	Medium- to heavy-duty, self-leveling, smooth polyurethane cementitious hybrid screed	Extremely durable, gloss, scratch resistant, smooth and seamless polyurethane hybrid flooring system.
NOMINAL THICKNESS / LAYERS	6 - 9 mm 1 - 2	4,5 - 6 mm 2	3 - 6 mm 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Highly frost / blast freezing resistant (> -40°C) ■ Heavy duty screed, high wear resistance ■ High chemical resistance ■ Thermal schock resistance ■ Easy cleaning (steam cleaning resistant) ■ Slip resistant ■ Color options ■ Low VOC, low odor 	<ul style="list-style-type: none"> ■ Highly frost / blast freezing resistant (> -40°C) ■ Heavy duty screed, high wear resistance ■ High chemical resistance ■ Thermal schock resistance ■ Easy cleaning ■ Slip resistant ■ Color options ■ Low VOC, low odor 	<ul style="list-style-type: none"> ■ Good chemical resistance ■ Dense and scratch resistance surface ■ High mechanical resistance ■ Low dirt pick up ■ Easy to clean and maintain ■ VOC free and environmental friendly ■ Non tainting, odorless during application ■ Can be applied to substrates with high moisture tolerance ■ Very good life cycle cost performance ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-21 PurCem® LP ■ Sikafloor®-20 PurCem® LP 	<ul style="list-style-type: none"> ■ Sikafloor®-21 PurCem® LP 	<ul style="list-style-type: none"> ■ Sikafloor® -21 PurCem® LP ■ Sikafloor®-210 PurCem®



Sikafloor[®], Sikaflex[®] and Sikagard[®] SOLUTIONS FOR CLEANROOM AREAS

IN RECENT YEARS SIKA has developed a new generation of advanced flooring, wall coating and joint sealant solutions for cleanroom environments. Manufacturing under cleanroom conditions is becoming increasingly more widespread and demanding, with particular regard to VOC / AMC emissions (Volatile Organic Compounds / Airborne Molecular Contaminants), particle emissions and biological contamination.

The number of products which have to be produced and processed under cleanroom conditions is constantly growing, from electronics and automotive components to food, pharmaceuticals and cosmetics. In many of these industries, cleanroom manufacturing plus a high degree of component cleanliness are now essential to achieve their desired product quality.

Many Sikafloor[®], Sikagard[®] and Sikaflex[®] systems are the 'State of the Art' in cleanroom solutions, specifically developed and certified for cleanroom environments ranging from those in the Semi-conductor and Electronics industries to those in the Life Science industries. Therefore we are the ideal partner to help you select the best solutions for your individual processes and cleanroom requirements and with the unique CSM product qualification.

CERTIFICATION

Most of the Sikafloor[®], Sikagard[®] and Sikaflex[®] systems in this brochure are tested and certified for their use in a cleanroom environment.

Furthermore, in depth test reports and proof statements are available for each certified product or system, which contain all of the relevant information regarding the testing parameters and standards. Please ask your local Sika representative for specific details and you can also refer to the public database of the Fraunhofer IPA Institute where all of the tested and certified Sika solutions are listed:
www.tested-device.com



© Fraunhofer IPA



CLEANROOM SUITABLE MATERIALS CSM

CSM – Cleanroom Suitable Materials are the world's first standardised product qualifications according to the ISO 14644 and GMP standards for all cleanroom and life science markets.

The Fraunhofer IPA founded the Industrial Alliance CSM and organises their main work topics and coordinates the required research, including the



recording and analysis of all relevant data. The aim of founding the industrial alliance "Cleanroom Suitable Materials" was to form a sound scientific basis for assessing the cleanroom suitability of materials and for determining the material selection criteria for cleanroom applications. Sika was a founding member of this alliance and plays an active role in the development of these standards and regulations.

CSM – CERTIFIED CLEANROOM SUITABLE MATERIALS FOR SPECIFIC INDUSTRIES

LIFE SCIENCE INDUSTRIES

The following industries are particularly aware of particle emissions and biological resistance according to the global GMP standard.

- Food
- Biotechnology
- Medical devices
- Pharmaceuticals



3. * Chemical resistance depends very much on the process and the cleaning regime, which needs to be checked individually. Please refer to the Sikafloor® Chemical Resistance Chart available from your local Sika Organisation.

Requirements

1. Low particle emissions
2. Biological resistance
3. Chemical resistance*
4. Conductivity

Sika Solutions:

One label contains all the information for clients or specifiers working in the cleanroom industries!

ELECTRONICS AND RELATED INDUSTRIES

The following industries are particularly aware of particle and TVOC emissions according to the global ISO 14644 standard.

- Solar panels
- Hard discs
- Flat panel screens
- Semiconductors
- Optical equipment
- Microsystems
- Automotive
- Aerospace



3. * Chemical resistance depends very much on the process and the cleaning regime, which needs to be checked individually. Please refer to the Sikafloor® Chemical Resistance Chart available from your local Sika Organisation.

Requirements

1. Low particle emissions
2. Low VOC emissions
3. Chemical resistance*
4. Conductivity

Sika Solutions:

One label contains all the information for clients or specifiers working in the cleanroom industries!



CLEANROOM AREAS



SYSTEM	Sikafloor® MultiDur ES-31	Sikafloor® MultiDur ES-39	Sikagard® Wallcoat WS-11	Sikaflex® Sealant
DESCRIPTION	Smooth unicolor epoxy floor covering	Smooth unicolor epoxy floor covering	Epoxy based high performance wall coating solution	1-Part polyurethane floor joint sealing solution
NOMINAL THICKNESS / LAYERS	2 - 3 mm 2	2 - 3 mm 2	< 0.5 mm 2	
CHARACTERISTICS	<ul style="list-style-type: none"> ■ High wear resistance ■ High chemical resistance ■ Color options 	<ul style="list-style-type: none"> ■ Crack-bridging ■ High chemical resistance ■ Color options 	<ul style="list-style-type: none"> ■ ISO 14644 Compliant ■ Good chemical resistance ■ Smooth surface ■ Low VOC ■ Biological resistant ■ Color options 	<ul style="list-style-type: none"> ■ ISO 14644 Compliant ■ Good chemical resistance ■ Excellent adhesion ■ Low VOC
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-381 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-390 N 	<ul style="list-style-type: none"> ■ Sikagard® Wallcoat WS-11 	<ul style="list-style-type: none"> ■ Sikaflex® Pro 3

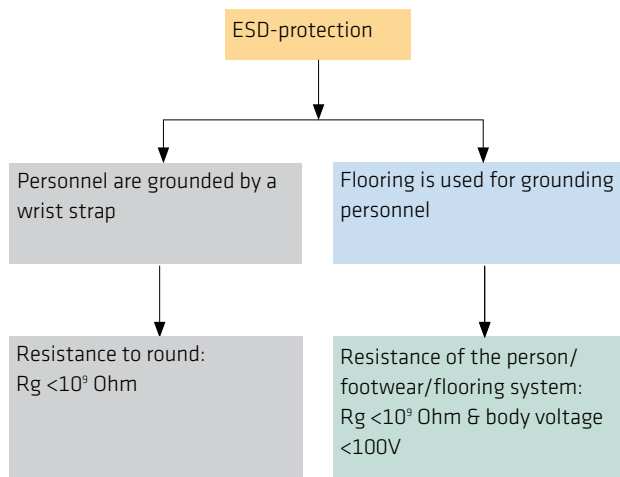
* Note: 1) The 3D graphics in this brochure are not to scale and they are only intended to illustrate the system build-ups.
 2) The symbols such as represent typical project related performance requirements and these are all listed and discussed on pages 50 to 52 of this brochure.

Sikafloor® SOLUTIONS FOR ELECTRO STATIC DISCHARGE (ESD) PROTECTION AND CONTROL

IN INDUSTRIES WHERE ELECTRONIC components or volatile chemicals are involved, static electricity can result in significant damage, injury and financial loss. All active electronic components and equipment e.g. micro-chips, integrated circuits and machinery are sensitive to electrostatic discharges (also known as ESD events).

Even when areas and people are equipped to handle such static-sensitive devices, inadvertent contact and damage can occur. Sikafloor® ESD (Electro Static Discharge), DIF (Dissipative Flooring) and ECF (Electrically Conductive Flooring) systems, can safeguard your entire process. These systems can be designed to produce a floor tailored to meet your specific needs.

RESISTANCE RANGES ACCORDING TO IEC 61340-5-1 OR ANSI/ESD S 20.20



SPECIFICATION

None of the specific conductivity or electrical resistance values mentioned in any of the International or National Standards in the table shown here are mandatory. The values can be adapted to meet local requirements by the responsible authorities. Before

applying an ESD or dissipative/conductive flooring system, Sika always recommends a detailed assessment of at least the following parameters, then the most appropriate values can be determined and agreed by all of the parties involved:

- Limits for the electrical resistance and body voltage generation
- Methods and conditions of measurement
- Equipment to make these measurements
- Any applicable standards or specifications

WHAT IS AN ESD EVENT AND WHAT DOES IT DO?

An ESD event is an Electrostatic Discharge. This is basically a spark (a micro lightning-bolt in effect), which passes from one charged conductive surface to another. This incredibly rapid transfer of what had previously been a static (non-moving) charge can cause fires or explosions, create heat, light and even sounds. It is this potentially unseen, unfelt or unheard 'micro lightning' spark that can occur without warning, which must be prevented or controlled.

DEFINITION: CONDUCTIVE/DISSIPATIVE FLOORING MATERIAL (ECF/DIF)

- Conductivity refers to the ability of a material to conduct a charge to ground. In non-absolute technical terms, this means its ability to conduct an electrical current.
- Conductive floors and electrostatic dissipative floors are classified according to their electrical resistance to ground.

Conductive Flooring Material (ECF)

(e.g. according to ASTM F150) A floor material that has a resistance to ground between 2.5×10^4 and 1.0×10^6 ohms

Dissipative Flooring Material (DIF)

(e.g. according to ASTM F150) A floor material that has a resistance to ground between 1.0×10^6 to 1.0×10^9 ohms

EUROPEAN-STANDARDS:

Systems:	DIN EN 1081 Resistance to Ground RG < $10^8 \Omega$	IEC 61340-5-1 (IEC 61340-4-5) System Test: < 35 M Ω	IEC 61340-5-1 (IEC 61340-4-5) Walking Test (BVG) < 100 Volt	IEC 61340-5-1 (IEC 61340-4-1) Resistance to Ground RG < $10^9 \Omega$	ATEX 137 / TRBS 2153 European Standard Resistance to Ground RG < $10^8 \Omega$	DIN VDE 0100-410 (IEC 60364-4-41) Isolation Resistance > 50 k Ω
Smooth and textured, hygienic ECF floors						Any insulating self-smoothing layers e.g. Sikafloor®-263 SL
Sikafloor®-262 AS N	▲	-	-	▲	▲	
High chemical resistance						
Sikafloor®-381 ECF	▲	-	-	▲	▲	
Sikafloor®-390 ECF	▲	-	-	▲	▲	
ESD systems with very low body voltage generation						
Sikafloor®-235 ESD	▲	▲	▲	▲	▲	
Sikafloor®-327 Sikafloor®-305 W ESD	▲	▲	▲	▲	▲	

STANDARDS USED IN ASIA:

Systems:	SJ/T 11294-2003 (ECF) Resistance to Ground $R_c > 5 \times 10^4 - < 1 \times 10^6 \Omega$	SJ/T 11294-2003 (DIF) Resistance to Ground $R_c > 1 \times 10^5 - < 1 \times 10^8 \Omega$	IEC 61340-5-1 (IEC 61340-4-5) System Test: < 35 M Ω	IEC 61340-5-1 (IEC 61340-4-5) Walking Test (BVG) < 100 Volt	IEC 61340-5-1 (IEC 61340-4-1) Resistance to Ground $R_c < 10^9 \Omega$
Smooth, hygienic floors					
Sikafloor®-262 AS N	▲	-	-	-	▲
High chemical resistance					
Sikafloor®-390 AS	▲	-	-	-	▲
Sikafloor®-381 AS	▲	-	-	-	▲
ESD system with very low body voltage generation					
Sikafloor®-235 ESD	-	-	▲	▲	▲

▲ Meets the Standard – Does not meet the Standard

Sikafloor® SOLUTIONS FOR ELECTRO STATIC DISCHARGE (ESD) PROTECTION AND CONTROL



SYSTEM	Sikafloor® MultiDur ET-14 ECF	Sikafloor® MultiDur ES-24 ECF	Sikafloor® MultiDur ES-25 ESD	Sikafloor® Multiflex PS-27 ESD
DESCRIPTION	Textured unicolor conductive epoxy roller coat	Smooth unicolor conductive epoxy floor covering	Smooth unicolor high performance ESD epoxy floor covering	Seamless, smooth, low voc, tough elastic ESD polyurethane floor covering
NOMINAL THICKNESS / LAYERS	0.6 - 0.8 mm 3	~ 2 mm 3	~ 2 mm 3	~ 2 mm 3
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Good wear and abrasion resistance ■ Good chemical resistance ■ Slip resistant ■ Easy to clean ■ Conductive ■ Color options 	<ul style="list-style-type: none"> ■ High wear and abrasion resistance ■ Good chemical resistance ■ Color options ■ Easy to clean ■ Conductive 	<ul style="list-style-type: none"> ■ Good wear and abrasion resistance ■ Good chemical resistance ■ Color options ■ Easy to clean ■ Conductive 	<ul style="list-style-type: none"> ■ Low VOC ■ Easy to clean ■ Conductive ■ UV-resistant ■ Easy to repair ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-220 W Conductive ■ Sikafloor®-262 AS + Extender T 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-220 W Conductive ■ Sikafloor®-262 AS N 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-220 W Conductive ■ Sikafloor®-235 ESD 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-327 ■ Sikafloor®-305 W ESD





SYSTEM	Sikafloor® MultiDur ES-31 ECF	Sikafloor® PurCem® HS-25 ECF	Sikafloor® MultiDur EB-39 ECF
DESCRIPTION	Smooth, chemically resistant conductive floor covering	Medium duty, smooth, self-leveling, electric conductive polyurethane cementitious hybrid screed	Broadcast, unicolour conductive epoxy floor screed with high chemical resistance and slip resistance
NOMINAL THICKNESS / LAYERS	~ 2 mm 3	4,5 – 6 mm 2	< 2.5 mm 3
CHARACTERISTICS	<ul style="list-style-type: none"> ■ High wear and abrasion resistance ■ High chemical resistance ■ Color options ■ Easy to clean ■ Conductive 	<ul style="list-style-type: none"> ■ Conductive ■ Heavy duty screed, high wear resistance ■ High chemical resistance ■ Medium thermal shock resistance ■ Hygienic ■ Slip resistant ■ Color options ■ Low VOC, low odor 	<ul style="list-style-type: none"> ■ Conductive ■ High wear resistance and abrasion ■ High chemical resistance ■ Tough elastic ■ Slip resistant ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-220 W Conductive ■ Sikafloor®-381 ECF 	<ul style="list-style-type: none"> ■ Sikafloor®-25 S PurCem® ECF ■ Sikafloor®-25 PurCem® ECF 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-220 W ■ Sikafloor®-390 ECF ■ Silicon Carbide ■ Sikafloor®-390 ECF

Sikafloor® and SikaCor® SOLUTIONS FOR SECONDARY CONTAINMENT AREAS

SECONDARY CONTAINMENT AREAS ARE bunded areas designed to contain any spillages of oils, chemicals or pollutants from their primary containment tanks or vessels. This is in order to protect the soil and the groundwater from pollution, which is an increasing demand following the legislation of governments and other authorities to protect the environment.

There are two main requirements for protective coating systems in these secondary containment areas: Firstly to waterproof the structures to protect the soil and groundwater. Secondly, as many of these chemical materials are also aggressive to the concrete and reinforcement steel that the structures are built from, the secondary containment structures themselves must also be protected, in order to prevent any damage or even loss of structural integrity.

Based on our extensive experience of handling many different kinds of chemicals, i.e. acids, alkalis, oils and solvents, Sika has led the development of many specialist epoxy and other resin based coating systems to waterproof and protect secondary containment structures, so that they can fulfil their function. As required and in accordance with some national and International standards, many of these Sika systems also have defined crack-bridging properties and their chemical resistance has been fully tested against the various different chemicals that they are to be used to resist and keep contained.





SYSTEM	Sikafloor® MultiDur® ES-39	Sikafloor® MultiDur® ES-39 ECF	SikaCor® VE MY
DESCRIPTION	Smooth unicolor epoxy floor covering with high chemical resistance	Smooth unicolor ECF epoxy floor covering with high chemical resistance	Glass fabric reinforced, ECF vinyl ester resin based secondary containment lining with excellent chemical resistance
NOMINAL THICKNESS / LAYERS	2 mm 2	2 mm 3	4 - 5 mm 4
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Crack bridging ■ High chemical resistance ■ Good wear resistance ■ Smooth surface ■ Color options 	<ul style="list-style-type: none"> ■ Crack bridging ■ High chemical resistance ■ Good wear resistance ■ Smooth surface ■ Conductive ■ Color options 	<ul style="list-style-type: none"> ■ Crack bridging ■ Excellent chemical resistance ■ Fast curing ■ Glass fibre reinforced ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-390 N 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-220 W ■ Sikafloor®-390 N ECF 	<ul style="list-style-type: none"> ■ SikaCor® VE MY scratch coat ■ SikaCor® VE MY Base Coat ■ Glass fibre matt ■ Glass fibre surface fleece ■ SikaCor® VE MY Base Coat ■ SikaCor® VE MY Top Coat

Notice: to achieve tight and proof surfaces, it is important to have the right detailing solution, which is supported by Sika's technical experts to give full range support.

INNOVATIVE Sika® FloorJoint

THE SOUND 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.

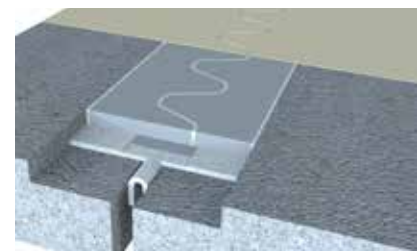
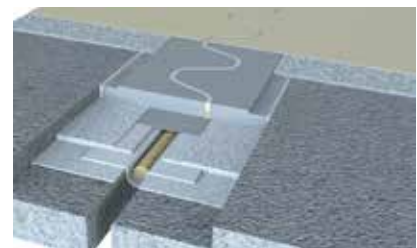
Sika can now offer the perfect solution with flush and almost invisible joint profiles: Sika® FloorJoint PD for car parks and Sika® FloorJoint S for industrial buildings. The profiles are installed on the same surface level as the floor, which means no more thresholds. One benefit of this new system is reduced damage to vehicles, meaning the cost of spare parts for trucks decreases significantly, too. A real added value in every respect.

ONE BENEFIT OF THIS NEW SYSTEM IS REDUCED DAMAGE TO VEHICLES, MEANING THE COST OF SPARE PARTS FOR TRUCKS DECREASES SIGNIFICANTLY, TOO.





THE SOUND OF SILENCE.



REQUIREMENTS FOR CAR PARKS

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.

RANGE OF USE

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

PERFORMANCE

- 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

REQUIREMENTS FOR INDUSTRIAL BUILDINGS

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.

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

PERFORMANCE

- 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

Sikafloor® SOLUTIONS FOR MULTI-STOREY AND UNDERGROUND CAR PARKS

PARKING STRUCTURES TODAY

Parking has become a vital part of today's mobile community, especially in metropolitan areas including airports, all of which are growing at an ever faster rate. This means continually providing more parking spaces by building new car parks and frequently extending and refurbishing existing ones.

WHERE DO YOU LIKE TO PARK?

Successful parking structures are designed to meet the users' demands, which include feeling safe and welcome, plus knowing that their cars are in a secure environment. Given the choice, people always park in a brightly lit car park, where they feel their property is best looked after and safe.

INVESTIGATION AND SURVEY OF EXISTING PARKING STRUCTURES

Multi-storey and underground car parks are both subject to many different stresses. In order to discover the root causes of distress and deterioration, it is therefore essential to carry out a professional condition survey and assessment. It is obviously important to balance the cost of the investigative work with the benefits that the derived information will provide; but an appropriate survey and assessment is often key to successfully maintaining and extending the service life of an existing parking structure.

NEW BUILD

Modern parking structures are essential and integrated into a cities' architecture. They are frequently built using 'fast-track' construction techniques, with as much off-site construction as possible, to reduce the disruption in these areas.

THE ADEQUATE PROTECTION OF NEW BUILD CAR PARKS WILL PREVENT COST INTENSIVE REFURBISHMENT BEING REQUIRED IN THE FUTURE.

Therefore precast and prefabricated sections of steel frames with reinforced concrete decks and stairways are usually combined in composite structures for new car parks. The adequate protection of new build car parks will prevent cost intensive refurbishment being required in the future.

REFURBISHMENT

Most of Europe's existing multi-storey car parks have been built since 1950 and they are predominantly of reinforced concrete construction, many of which have a history of early deterioration, structural defects and shortcomings in safety. This is due to poor design, poor construction, low standards of maintenance and repair, or a combination of all three. Their exposure is more similar to that of bridges than the building codes they were designed to, and as a result they have deteriorated quickly, particularly due to reinforcement corrosion following the ingress of water and de-icing salts. The closure of many areas and even whole car parks for costly repair or replacement has been necessary. These bad experiences have served to emphasise the need for improved performance in car park design, construction and the materials used, in order to ensure the increased durability and safety of both new and existing structures.



MULTI-STOREY AND UNDERGROUND CAR PARKS

Systems for Ground Bearing Slabs



SYSTEM	Sikafloor® HardTop	Sikafloor® MultiDur EB-14 ECC	Sikafloor® MultiDur EB-24	Sikafloor® MultiDur WB-11
DESCRIPTION	Monolithic finish for concrete floors	Broadcast unicolour epoxy floor covering thin layer over epoxy hybrid screed	Broadcast unicolor epoxy floor covering	Double water based epoxy roller coat
NOMINAL THICKNESS / LAYERS	< 1 mm 1	2 - 4 mm 3	2 - 4 mm 3	< 1 mm 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Economic surface hardening ■ Good abrasion resistance ■ Good impact resistance ■ Vapour permeable ■ Color options 	<ul style="list-style-type: none"> ■ Cold storage (> -10°C) ■ High wear resistance ■ Good mechanical resistance ■ Medium thermal shock resistance ■ Slip resistant ■ Color options 	<ul style="list-style-type: none"> ■ Cold storage (> -10°C) ■ High wear resistance ■ Good mechanical resistance ■ Medium thermal shock resistance ■ Slip resistant ■ Color options 	<ul style="list-style-type: none"> ■ Light to medium wear resistance ■ Surface stabilization ■ Prevent surface dusting ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikament® or Sika® Viscocrete slab ■ Sikafloor®-3 QuartzTop ■ Sikafloor®-ProSeal W / ProSeal 22 	<ul style="list-style-type: none"> ■ Sikafloor®-80 EpoCem® Primer ■ Sikafloor®-81 EpoCem® ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-264 HC 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-263 SL HC ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-264 HC 	<ul style="list-style-type: none"> ■ Sikafloor® 2530 W ■ Quartz sand (0.4 - 0.7 mm) ■ Sikafloor®-2530 W

MULTI-STOREY AND UNDERGROUND CAR PARKS

Systems for Intermediate Decks, Top Decks, Exposed Areas and Systems for Ramps



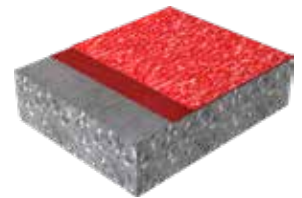
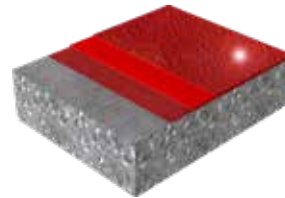
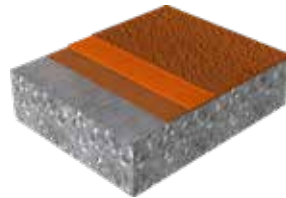
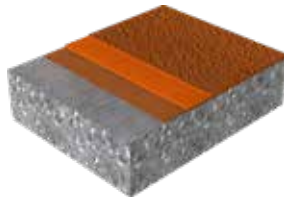
SYSTEM

Sikafloor® MultiFlex PB-21 UV

Sikafloor® MultiFlex PB-51 UV

Sikafloor® MultiDur EB-24

Sikafloor® MultiDur ET-14 MY



DESCRIPTION

Broadcast, unicolor, tough-elastic polyurethane floor covering with UV sealer

Broadcast colored crack bridging system with UV sealer

Broadcast unicolor epoxy floor covering

Textured unicolor epoxy roller coat

NOMINAL THICKNESS / LAYERS

2.5 - 3.5 mm

3 - 4 mm

2 - 4 mm

<1 mm

3

3

3

2

CHARACTERISTICS

- Tough-elastic
- Watertight
- High mechanical resistance
- Good chemical resistance
- UV and colour stable
- Good opacity
- Matt finish
- Scratch resistant surface
- Low dirt pick up
- Easy to clean and maintain
- Seamless
- Easy application
- Anti-slip surface

- Dynamic and static crack-bridging properties (> -20°C)
- Meets German Standard OS-11b
- Abrasion resistance
- Waterproof
- Color options

- Cold storage (> -10°C)
- High wear resistance
- Good mechanical resistance
- Medium thermal shock resistance
- Slip resistant
- Color options

- Good wear and abrasion resistance
- Good chemical resistance
- Slip resistant
- Easy to clean
- Color options

SYSTEM COMPONENTS

- Sikafloor®-161 HC
- Sikafloor®-375
- Quarts sand (0.7 -1.2 mm)
- Sikafloor®-359 N

- Sikafloor®-161 HC
- Sikafloor®-350 N
- Quartz sand (0.4 - 0.7 mm)
- Sikafloor®-359 N

- Sikafloor®-161 HC
- Sikafloor®-263 SL
- Quartz sand (0.4 - 0.7 mm)
- Sikafloor®-264

- Sikafloor®-161 HC
- Sikafloor®-264 + Extender T



Sikafloor® SOLUTIONS FOR LEVELING

A PERFECTLY EVEN AND SMOOTH FLOOR SUBSTRATE surface plays an important role in the final result and life span of the floor, no matter what kind of floor covering will be installed over it. Sika supplies self-leveling compounds whose outstanding performance has been proven in construction projects with high requirements, ranging from house use to fork lift truck loads in industry.

After mixing, the Sika leveling product turns into a liquid mixture and is poured onto the subfloor surface. The characteristic of the mix allows it to level and fill in all uneven places. A specialty fast drying product is also part of our product range. Once it is poured onto the floor, it is very easy and fast to apply. The quality of the levelled floor surface is easily under control. This is the main benefit when compared with the normal floor leveling mixes.

Here is a list of reasons why you should choose Sika leveling systems:

- Very easy mixing
- High surface coverage performance due to smooth application
- Outstanding flow properties
- Flat surfaces can be easily achieved, even in thin layers
- Suitable for multi-purpose application
- Optimized shrinkage
- Quick overcoating is possible
- No floating oil additives with the dust reduced version



THE INSTALLATION THICKNESSES OF SIKA LEVELING PRODUCTS RANGES FROM 1 UP TO 50 MM IN ONE APPLICATION.



UNDERLAYMENT

Cementitious Leveling Underlayments for Floor Coverings



SYSTEM	Sikafloor® Level Rapid MY	Sikacrete® Floor Level
		
DESCRIPTION	Multi-purpose cementitious leveling underlayment	Multi-purpose cementitious leveling underlayment for high thicknesses
NOMINAL THICKNESS / LAYERS	1 - 10 mm 2	3 - 20 mm 2
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Cementitious self leveling ■ Economic ■ Multi-purpose ■ Average loading 	<ul style="list-style-type: none"> ■ Cementitious self leveling ■ Economic ■ Multi-purpose ■ Average loading
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-Primer ■ Sikafloor® Level Rapid MY 	<ul style="list-style-type: none"> ■ Sikafloor® Primer ■ Sikafloor® Floor Level



Sikafloor® SOLUTIONS FOR COMMERCIAL, PUBLIC AND RESIDENTIAL AREAS

SIKA HAS DESIGNED SPECIAL flooring solutions for the use in schools, museums, retail, leisure and healthcare facilities, plus many other commercial and public buildings.

This Sika flooring range combines individual design with health care including comfort underfoot and the lowest VOC emissions, in order to create a unique flooring experience.

INDIVIDUAL DESIGN

The Sika decorative floor range meets the need for individual and decorative designs in commercial, retail and leisure facilities using colored chips, aggregates and other special fillers. These floors allow you to create many different and unique surface designs, ranging from textured broadcast and smooth power float finishes. Sika decorative floor systems can be produced in a wide range of different color shades, with additional special colors available to order. This allows you to create your own individual designs or extend your Corporate Identity onto your floors.

COMFORT AND CARE

Sika ComfortFloor® systems for commercial and public building areas are soft enough to provide underfoot comfort in those areas where personnel stand for long periods of time. These resilient flooring solutions not only reduce footfall noise and horizontal noise transmission, but also resist scratching by their elastic deformation and recovery.

AVAILABLE IN CUSTOM COLORS, THESE RESILIENT FLOORING SOLUTIONS NOT ONLY REDUCE FOOTFALL NOISE AND HORIZONTAL NOISE TRANSMISSION, BUT ALSO RESIST SCRATCHING THANKS TO THEIR ELASTIC DEFORMATION AND RECOVERY.

Sika ComfortFloor® SOLUTIONS

- Low VOC emissions
- Noise absorbent
- Good impact sound insulation
- High comfort underfoot
- Good wear resistance
- Good impact resistance
- Crack-bridging
- Decorative



COMMERCIAL, PUBLIC AND RESIDENTIAL AREAS

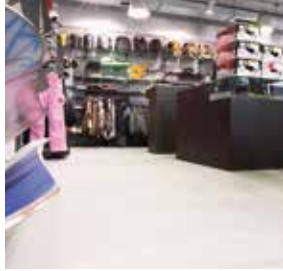
Decorative Flooring Systems



SYSTEM	Sikafloor® MultiDur WS-10	Sikafloor® MultiDur ES-17	Sikafloor® MultiDur ES-27
DESCRIPTION	Double water based epoxy roller coat	Decorative colored epoxy roller coat with flakes and sealer	Decorative colored epoxy floor covering with flakes and sealer
NOMINAL THICKNESS / LAYERS	< 1 mm 2	< 1 mm 2	1 - 2 mm 3
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Light to medium wear resistance ■ Surface stabilization ■ Prevent surface dusting ■ Color options 	<ul style="list-style-type: none"> ■ Light to medium wear resistance ■ Medium slip resistance optional ■ Easy cleaning ■ Color options 	<ul style="list-style-type: none"> ■ Light to medium wear resistance ■ Good mechanical resistance ■ Medium slip resistance optional ■ Easy cleaning ■ Color options
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-2540 W ■ Sikafloor®-2540 W or 	<ul style="list-style-type: none"> ■ Sikafloor®-264 ■ Sika® PVA ColorFlakes 3 mm ■ Sikafloor®-304 W or -316 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC or -160 ■ Sikafloor®-263 SL HC ■ Sika® PVA ColorFlakes 3 mm ■ Sikafloor®-304 W or -315

COMMERCIAL, PUBLIC AND RESIDENTIAL AREAS

Comfort Flooring Systems



SYSTEM	Sika ComfortFloor® PS-23	Sika ComfortFloor® PS-24	Sika ComfortFloor® PS-27	Sika ComfortFloor® PS-27 ESD
DESCRIPTION	Seamless, smooth, unicolor, low voc, elastic polyurethane floor covering	Seamless, smooth, low voc, elastic, polyurethane floor covering with optional color flakes	Seamless, smooth, unicolor, low voc, tough elastic polyurethane floor covering	Seamless, smooth, unicolor, low voc, tough elastic ESD polyurethane floor covering
NOMINAL THICKNESS / LAYERS	~ 2 mm 3	~ 2 mm 3	~ 2 mm 3	~ 2 mm 3
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Soft footfall ■ Crack bridging ■ Good wear and impact resistance ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Soft footfall ■ Crack bridging ■ Good wear and impact resistance ■ Decorative flakes optional ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Good wear and impact resistance ■ Crack bridging ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Good wear and impact resistance ■ Crack bridging ■ Color options ■ Conductive ■ Low VOC
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-330 ■ Sikafloor®-305 W 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-300 or 3000 ■ Optional: Sika® PVA ColorFlakes ■ Sikafloor®-304 W 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-327 ■ Sikafloor®-305 W 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-327 ■ Sikafloor®-305 W ESD

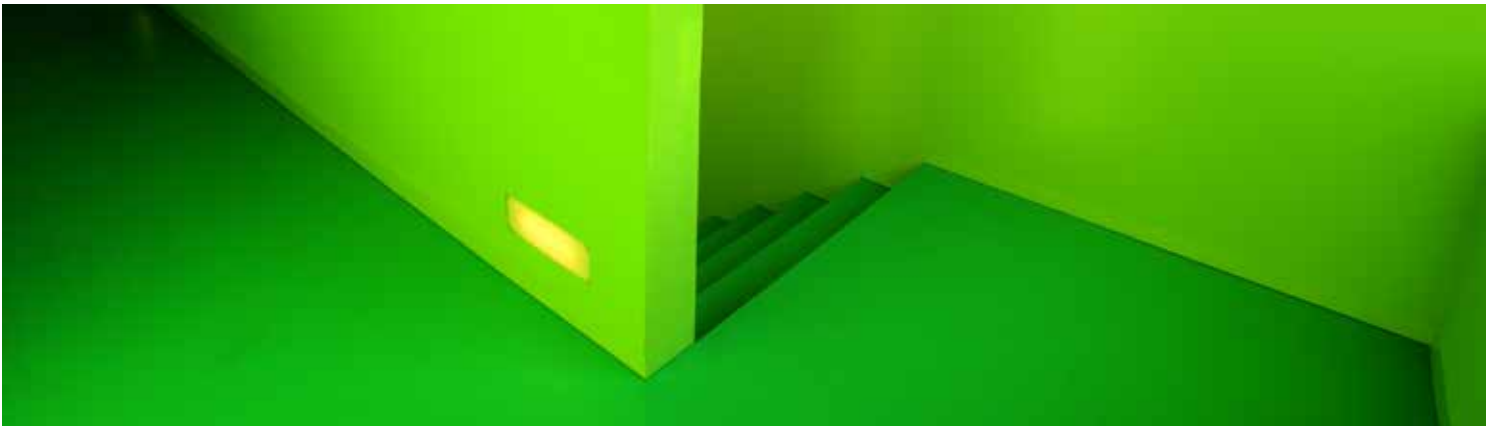
COMMERCIAL, PUBLIC AND RESIDENTIAL AREAS

Comfort Flooring Systems



SYSTEM	Sika ComfortFloor® PS-63	Sika ComfortFloor® PS-64	Sika ComfortFloor® PS-65	Sika ComfortFloor® PS-66
DESCRIPTION	Seamless, smooth, unicolor, low voc, sound insulating elastic polyurethane floor covering	Seamless, smooth, low voc, sound insulating elastic polyurethane floor covering with optional color flakes	Seamless, smooth, unicolor, low voc, resilient polyurethane floor covering	Seamless, smooth, low voc, resilient polyurethane floor covering with optional color flakes
NOMINAL THICKNESS / LAYERS	~ 6 mm 4	~ 6 mm 4	~ 6 mm 5 - 7	~ 6 mm 5 - 7
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Soft footfall ■ Resilient ■ Good impact sound insulation ■ Crack bridging ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Soft footfall ■ Resilient ■ Good impact sound insulation ■ Crack bridging ■ Good wear and impact resistance ■ Decorative flakes optional ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Soft footfall ■ Resilient ■ Good impact sound insulation ■ Crack bridging ■ Good wear and impact resistance ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Soft footfall ■ Resilient ■ Good impact sound insulation ■ Crack bridging ■ Good wear and impact resistance ■ Decorative flakes optional ■ Color options ■ Low VOC
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-320 ■ Sikafloor®-330 ■ Sikafloor®-305 W 	<ul style="list-style-type: none"> ■ Sikafloor®-161 HC ■ Sikafloor®-320 ■ Sikafloor®-300 or -3000 ■ Optional: Sika® PVA ColorFlakes ■ Sikafloor®-304 W 	<ul style="list-style-type: none"> ■ Sikafloor® ComfortFloor® Adhesive ■ Regupol 6015 H ■ Sikafloor® ComfortFloor® Poresealer ■ Sikafloor®-330 ■ Sikafloor®-305 W 	<ul style="list-style-type: none"> ■ Sikafloor® ComfortFloor® Adhesive ■ Regupol 4580 ■ Sikafloor® ComfortFloor® Poresealer ■ Sikafloor®-300 or -3000 ■ Optional: Sika® PVA ColorFlakes ■ Sikafloor®-304 W

INSPIRATION WITH COLORS OF SIKA FLOORING



Sikagard® SOLUTIONS FOR WALLS AND CEILINGS

FOR A GREAT MANY DIFFERENT exposure and performance requirements in industrial and commercial facilities, the application of a protective wall coating is frequently necessary. The specific demands on the wall can obviously vary according to the specific industry, the function of the area and the processes that are carried on inside it.

The electronic and optical industries need to have clean-room conditions on the wall surfaces, with minimal VOC's / AMC's or particle emissions, plus they must be easy to clean and ensure the area remains dust free. For this increasingly demanding market Sikagard® Wallcoat N, a waterborne epoxy coating, already has all of the necessary certification and approvals. Sikagard® Wallcoat N is also the ideal solution for food & beverage plants in the areas where food stuffs are produced, these usually have a cleaning regime using high pressure water-jetting with strong detergents and cleaning agents. Sikagard® Wallcoat N perfectly combines good chemical resistance, mechanical resistance and the required ease of cleaning.

Breweries and other drink production areas, together with

many other food production and processing facilities have areas where the humidity is constantly very high. The walls in these areas require wall coatings with integral anti-fungal and anti-bacterial protection. The Sikagard® Hygienic Coatings range has the ideal characteristics and performance properties for these important areas, plus they are also easy to apply by brush, roller or airless spray and adhere to most common wall building substrates. Sikagard® Hygienic Coatings are resistant to moisture and elastomeric, so they are able to accommodate thermal or structural movement without cracking or flaking. These coatings have been fully tested in accordance with many European standards including EN 13501 (Behaviour in Fire), ISO 846 (biological resistance), EN 18033 (Wet scrub resistance and opacity).





SYSTEM	Sikagard® WallCoat WS-11	Sikagard® WallCoat PS-11	Sikagard® WallCoat AS-13 Hygienic	Sikagard® WallCoat AS-53 Hygienic
DESCRIPTION	Waterborne Epoxy based, low emissions, high performance wall coating solution	Waterborne Polyurethane based, low emissions, high performance wall coating solution	Hygienic wall coating system which does not promote growth of micro-organisms through in-film preservative	High performance hygienic wall coating system which does not promote growth of micro-organisms through in-film preservative
NOMINAL THICKNESS / LAYERS	< 0.5 mm 2	< 0.5 mm 2	< 0.5 mm 2	~ 1 mm 3
CHARACTERISTICS	<ul style="list-style-type: none"> ■ Low particle emissions ■ Medium wear resistance ■ Medium chemical resistance ■ Smooth surface ■ Easy cleaning ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Low particle emissions ■ Medium wear resistance and elasticity ■ Basic chemical resistance ■ Smooth surface ■ Easy cleaning ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ Biological resistance ■ Hygienic (anti-fungal and anti-bacterial) ■ Resistant to disinfectants ■ Smooth surface ■ Easy cleaning ■ Color options ■ Low VOC 	<ul style="list-style-type: none"> ■ GMP Compliant ■ Biological resistance ■ Hygienic (anti-fungal and anti-bacterial) ■ Resistant to disinfectants ■ Glassfibre reinforced ■ Easy cleaning ■ Color options ■ Low VOC
SYSTEM COMPONENTS	<ul style="list-style-type: none"> ■ Sikagard® Wallcoat N 	<ul style="list-style-type: none"> ■ Sikagard® Wallcoat N ■ Sikafloor®-305 W 	<ul style="list-style-type: none"> ■ Sika® Bonding Primer ■ Sikagard®-403 W 	<ul style="list-style-type: none"> ■ Sika® Bonding Primer ■ Sikagard®-403 W ■ Reemat premium ■ Reemat Lite ■ Sikagard®-405 W or -406 W or -207 W

SIKA SUSTAINABLE SOLUTIONS

Flooring Systems Contribute to Sustainable Construction

SUSTAINABLE DEVELOPMENT responds to trends that will shape our future flooring business. Sika invests strongly in the development of energy efficiency solutions, resource efficiency solutions, climate protection solutions and air quality solutions. Please refer to our brochure "Flooring Sustainable Solutions: More Value Less Impact" for detailed information.

PUBLIC BUILDINGS

INSTALL Sikafloor® SYSTEMS THAT MEET YOUR AESTHETIC AND TECHNICAL REQUIREMENTS



More Value

- Sika ComfortFloor® provides high quality of life with an excellent acoustic performance and freedom of design.
- Sika ComfortFloor® is robust and fully bonded to the concrete creating a monolithic floor.
- Sika ComfortFloor® is biologically resistant and withstands the impacts of cleaning and use of detergents and disinfectants.
- Sika ComfortFloor® contributes to points in various green building programs.

Less Impact

- Sika ComfortFloor® has a lower carbon footprint since it does not need any cementitious underlayment.
- Sika ComfortFloor® does not need any adhesive.
- Sika ComfortFloor® is easy to clean as it is seamless.

FOOD INDUSTRY

DESIGN AN INDUSTRIAL FLOOR THAT WILL LAST



More Value

- Sikafloor® PurCem® has a high resistance against chemical, mechanical and thermal attack.
- Sikafloor® PurCem® contributes to points in various green building programs.

Less Impact

- Sikafloor® PurCem® installed in thickness above 6 mm has superior thermal resistance.
- Sikafloor® PurCem® has a seamless surface that requires less cleaning and maintenance which therefore requires less energy and less cleaning materials.
- The new Sika® PurCem® Gloss has a lower carbon footprint compared to other thin competitive technologies.

CLEANROOM ENVIRONMENTS

**SELECT AN APPROVED Sikafloor®
“CLEANROOM SUITABLE MATERIAL”**



More Value

- With the Sikafloor® CR (cleanroom) there is no need for additional adhesive, underlayment, or damp-proof membranes.
- Sikafloor® CR is seamless - with no joints and no welding.
- The Sikafloor® CR contributes to various green building programs.
- Sika offers a full range of flooring, coatings and sealants solutions for clean rooms: Sikafloor®, Sikagard® and Sikaflex®.

Less Impact

- Sikafloor®, Sikagard® and Sikaflex® CSM (clean room suitable material) systems are very low in airborne molecular contamination to provide the cleanest air quality for clean rooms.
- Sikafloor® CR has a lower energy demand compared to competitive safety PVC solutions.

CAR PARKING AREAS

SELECT LIGHTWEIGHT MATERIALS FOR YOUR BUILDING



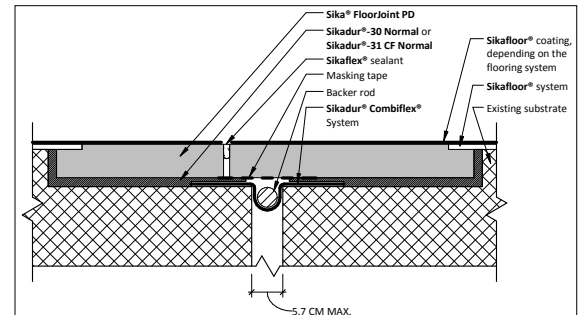
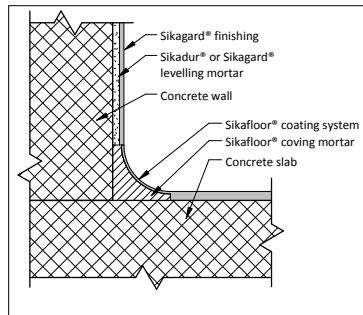
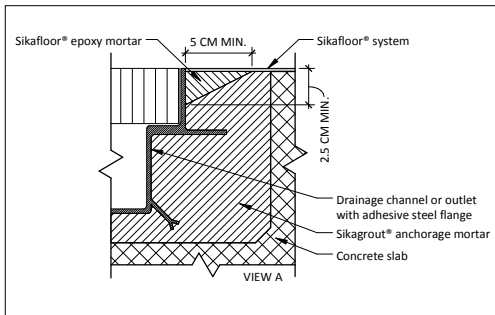
More Value

- Sikafloor® has an excellent aesthetic appearance.
- Sikafloor® is easier to clean and maintain compared with asphalt.
- Sikafloor® provides protection for the concrete and prevents the ingress of water and chloride.
- Sikafloor® contributes to points in various green building programs.

Less Impact

- Sikafloor® contributes with lower weight to the structure compared with asphalt.
- Sikafloor® has lower energy and resource demand during the installation phase compared with asphalt.

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.

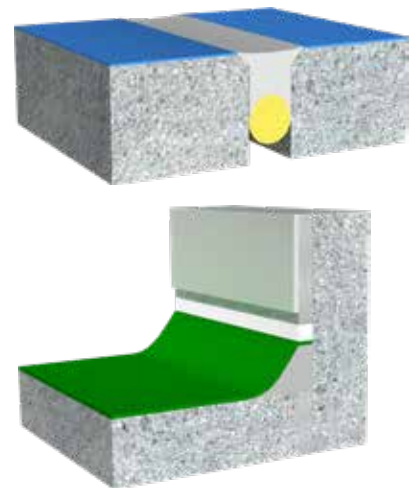
COVING

Wherever seamless coving is required for easy to clean wall-to-floor connections, Sika provides very easy to apply coving mortars composed of Sikafloor®-156/160/161 and Sikafloor®-280 filler. Ready to use kits such as Sika® Repair EP can also be used for this purpose.

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 and 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® Pro-3 polyurethane sealant that is suitable for many types of floor joints including connecting joints between different materials. We have also developed pre-fabricated panels for joints in car parks and industrial floors as described on page 42-43.



Primer: Sika® Primer-3 N

Joint sealant: Sikaflex® Pro-3

A moisture curing, 1-part elastic sealant based on polyurethane resin and designed specifically for flooring.

Joint Dimensions:

min. / max. width = 10 / 35 mm



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.

* 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 50 to 52 of this brochure.

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.

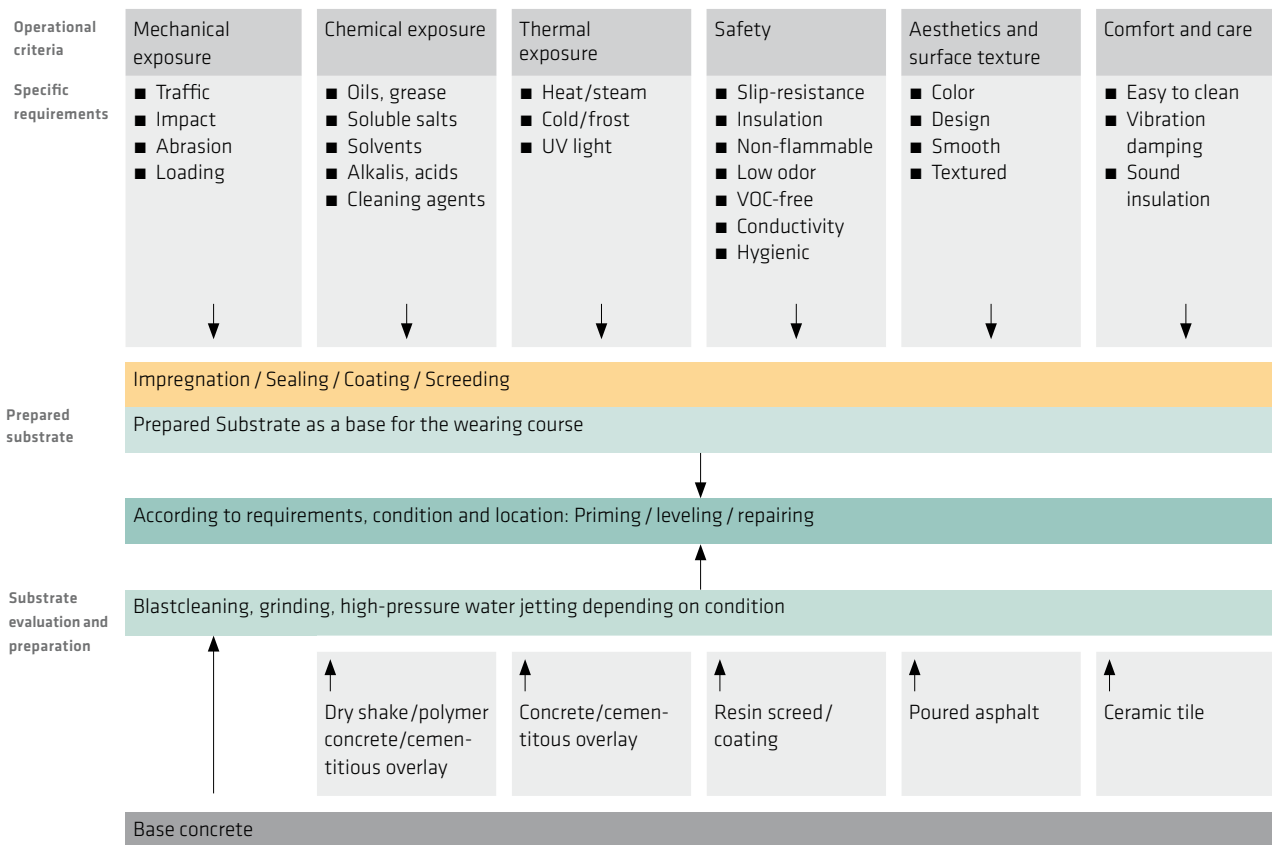
COLOR AND APPEARANCE



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 color 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 colors, 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



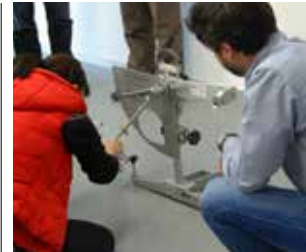
Resistance to chemical attack is a major factor for many floor finishes. Assess the effects on the floor of the individual chemicals present plus their combined or mixed effects and the consequences of any chemical reactions. Higher temperatures usually increase the aggressive nature of chemicals.



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.



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.



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.



NEUTRAL ODOR, VOC-FREE



Total solids, 100% solids, or solvent free flooring systems that also have neutral odor 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.



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.



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 36 to 39 of this brochure.



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.



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.com.



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.



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 60 of this brochure.

PROJECT RELATED PERFORMANCE REQUIREMENTS



MULTIPLE COLOR SHADES



The Sikafloor® range is available in almost every color shade with stable pigments available and special colors 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 color standards including RAL, BS 4800 and NCS.



UV LIGHT RESISTANCE



Where color 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 color stability should always be considered for any floors with doors or windows where natural sunlight enters the building for significant periods of time.



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.



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.



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.



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 30 to 33.



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 fork-lift traffic in high bay storage facilities for example.



1-COMPONENT SYSTEMS



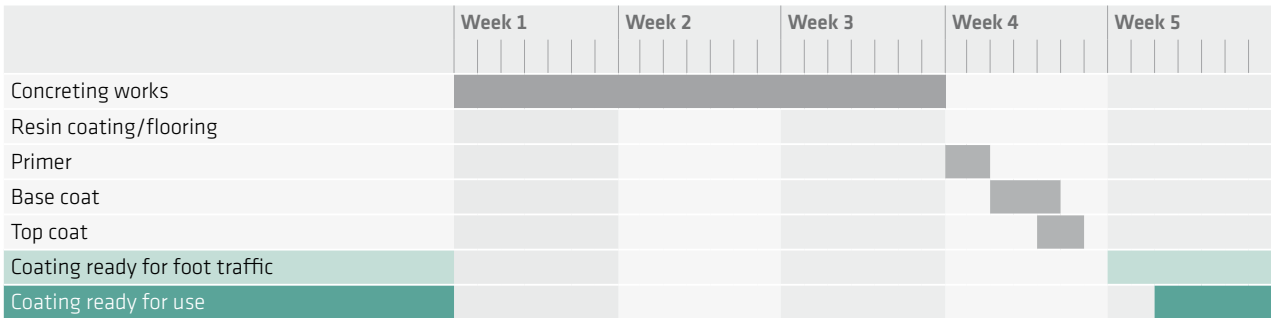
1-Component polyurethane based systems incorporate a unique technology that allows the material to use atmospheric moisture to trigger the curing process. This means these moisture curing 1-component polyurethane coatings can be applied almost without dependence on the weather (temperature, humidity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

TIME IS MONEY

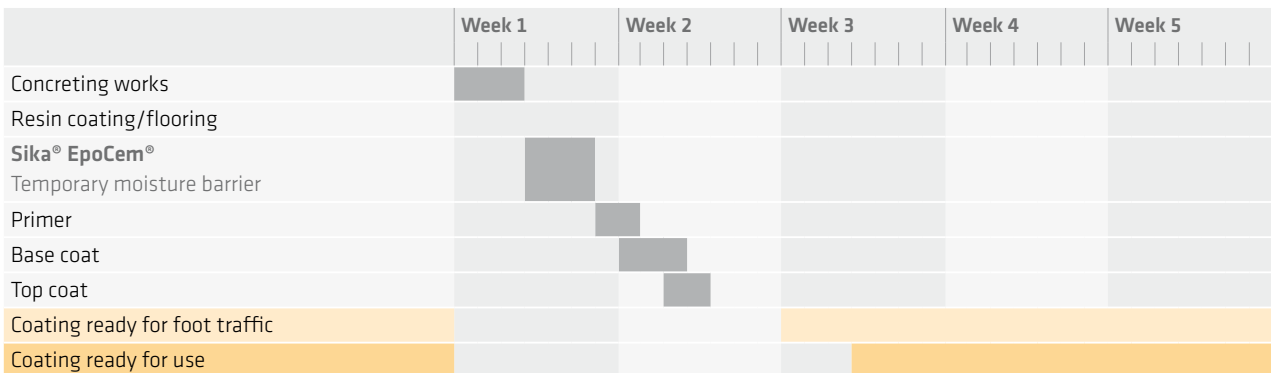
SCHEMATIC OF PLANNED TIME savings with Sika® EpoCem® technology for concrete substrate which doesn't have yet ideal condition. The floor finishes are usually done under time pressure. If you have to wait until the ideal conditions (pull-off strength 1.5 N/mm²) and humidity (<4 % pbv) in the concrete 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 -82 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. The benefit is substantial.

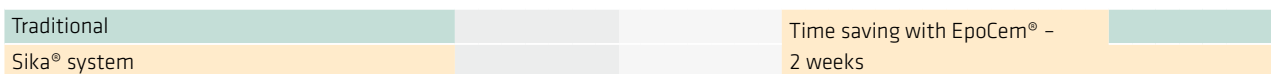
TRADITIONAL CONSTRUCTION PROGRAMME



PROGRAMME SIKA SYSTEM



TIME SAVING WITH Sika® EpoCem®



No more Waiting. No more Delays.

CLEANING AND MAINTENANCE OF Sikafloor®

PROPER CLEANING AND EVENTUAL MAINTENANCE are needed to ensure that your Sika flooring system stays in the best shape and gives you years of satisfaction.

Sikafloor® systems are designed as ready-to-use solutions that require no initial maintenance or polymer applications. These solutions are a real plus for environments where customers need a simple way to clean the floor, maintain its appearance and preserve their long-term investment.

However, proper cleaning procedures are needed to offer a considerable reduction in facility operating costs by lowering the need for interim floor maintenance and the time required to strip and install floor finishes, while maintaining a long-lasting aesthetic appearance. All Sika flooring systems are tested in the lab with different cleaning products to ensure customers receive appropriate cleaning instructions. In addition, Sika collaborates with international cleaning solution

suppliers such as Diversey Care to provide correct cleaning and maintenance Schedules using our lab test results. They recommend the use of proper agents in conjunction with proper cleaning pads for cleaning Sikafloor® surfaces. Some also offers floor polishes that are dedicated to certain project types such as healthcare facilities. They are happy to provide Sika flooring customers high-level after-sales service with a specific focus on cleaning and maintenance.

Sika also provide support for life-cycle cost analyses and maintenance budgets for floors in a wide range of projects. The Technical Services Department of your local Sika company can provide you with a full list of the most suitable options for your floors.





QUICK RENOVATION AND TURN AROUND SOLUTIONS

A BIG CONCERN in the use of floor is to renovate it after certain time period when the floor has naturally reached its end of life. By using Sikafloor® systems for the floor, this becomes relatively easy.

Sikafloor® has been used for many years in many different industries where high traffic, severe abrasion, impact and shock are daily stresses on the floor. Different techniques are available to regenerate Sikafloor® systems and extend the service-life of the whole floor. These techniques are:

- Recoating with a thin top coat compatible with the original system. This solution provides a brand new surface with the added option of changing the color.
- Refurbishment with diamond grinding pads: this technique is only possible with a thicker layer and smooth floor. The result is a regenerated floor where existing surface damage is removed and the floor retains its original color.



Sikafloor® APPLICATION PROCEDURES

Substrate Inspection and Preparation

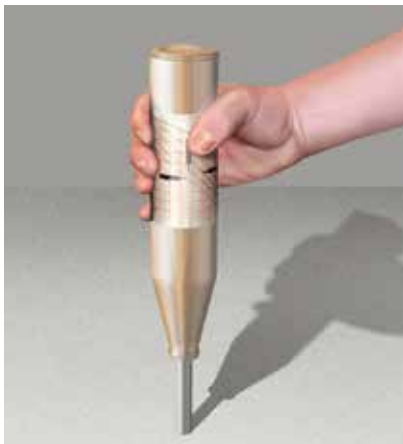
THE CONCRETE SUBSTRATE IS THE BASIS OF A NEW FLOOR, WHETHER IT IS NEW OR EXISTING.

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.

Please refer to our product method statement for proper investigation and preparation of the substrates or contact your local Sika technical department.



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: $\geq 1.5 \text{ N/mm}^2$ ($\geq 1.5 \text{ MPa}$) 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 with a Polyethylene-sheet of at least 1 m² 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 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

Seamless Perfection Only Takes a Few Steps

Sikafloor® IS DESIGNED to provide long lasting beauty and performance. We have developed a proven process of application stages for our liquid applied flooring materials. This unique process is the only way to achieve seamless floors throughout your facility and maintain lasting beauty and easy maintenance. A global base of experienced and well trained flooring experts is available to take care of your flooring needs. Please feel free to also consult our experts on adequate procedures for old floor removal in case of refurbishment projects, to ensure proper subfloor preparation and floor detailing.





STEP 1. After inspection and preparation of the subfloor by cleaning (and if needed shotblasting, grinding, sanding and/or leveling), we will start mixing our liquid materials.



STEP 2. A liquid primer is applied to assure good bonding of the flooring, which is typically done by trowel and roller. The adequate method can be selected depending on the quality of the subfloor.



STEP 3. Self-leveling materials are applied in one or several layers to create a seamless base. Experts will pour and distribute the liquid material by using special squeegees, hand trowels, stand-up trowels and spike rollers in the process to assure a perfectly even and smooth surface.



STEP 4. A wide selection of liquid resin products is available in an almost unlimited amount of colors to address many types of use. Decorative flakes or anti-slip aggregates may be broadcasted into the wet surface.



STEP 5. The finishing touch is the application of a transparent or pigmented topcoat. Typically this step involves a roller or spray application. The topcoat secures the desired final design, and adds friction and wear resistance qualities to the buildup.



STEP 6. Enjoy your floor for many years to come. Follow the recommended maintenance procedures, including a possible pre-treatment, to assure long lasting beauty and performance.

ALSO AVAILABLE FROM SIKA



WE ARE SIKA

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika's product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



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