FLOORING
Sika® TECHNOLOGY AND CONCEPTS FOR FLOORING AND COATING

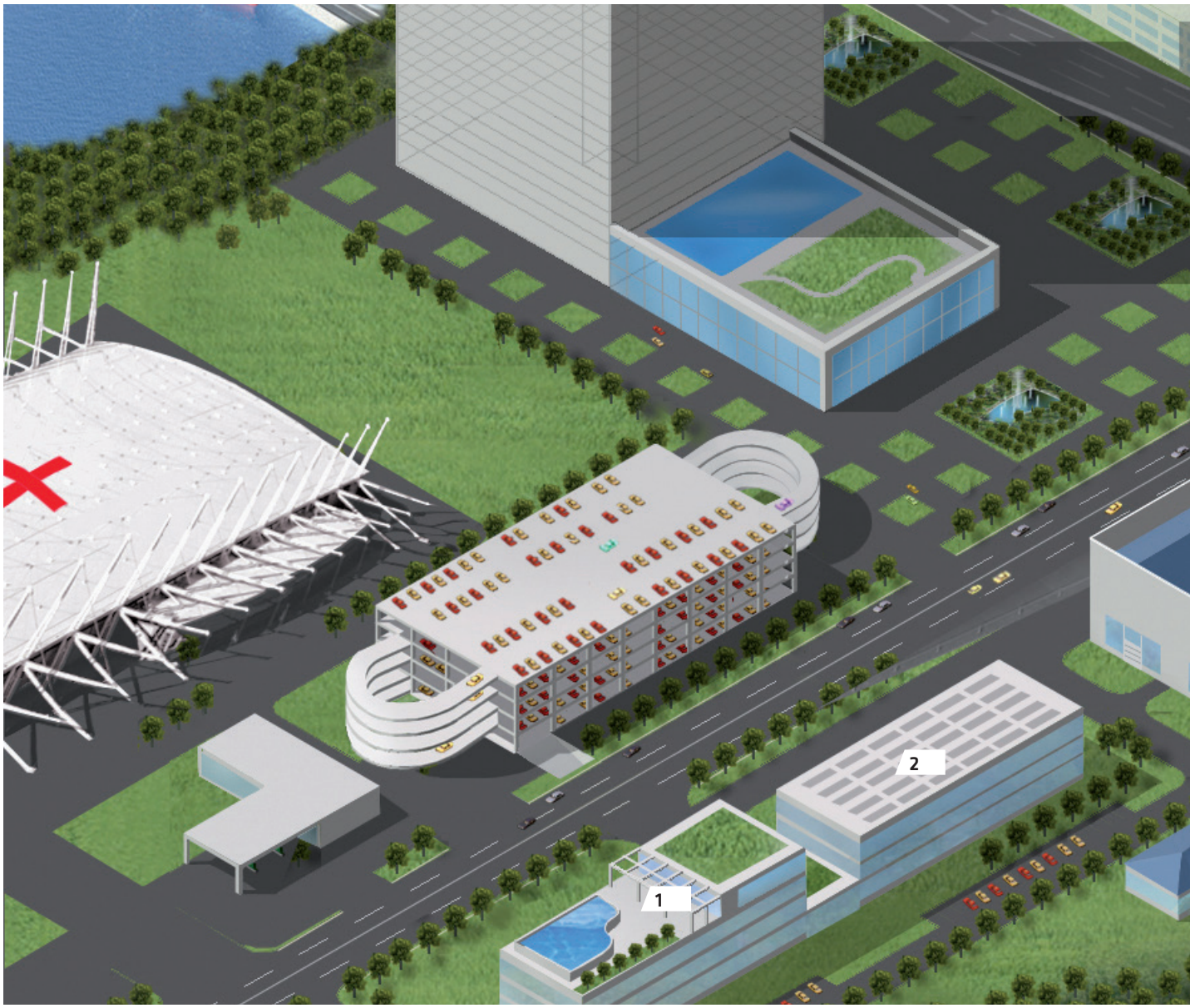
BUILDING TRUST

BENEFIT OF OUR SOLUTION

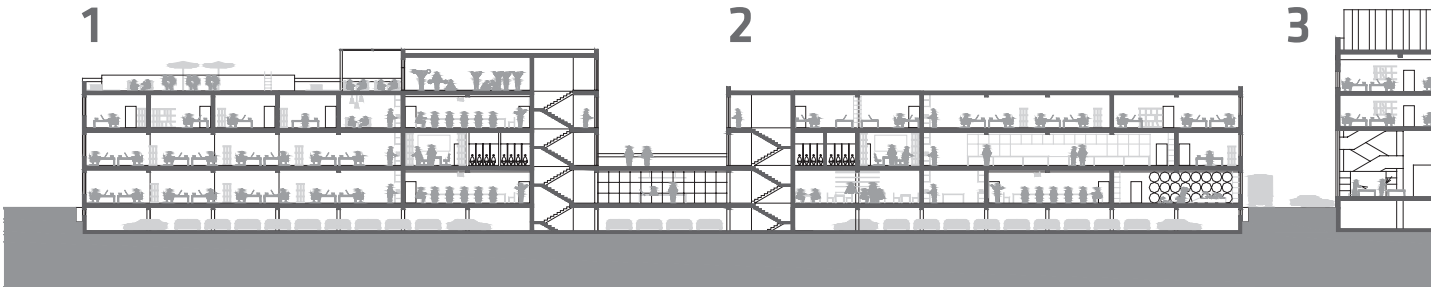
Sika has continued to strengthen its position as the worldwide market leader in construction chemicals during the last few years, despite the global economic situation. As part of this expansion, Sika has maintained a strong focus on providing flooring and coating systems for many different applications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

CONTENT

SIKA'S INDUSTRIAL AND COMMERCIAL FLOORING AND COATING CAPABILITIES



A user-friendly online Industrial Building Selection Guide is available at www.sika.com



Commercial and Public Areas

IT Departments and R&D Centres

Solutions for Storage, Logistics and Sales Areas. Page **6**

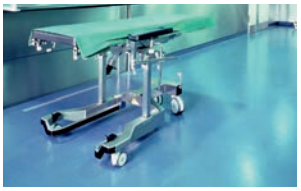
Solutions for Multi-Storey and Underground Car Parks. Page **28**

Solutions for Production and Processing Areas. Page **14**

Solutions for Commercial, Public and Residential Areas. Page **34**

Solutions for Secondary Containment Areas. Page **20**

Pulastic Sports Surfaces Page **38**

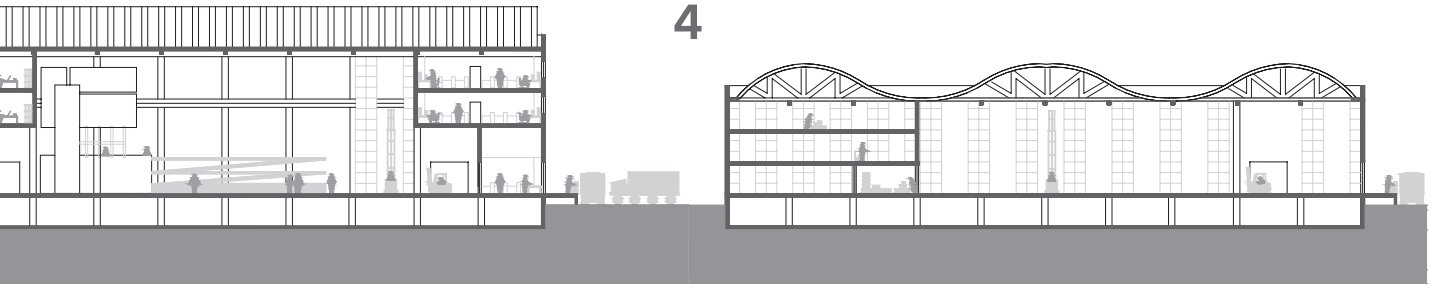


Solutions for Cleanroom Areas. Page **22**

Solutions for Primary Containment Tank Lining and Water Treatment Facilities. P. **42**

Solutions for ESD Protection and Electrostatic Control. Page **24**

Detailing and Jointing Solutions for Flooring Applications. Page **44**



Production and Processing Areas

Storage, Logistics and Sales Areas

Sikafloor® SOLUTIONS FOR STORAGE, LOGISTICS AND SALES AREAS

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

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

NEW BUILDINGS

Concrete slabs produced from mix designs using Sika Control 40 or Sika ViscoCrete technology form a sound foundation and allow accurate levels with the necessary falls to be achieved. Concrete curing agents, plus surface hardening and sealing compounds complete the Sikafloor range.

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

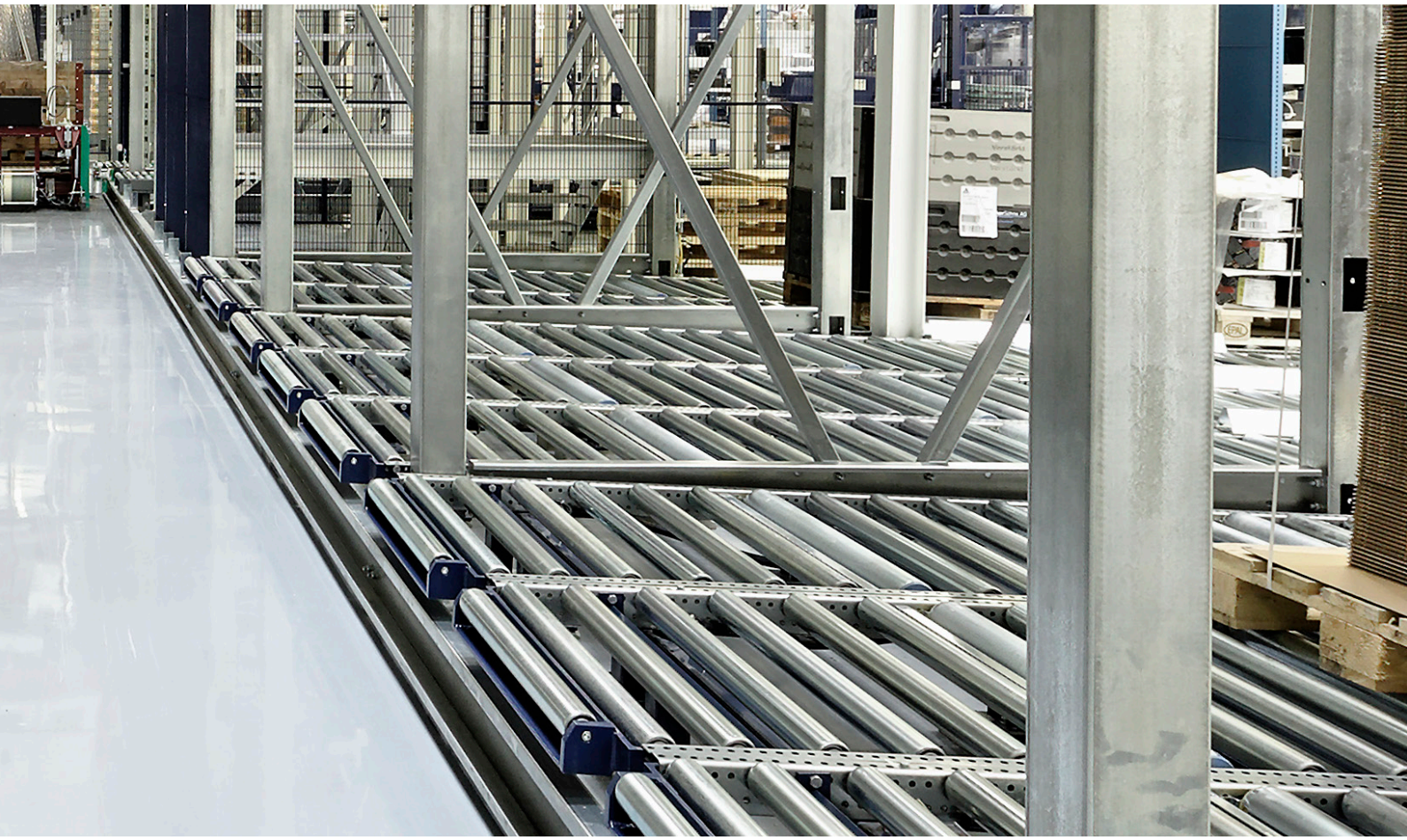
REFURBISHMENT
Cementitious, self-smoothing Sikafloor Level pumped screeds and toppings are used to provide a uniform and level surface for the application of floor finishes.

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

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

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

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



STORAGE, LOGISTICS AND SALES AREAS

REQUIREMENTS
Concrete overlay for accurate levels and falls

- Adjustment of level tolerances

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

REQUIREMENTS
Repair concrete slab for accurate levels and falls

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

SIKA SYSTEM / PERFORMANCE
Epoxy levelling screed: Sikafloor-150 Pre-fill

Total layer thickness: 40mm per application

REQUIREMENTS
Repair damaged concrete surface

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

SIKA SYSTEM / PERFORMANCE
Sikafloor® ECC
Primer: Sikafloor-80 EpoCem Primer
Screed: Sikafloor-81 EpoCem, three component epoxy modified cementitious, self-smoothing screeds.
Topping: Sikafloor resin to suit
Total layer thickness: 2 - 3mm

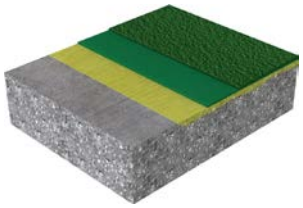
* Note: 1) The 3D graphics in this brochure are not to scale and they are only intended to illustrate the system build-ups.
2) The symbols such as ⊗ represent typical project related performance requirements and these are all listed and discussed on Pages 46 to 48 of this brochure.

REQUIREMENTS
Clear surface hardener for concrete

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

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

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

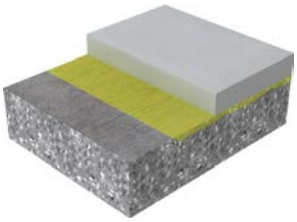


- Smooth, level surface
- Rapid drying
- Vapour permeable
- Thin to medium layer thickness
- Heavy duty performance

SIKA SYSTEM / PERFORMANCE
Primer: Sika Level-01 Primer/ Sika Primer-11 W
Screed: Sikafloor Level-30, one-part, polymer modified, cement based screed.
Sealer: Sikafloor-2510 W, water dispersed, epoxy resin based, vapour permeable coating or other

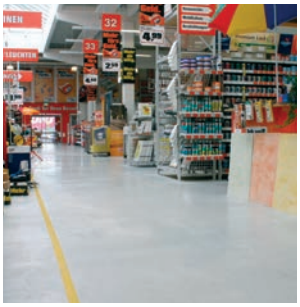
STORAGE, LOGISTICS AND SALES AREAS

REQUIREMENTS
For Timber and concrete floors



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

SIKA SYSTEM / PERFORMANCE
Primer: Sika Level-01 Primer/ Sika Primer-11 W/
Screed: Sika Level-315 F
Total layer thicnkess:
3 - 15mm

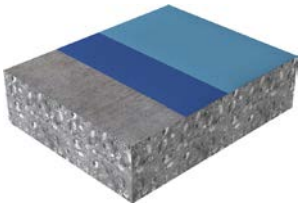


REQUIREMENTS
Self-smoothing, temporary moisture barrier on “green” or damp concrete

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

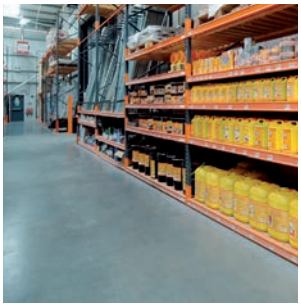
SIKA SYSTEM / PERFORMANCE
Sikafloor® ECC
Primer: Sikafloor-80 EpoCem Primer
Base coat: Sikafloor-81 EpoCem, three part epoxy modified, cement based, self-smoothing screeds
Topping: Sikafloor resin system to suit
Total layer thicnkess:
2 - 3mm

REQUIREMENTS
Water dispersed, coloured roll on coating for walls and floors

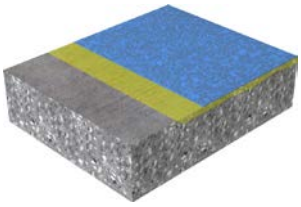


- Medium wear resistance
- Surface stabilization
- Prevent concrete dusting
- Coloured
- Low odour

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur WS-18
Coating: 2 x Sikafloor-2510 W, a two part, water dispersed, coloured, epoxy resin based coating.
Total layer thickness:
150 – 250 microns

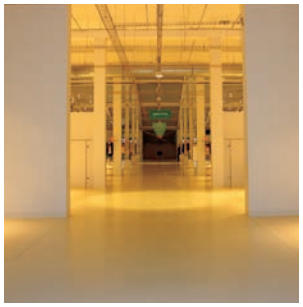


REQUIREMENTS
Textured, coloured roll-on coating

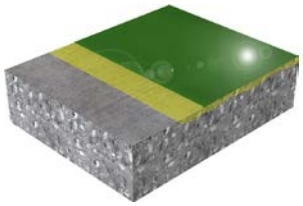


- Good wear and abrasion resistance
- Good chemical resistance
- Slip resistant
- Easy cleaning
- Coloured

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



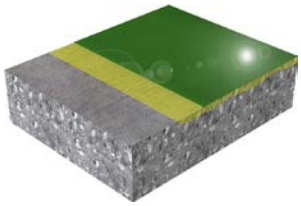
REQUIREMENTS
Smooth, coloured roll-on coating



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

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-15S
Primer: Sikafloor-150/-151
Coating: Sikafloor-264 , a two part, total solid, coloured, epoxy binder.
Total layer thickness:
600 - 800 microns

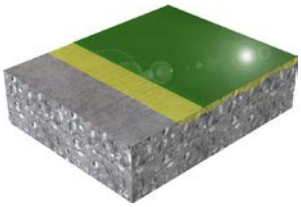
REQUIREMENTS
Very smooth, glossy, coloured rigid screed



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

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

REQUIREMENTS
Smooth, coloured roll-on coating for walls and floors

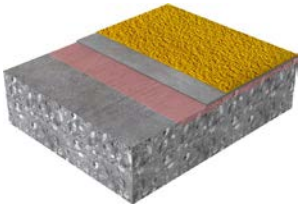


- High wear and abrasion resistance
- Good impact resistance
- Good chemical resistance
- Medium thermal resistance
- Easy cleaning
- Coloured
- Potable/drinkable water suitable

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

STORAGE, LOGISTICS AND SALES AREAS

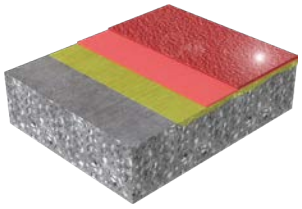
REQUIREMENTS
Cold storage (> -10 °C), broadcast, coloured ECC screed



- Medium wear resistance
- Medium thermal shock resistance
- Slip resistance
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur EB-12 ECC
Primer: Sikafloor-80 EpoCem Primer
Base coat: Sikafloor-81 EpoCem, broadcast with quartz sand.
Seal coat: Sikafloor-264,
Total layer thickness:
2 – 4mm

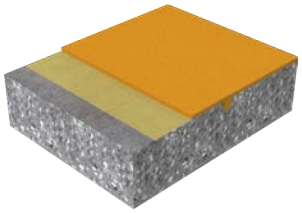
REQUIREMENTS
Cold storage (> -10 °C), broadcast, coloured rigid screed



- High wear resistance
- Good chemical resistance
- Medium thermal shock resistance
- Slip resistant
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur EB-12
Primer: Sikafloor-150/-151
Base coat: Sikafloor-264 SL, a two part, total solid, coloured, epoxy binder for broadcast systems. Broadcast with quartz sand.
Seal coat: Sikafloor-264
Total layer thickness:
2 – 3mm

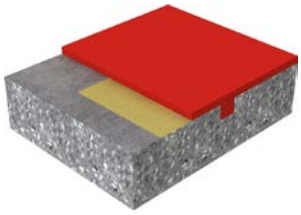
REQUIREMENTS
Frost/blast freezing resistant (> -30 °C) tough, slip resistant finish



- High wear resistance
- Thermal shock resistance
- Easy cleaning
- Coloured

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150/-151
Wearing course: Sikafloor-150, epoxy screed.
Total layer thickness:
5mm

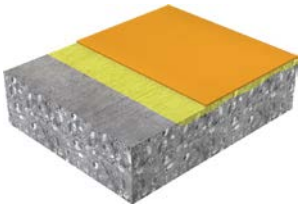
REQUIREMENTS
Highly frost resistant/blast freezer (> -40 °C) heavy duty, resistant screed



- High wear resistance
- Thermal shock resistance
- Easy cleaning
- Coloured
- Slip resistant

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HM-20
Primer: Generally not required. If necessary use scratch coat PurCem or Sikafloor-150, fully broadcast with quartz sand.
Wearing course: Sikafloor-20 N PurCem or Sikafloor-21 PurCem, easy trowel, heavy duty, three - four part modified PU screed.
Total layer thickness:
6 – 9mm

REQUIREMENTS
Frost/blast freezing resistant (> -30 °C), tough slip resistant finish



- High wear resistance
- Thermal shock resistance
- Easy cleaning
- Coloured

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150
Wearing course:
Sikafloor-150, epoxy screed.
Total layer thickness:
5mm

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 40 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.

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 downtime 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.

USING THE FAST CURING Sikafloor® SYSTEMS FOR FLOOR MAINTENANCE AND REFURBISHMENT PROJECTS CAN REDUCE DOWN TIME TO A MINIMUM.

PRODUCTION AND PROCESSING AREAS

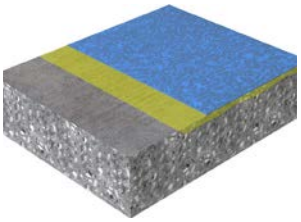
Dry Areas

REQUIREMENTS
Coloured roll-on coating

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

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-15
Primer: Sikafloor-150/-151
Coaching: 2 x Sikafloor-264, a total solid, economic, coloured, high build coating based on epoxy resin.
Total layer thickness:
0.6 – 0.8mm

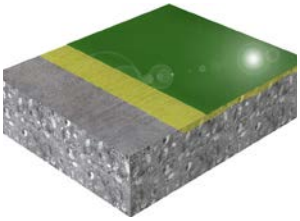
REQUIREMENTS
Textured, coloured roll-on coating



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

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ET-19
Primer: Sikafloor-150/-151
Coating: Sikafloor-264 T, a two part, total solid, coloured, epoxy binder for lightly textured coating systems.
Total layer thickness:
0.6 – 0.8mm

REQUIREMENTS
Smooth, coloured rigid screed



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

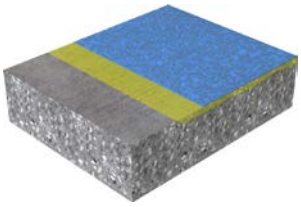
SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-21
Primer: Sikafloor-150/-151
Wearing course: Sikafloor-264 SL, a two part, coloured, epoxy binder for self-smoothing screed systems.
Total layer thickness:
2 – 3mm

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

PRODUCTION AND PROCESSING AREAS

Wet Areas

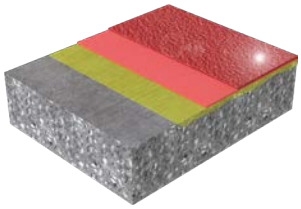
REQUIREMENTS
Textured, coloured roll-on coating



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

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ET-19
Primer: Sikafloor-150/-151
Coating: Sikafloor-264 T, a two part, total solid, coloured, epoxy binder for textured coating systems.
Total layer thickness:
0.6 – 0.8mm

REQUIREMENTS
Broadcast, coloured, Rigid Screed



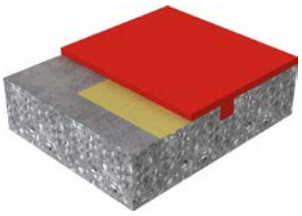
- High wear resistance
- Good chemical resistance
- Medium thermal shock resistance
- Slip resistance
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur EB-27
Primer: Sikafloor-150/-151
Base coat: Sikafloor-264 NS, a two part, total solid, coloured, epoxy binder for textured broadcast systems. Broadcast with Quartz sand.
Seal coat: Sikafloor-264
Total layer thickness:
2 – 4mm

PRODUCTION AND PROCESSING AREAS

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

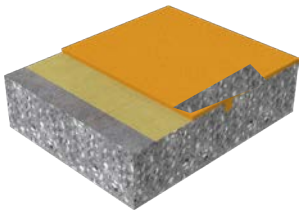
REQUIREMENTS
Heavy duty, resistant screed



- High wear resistance
- High chemical resistance
- High thermal shock resistance
- Slip resistant
- Odour-free
- Hygienic
- Coloured
- Easy to clean (incl. steam cleaning)

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HM-20
Primer: Generally not required. If necessary, use Sikafloor-150/151 broadcast with quartz sand.
Screed: Sikafloor-20 PurCem, three / four part, easy trowel, polyurethane modified, cement based floor screed.
Total layer thickness:
6 – 9mm

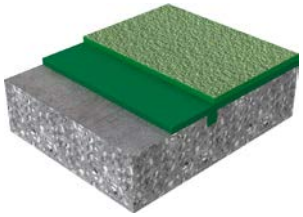
REQUIREMENTS
Medium duty, resistant screed



- High wear resistance
- High chemical resistance
- Medium thermal shock resistance
- Slip resistant
- Odour-free
- Hygienic
- Easy to clean
- Coloured

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150/151
Screed: Sikafloor-150, epoxy screed.
Total layer thickness:
5 – 6mm

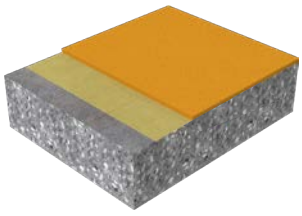
REQUIREMENTS
Broadcast, medium to heavy duty, resistant screed



- High wear resistance
- High chemical resistance
- Enhanced slip resistance
- High thermal shock resistance
- Hygienic
- Coloured
- Slip resistant
- Odour-free

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HB-22
Primer: Generally not required
Base layer: Sikafloor-21 PurCem, three / four part, polyurethane modified, cement based screed.
Broadcast: Coloured or natural quartz sand (for enhanced slip resistance).
Seal coat: 1 – 2 x Sikafloor-31 PurCem, three part, water dispersed, polyurethane sealer coat.
Total layer thickness:
4.5 – 6mm

REQUIREMENTS
Medium to heavy duty, smooth screed



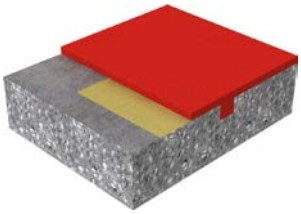
- High wear resistance
- High chemical resistance
- High thermal shock resistance
- Odour-free
- Hygienic
- Easy to clean
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HS-21
Primer: Scratch coat Sikafloor-21 PUrCem
Screed: Sikafloor-21 PurCem, three / four part, self-smoothing, polyurethane modified, cement based screed.
Total layer thickness:
4.5 – 6mm

PRODUCTION AND PROCESSING AREAS

Minimum Downtime for Production

REQUIREMENTS
Heavy duty, resistant screed

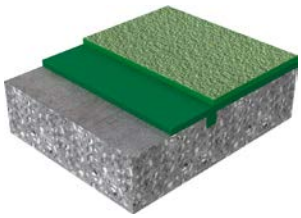


- High wear resistance
- High chemical resistance
- High thermal shock resistance
- Slip resistant
- Odour-free
- Hygienic
- Coloured
- Easy to clean (incl. steam cleaning)

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HM-20
Primer: Generally not required. If necessary, use Sikafloor-150/151 broadcast with quartz sand.
Screed: Sikafloor-20 PurCem, three / four part, easy trowel, polyurethane modified, cement based floor screed.
Total layer thickness:
6 – 9mm

PurCem - use accelerator for quick cure

REQUIREMENTS
Broadcast, medium to heavy duty, resistant screed

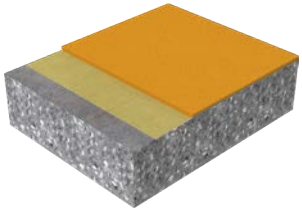


- High wear resistance
- High chemical resistance
- Enhanced slip resistance
- High thermal shock resistance
- Hygienic
- Coloured
- Slip resistant
- Odour-free

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HB-22
Primer: Generally not required
Base layer: Sikafloor-21 PurCem, three / four part, polyurethane modified, cement based screed.
Broadcast: Coloured or natural quartz sand (for enhanced slip resistance).
Seal coat: 1 – 2 x Sikafloor-31 PurCem, three part, water dispersed, polyurethane sealer coat.
Total layer thickness:
4.5 – 6mm

PurCem - use accelerator for quick cure

REQUIREMENTS
Medium to heavy duty, smooth screed



- High wear resistance
- High chemical resistance
- High thermal shock resistance
- Odour-free
- Hygienic
- Easy to clean
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® PurCem HS-21
Primer: Scratch coat Sikafloor-21 PurCem
Screed: Sikafloor-21 PurCem, three / four part, self-smoothing, polyurethane modified, cement based screed.
Total layer thickness:
4.5 – 6mm

PurCem - use accelerator for quick cure

Sikafloor® and SikaCor® SOLUTIONS FOR SECONDARY CONTAINMENT AREAS

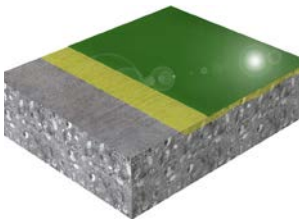
SECONDARY CONTAINMENT AREAS ARE bunded areas designed to contain any spillages of oils, chemicals or pollutants from their primary containment tanks or vessels. This is in order to protect the soil and the groundwater from pollution, which is an increasing demand following the legislation of governments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

SECONDARY CONTAINMENT AREAS

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.

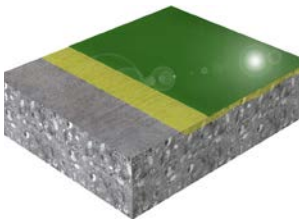
REQUIREMENTS
Smooth, flexible, chemically resistant floor screed



- High wear and abrasion resistance
- High chemical resistance
- Waterproof
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-31
Primer: Sikafloor-150/-151
Wearing course:
Sikafloor-381, a two part, highly chemically resistant, coloured, epoxy binder for self-smoothing screeds.
Total layer thickness:
~ 2mm

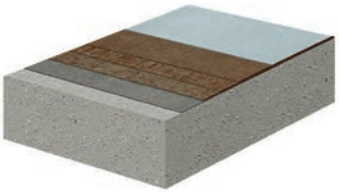
REQUIREMENTS
Smooth, rigid, chemical resistant coating and lining



- High chemical resistance
- Waterproof
- Roller and airless spray application
- Certified for use with potable water

SIKA SYSTEM / PERFORMANCE
Primer: Sikagard-62
Seal coat: Sikagard-62, a high solid, coloured, rigid, highly chemically resistant epoxy coating for sewage treatment plants.
Total layer thickness:
~ 400 - 600 microns

REQUIREMENTS
Smooth, flexible, highly chemically resistant, glass fabric reinforced coating



- Extreme chemical protection
- Very crack resistant
- Heavy duty fibreglass laminate

SIKA SYSTEM / PERFORMANCE
Primer: SikaCor VEL
Seal coat: Laminate, SikaCor VEL, heavy duty fiberglass laminate
Total layer thickness:
~ 2 - 3mm

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

Furthermore 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.

© Fraunhofer IPA

Cleanroom® Suitable Materials
Sika AG Industrial Alliance Membership

Fraunhofer IPA Institut Produktionstechnik und Automatisierung

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

- Food
- Biotechnology
- Medical devices
- Pharmaceuticals
- Dairy Infant Formula

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 Representative.

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!

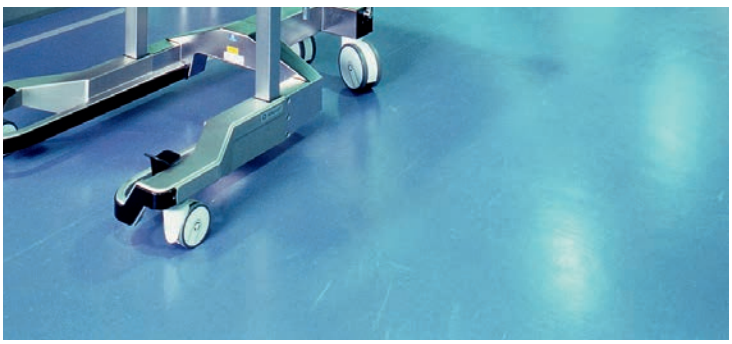
ELECTRONICS AND RELATED INDUSTRIES
The following industries are particularly aware of particle and TVOC emissions according to the global ISO 14644 standard.

- 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 Representative.

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!

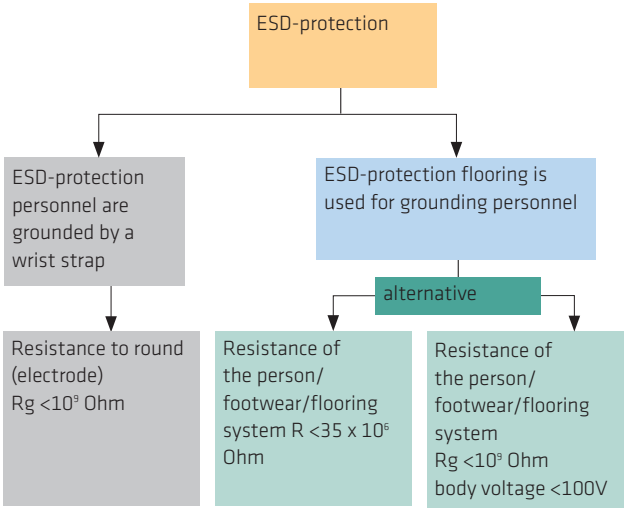


Sikafloor® SOLUTIONS FOR ESD PROTECTION AND ELECTRO STATIC DISCHARGE CONTROL

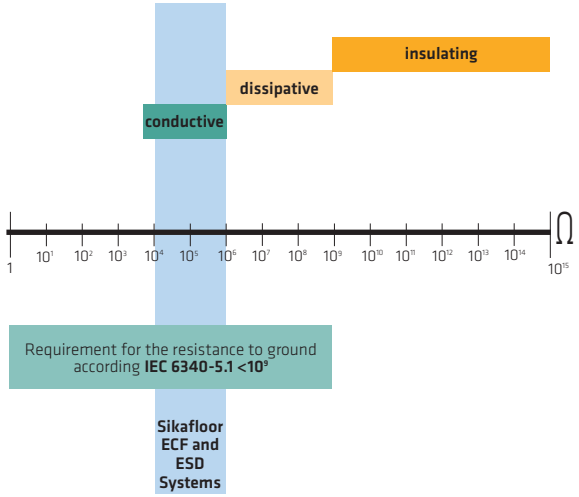
IN INDUSTRIES WHERE ELECTRONIC components, volatile chemicals or powder/dusts are involved, static electricity can result in significant damage, injury and financial loss from an explosion. All active electronic components and equipment e.g. micro-chips, integrated circuits and machinery are sensitive 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 Floorin) 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



APPLICATION RANGE AND REQUIREMENTS



SPECIFICATION

None of the specific conductivity or electrical resistance values mentioned in any of the International or National Standards in the table shown above 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 between 2.5 x 10^4 and 1.0 x 10^6 ohms

Dissipative Flooring Material (DIF)
(e.g. according to ASTM F150)
A floor material that has a resistance between 1.0 x 10^6 to 1.0 x 10^9 ohms

US-STANDARDS:

Systems:	**ANSI/ESD S 20.20** (ANSI/ESD STM97.1) System Test: < 35 M Ω	**ANSI/ESD S 20.20** (ANSI/ESD STM97.2) Walking Test (BVG) < 100 Volt	**ANSI/ESD S 20.20** (ANSI/ESD S7.1) Resistance to Ground R_G < 10^9 Ω	**ASTM F 150** (ECF) Surface to Ground Test: >2.5x10^4 – <1x10^6Ω	**ASTM F 150** (ECF) Surface to Surface Test: >2.5x10^4 – <1x10^6Ω	**ASTM F 150** (DIF) Surface to Ground Test: >1x10^6 – <1x10^9Ω	**ASTM F 150** (DIF) Surface to Surface Test: >1x10^6 – <1x10^9Ω
Smooth ESD roller coating (Epoxy)							
Sikafloor-200 ESD	▲	▲	▲	–	–	▲	▲
Sikafloor-200C ESD	▲	▲	▲	▲	▲	–	–
Roller coating for high chemical resistance (Epoxy Novolac)							
Sikafloor-700 ESD	▲	▲	▲			▲	▲
Sikafloor-700C ESD	▲	▲	▲	▲	▲	–	–
Smooth ESD roller coating (Polyurethane)							
Sikafloor-340 ESD	▲	▲	▲	–	–	▲	▲

▲ Meets the Standard – Does not meet the Standard

EUROPEAN-STANDARDS:

Systems:	**DIN EN 1081** Resistance to Ground RG < 10^8 Ω	**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 Ω	**ATEX 137 / TRBS 2153** European Standard Resistance to Ground RG < 10^8 Ω	**DIN VDE 0100-410 (IEC 60364-4-41)** Isolation Resistance > 50 kΩ
Smooth and textured, hygienic ECF floors						Any insulating self-smoothing layers e.g. Sikafloor-263 SL
Sikafloor-262 AS N	▲	–	–	▲	▲	
Sikafloor-262 AS Thixo	▲	–	–	▲	▲	
High chemical resistance						
Sikafloor-381 AS	▲	–	–	▲	▲	
Sikafloor-390 AS	▲	–	–	▲	▲	
Aproved for clean rooms						
Sikafloor-266 ECF CR	▲	–	–	▲	▲	
Sikafloor-269 ECF CR	▲	–	–	▲	▲	
ESD systems with very low body voltage generation						
Sikafloor-235 ESD	▲	▲	▲	▲	▲	
Sikafloor-262 AS N + Sikafloor-230 ESD TopCoat	▲	▲	▲	▲	▲	

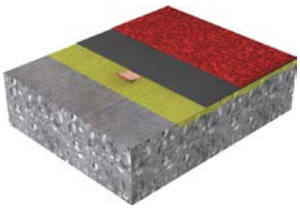
STANDARDS USED IN ASIA:

Systems:	**SJ/T 11294-2003** (ECF) Resistance to Ground R_G >5 x 10^4 – < 1 x 10^6 Ω	**SJ/T 11294-2003** (DIF) Resistance to Ground R_G >1 x 10^6 – < 1 x 10^9 Ω	**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_G < 10^9 Ω
Smooth, hygienic floors					
Sikafloor-262 AS N	▲	–	–	–	▲
Sikafloor-239 EDF	–	▲	–	▲	▲
High chemical resistance					
Sikafloor-390 AS	▲	–	–	–	▲
Sikafloor-381 AS	▲	–	–	–	▲
ESD system with very low body voltage generation					
Sikafloor-235 ESD	–	–	▲	▲	▲
Sikafloor-262 AS N + Sikafloor-230 ESD TopCoat	–	–	▲	▲	▲

▲ Meets the Standard – Does not meet the Standard

ESD PROTECTION AND ELECTRO STATIC DISCHARGE CONTROL

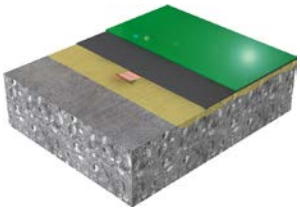
REQUIREMENTS
Textured conductive coating



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

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ET-24 ECF
Primer: Sikafloor-150/-151
Conductive layer:
Sikafloor-220 W Conductive❖
Textured conductive coating:
Sikafloor-262 AS N Thixo❖,a two part, total solid, electrostatically conductive, coloured, epoxy binder for textured coating systems.
Total layer thickness:
0.6 – 0.8mm

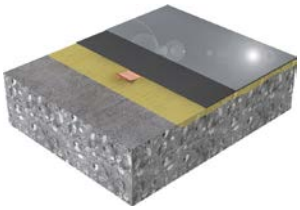
REQUIREMENTS
Smooth, conductive screed



- High wear and abrasion resistance
- Good chemical resistance
- Coloured
- Easy cleaning

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-24 ECF
Primer: Sikafloor-150/-151
Conductive layer:
Sikafloor-220 W Conductive❖
Wearing course:
Sikafloor-262 AS N❖, a two part, total solid, electrostatic conductive, coloured, epoxy binder for self-smoothing screed systems.
Total layer thickness:
~2mm

REQUIREMENTS
Smooth, ESD floor screed



- High wear and abrasion resistance
- Good chemical resistance
- Coloured
- Easy cleaning

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-47 ESD
Primer: Sikafloor-150/-151
Conductive layer:
Sikafloor-220 W Conductive❖
Wearing course: Sikafloor-235 ESD❖, a two part, total solid, electrostatically dissipative, coloured, epoxy binder for self-smoothing screed systems.
Total layer thickness:
~ 2mm

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

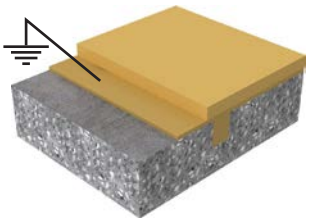
❖ Not currently stocked in NZ

REQUIREMENTS
Smooth, chemical resistant, conductive screed

- High wear and abrasion resistance
- High chemical resistance
- Coloured
- Easy cleaning

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-31 ECF
Primer: Sikafloor-150/-151
Conductive layer:
Sikafloor-220 W Conductive❖
Wearing course:
Sikafloor-381 AS ❖, a two part, total solid, highly chemical resistant, electrostatically conductive, coloured, epoxy binder for self-smoothing screed systems.
Total layer thickness:
~ 2mm

REQUIREMENTS
Smooth flexible chemical resistant conductive screed



- High wear resistance
- High chemical resistance
- Medium thermal shock resistance
- Coloured
- Hygienic

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur EB-39
Primer: Sikafloor-150/-151
Conductive layer:
Sikafloor-220 W Conductive❖
Wearing course:
Sikafloor-390 AS❖, a two part, total solid, highly chemcial resisant, electrostatically conductive, crack-bridging, coloured, epoxy binder for self-smoothing screed systems.
Total layer thickness:
~ 2mm

REQUIREMENTS
Heavy duty, monolithic finish for concrete

- Excellent abrasion resistance
- Excellent impact resistance
- Excellent durability
- Conductive properties

SIKA SYSTEM / PERFORMANCE
Monolithic concrete slab using Sikament or Sika ViscoCrete SCC technology
Dry shake floor hardener:
Sikafloor-1 MetalTop❖ applied to the fresh concrete slab before the power-float finish, surface cured.

❖ Not currently stocked in NZ

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 and airports. The rapid growth rate of these areas 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 user's demands, which vary from feeling safe and welcome to knowing that their cars are in a secure environment. Given the choice, people always park in a light, bright car park where they feel their property is being looked after and safe.

MECHANICAL STRESSES
Car Park Systems applied in multi-story and underground car parks are subject to extreme mechanical stress during normal operation of the parking structure. Areas subject to the highest levels of stress are the running aisles, turning ramps and pay station areas. In order to provide a long term, durable solution, good adhesion is required - not only between the substrate and the decking system but also between the different layers within the system. Sika developed a practical test machine that clearly demonstrates the ability of the Sika Car Park Systems, especially the Elastomeric System, to resist the ultimate abrasion test - refer to page 33 .

ROOFS AND WATERPROOFING
Top Deck Car Parks represent the greatest challenge for exposed trafficable waterproofing systems. In addition to the mechanical stresses, car park decks must have crack bridging properties and resist high levels of UV (Ultra Violet Radiation), while retaining their good looks for long periods:

- Sika Top Deck Systems have high levels of flexibility and have been fully tested to conform with the crack bridging requirements of EN 1062.
- Tested to meet German Industry Standard DIN V 18026 OS 11a and 11b.
- Able to resist high levels of UV radiation in two ways:
  - The hard silica quartz rich aggregate wear layer blocks UV radiation.
  - A high UV resistant finish coating is applied to give additional protection and a long lasting, great appearance to the finish.

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 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 information derived will provide, but an appropriate survey and assessment is often critical to the process of successfully maintaining and extending the service life of a parking structure.

NEW BUILD

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

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

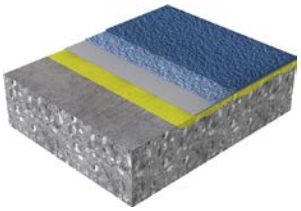
REFURBISHMENT

Most existing multi-storey car parks have been built since 1940 and they are predominantly of reinforced concrete construction. Many also have a history of early deterioration. This is due to poor design, poor construction, low standards of maintenance and repair, or a combination of all three. The exposure is more similar to that of bridges and as a result, deterioration, particularly reinforcement corrosion due to the effects of carbonation, has had a major impact on their durability. These bad experiences have served to emphasise the need for improved performance in design, workmanship and material selection, to ensure the performance and safety of new and existing car parking structures.

MULTI-STOREY AND UNDERGROUND CAR PARKS

Systems for Top Decks and Exposed Areas

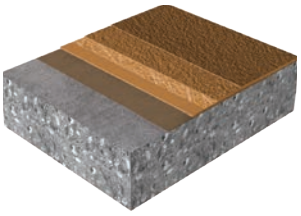
REQUIREMENTS
Top Deck - Dynamic Crack Bridging



- High abrasion resistance
- Waterproof
- Thermal exposure
- Dynamic crack-bridging
- UV Resistance (non yellowing)
- Comfort and care
- German standards (OS-11a)

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur PB-55 UV
Primer: Sikafloor-150/-151
Membrane: Sikafloor-376
Abrasion layer:
Sikafloor-377, a solvent free polyurethane binder with Quartz sand.
Seal coat: Sikafloor-359 N
Total layer thickness:
4 – 5mm

REQUIREMENTS
Top deck Dynamic Crack Bridging fast curing

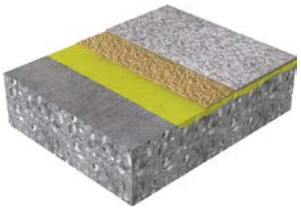


- Very fast cure even at low temperatures
- High abrasion resistance
- UV resistant
- Dynamic crack bridging
- German standard OS 10

SIKA SYSTEM / PERFORMANCE
Sikafloor® Pronto RB-58
Primer: Sikafloor-10 Pronto N
Base Coat: Sikafloor-32 Pronto & Sika Reemat
Abrasion Layer: Sikafloor-32 Pronto with quartz sand
Seal coat: Sikafloor-18 Pronto
Total layer thickness:
4 - 6mm

Systems for Intermediate Decks

REQUIREMENTS
Intermediate Deck - Elastomeric

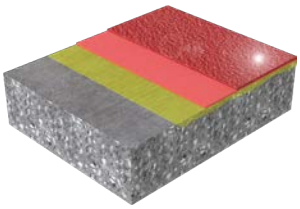


- Waterproofing
- Thermal exposure
- Static crack-bridging
- UV Resistance (non yellowing)
- High abrasion resistance
- German standard (OS-13)

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150/-151
Wearing layer: Sikafloor-377, a solvent free polyurethane binder, broadcast with Quartz sand.
Seal coat: Sikafloor-359 N
Total layer thickness:
3 – 4mm

Also suitable for ramps (use Externder T)

REQUIREMENTS
Intermediate Deck - Rigid



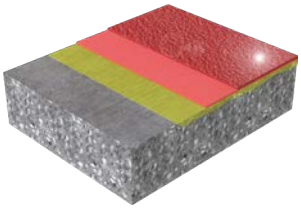
- High abrasion resistance
- Waterproof
- Slip resistance
- Aesthetics
- German standard (OS-8)

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur EB-21
Primer: Sikafloor-150/-151 (optional)
Base coat: Sikafloor-264, a solvent free, coloured epoxy binder, broadcast with Quartz sand.
Seal coat: Sikafloor-264
Total layer thickness:
1 – 3mm

MULTI-STOREY AND UNDERGROUND CAR PARKS

Systems for On-grade Slabs

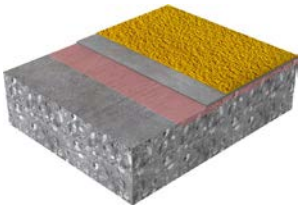
REQUIREMENTS
Basement Deck - Rigid



- High abrasion resistance
- Waterproof
- Slip resistance
- Aesthetics
- German standard (OS-8)

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur EB-21
Sikafloor® Multidur MD
Primer: Sikafloor-150/-151
Wearing layer: Sikafloor-264, a solvent free, coloured epoxy binder, broadcast with Quartz sand.
Seal coat: Sikafloor-264
Total layer thickness:
1 - 3mm

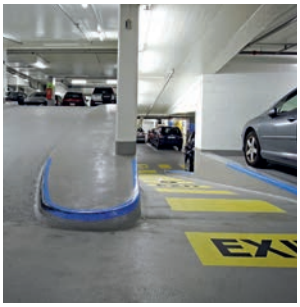
REQUIREMENTS
Basement Deck - Vapour Permeable



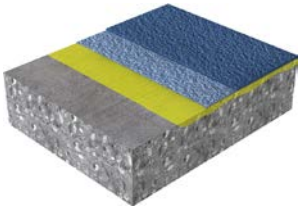
- High abrasion resistance
- Waterproof
- Slip resistance
- Water vapour diffusion open

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur WS-10 ECC
Primer: Sikafloor-80 EpoCem Primer
ECC screed: Sikafloor-81 EpoCem, an epoxy modified, cementitious self-smoothing screed, broadcast with Quartz sand.
Two coats of Sikafloor-2540 W
Total layer thickness:
2 – 4mm

Systems for Ramps



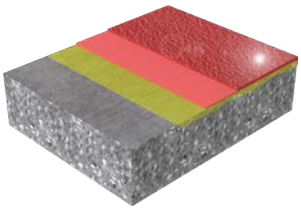
REQUIREMENTS
Ramps - Flexible



- High abrasion resistance
- Waterproof
- Thermal exposure
- Static crack-bridging

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150/-151
Wearing layer: Sikafloor-377 (Extender T) broadcast with Quartz sand.
Seal coat: Sikafloor-359 N
Total layer thickness:
3 – 4mm

REQUIREMENTS
Ramps - Rigid



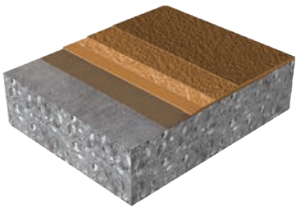
- High abrasion resistance
- Waterproof
- Slip resistance
- Aesthetics
- German standards (OS-8)

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150/-151
Wearing layer: Sikafloor-264, a solvent free, coloured epoxy binder, broadcast with Quartz sand.
Seal coat: Sikafloor-264 T
Total layer thickness:
1 – 3mm

MULTI-STOREY AND UNDERGROUND CAR PARKS

Systems for Walkways · Stairs · Light Traffic

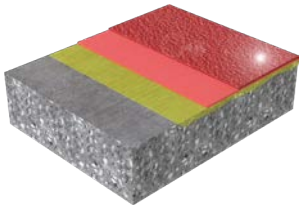
REQUIREMENTS
Ramps - Rigid



- High abrasion resistance
- Waterproof
- Slip resistance
- Aesthetics
- German standards (OS-8)

SIKA SYSTEM / PERFORMANCE
Sikafloor® Pronto RB-58
Base Coat: Sikafloor-32 Pronto & Sika Reemat
1st Abrasion Layer: Sikafloor-32 Pronto with quartz sand
2nd Abrasion Layer: Sikafloor-32 Pronto with quartz sand
Seal coat: Sikafloor-18 Pronto
Total layer thickness: 4 - 6 mm

REQUIREMENTS
Walkways · Stairs · Light Traffic - Flexible



- High abrasion resistance
- Waterproof
- Slip resistance
- Aesthetics

SIKA SYSTEM / PERFORMANCE
Primer: Sikafloor-150/-151 (optional)
Base coat: Sikafloor-150/-151 broadcast with Quartz sand.
Seal coat: Sikafloor-400 N Elastic
Total layer thickness: 2 – 3mm

THE ULTIMATE ABRASION RESISTANCE TEST

SIKA TESTING ELASTOMERIC CAR PARK DECKING SYSTEMS TO THEIR LIMITS!

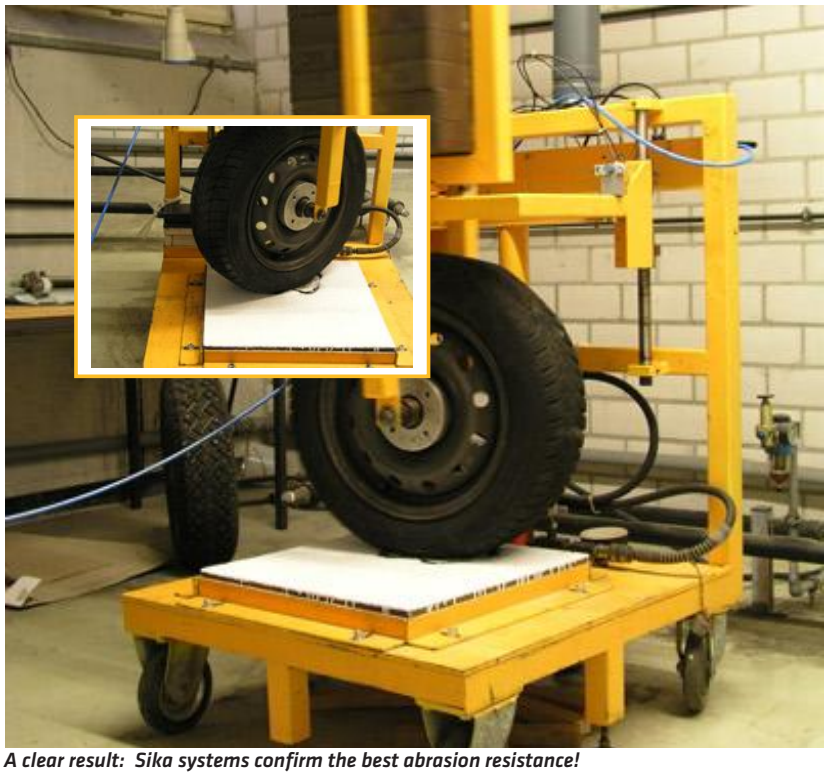
Car park decking systems applied in multi-storey and underground car parks are subject to extreme mechanical stress during normal operation of the parking structure. Areas subject to the highest levels of stress are the running aisles, turning areas, ramps and pay station areas. In order to provide a long term solution, good adhesion is required not only between the substrate and the decking system but also between the different layers within the system.

In order to demonstrate the durability of the system it is therefore important to carry out practical abrasion resistance tests, especially of the elastomeric car park decking systems.

Sika developed a testing machine, that allows the replication of the maximum mechanical stresses produced by real car tyres.

The air operated test rig is designed so that the car tyre, which is loaded with 230kg, moves through a 100° angle of defection over a given number of cycles.

The table provides an indication of the relative performance of Sika car park decking systems and those of our competitors, in respect of the system's ability to resist mechancal stresses which can result in abrasion.



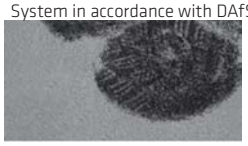
A clear result: Sika systems confirm the best abrasion resistance!

System in accordance with DAfStb OS 11b

Sikafloor-376
Sikafloor-359 N

Competitor I

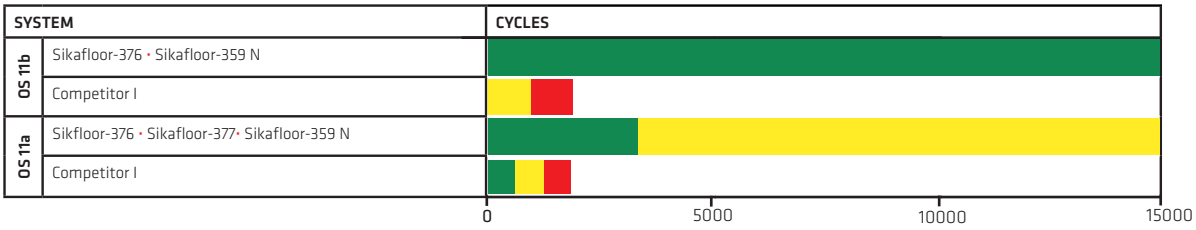
System in accordance with DAfStb OS 11a (UV stable seal coat)



Sikafloor-376
Sikafloor-377
Sikafloor-359 N

Competitor I

Pictures taken after 2000 cycles



no damage visible: no cracks, no aggregate has been worn out

damage visible: cracks visible in the seal coat, several aggregates have been worn off

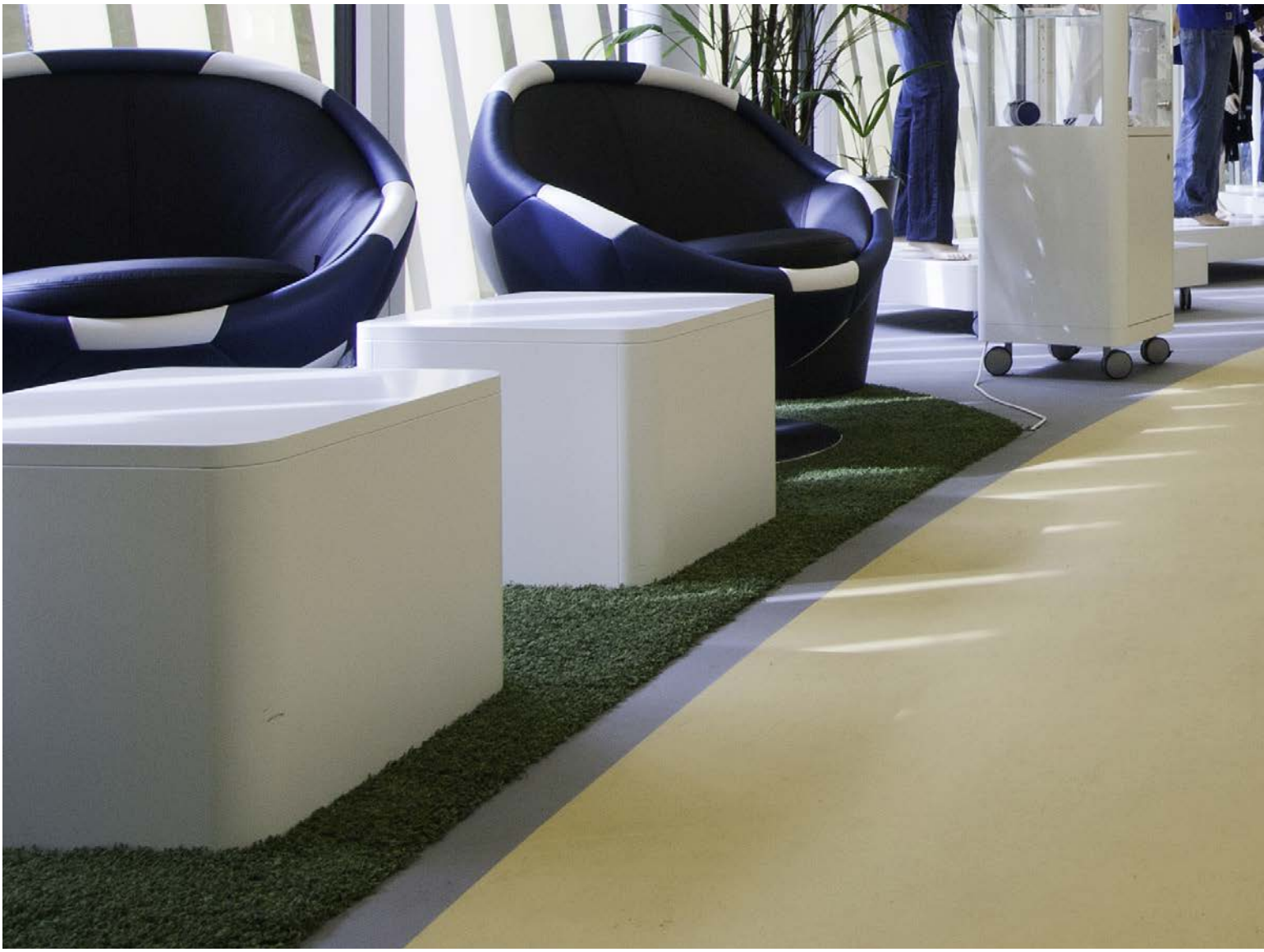
damaged: seal coat has been removed in several large areas or completely removed

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.

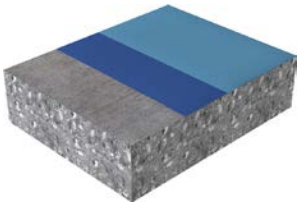
INDIVIDUAL DESIGN
The Sika Decorative Floor range meets the need for individual and decorative designs in commercial, retail and leisure facilities using coloured chips, aggregates and other special fillers. These floors allow you to create many different and unique surface designs, ranging from textured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



COMMERCIAL, PUBLIC AND RESIDENTIAL AREAS

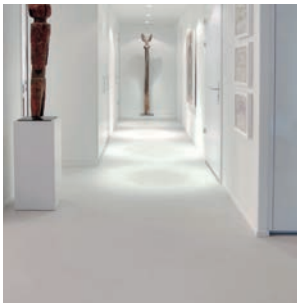
Decorative Flooring Systems

REQUIREMENTS
Water dispersed, coloured roll-on coating

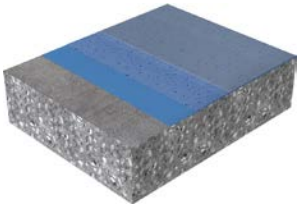


- Light to medium wear resistance
- Surface stabilization
- Prevent concrete dusting
- Coloured

SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur WS-18
2 x Sikafloor-2510 W, a two part, water dispersed, coloured, epoxy resin based coating.
Total layer thickness:
150 – 250 microns



REQUIREMENTS
Decorative roll-on coating



- Wear resistance
- Easy cleaning
- Decorative

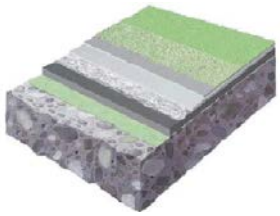
SIKA SYSTEM / PERFORMANCE
Sikafloor® Multidur ES-15
2 x Sikafloor-264, a two part, coloured, high build epoxy resin based coating.
Seal coat: Sikafloor-305, a water dispersed, coloured polyurethane based matt sealer.
Total layer thickness:
600 – 800 microns

* 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.

COMMERCIAL, PUBLIC AND RESIDENTIAL AREAS

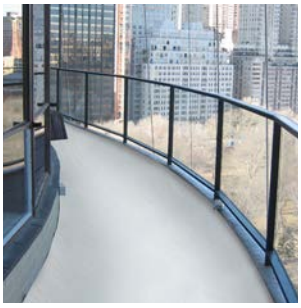
Balconies and Stairways

REQUIREMENTS
Broadcast, fast curing, crack-bridging, decorative screed

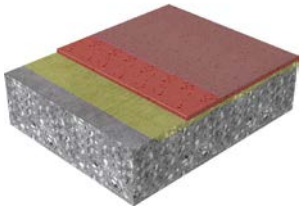


- ETAG 005 certified, reinforced waterproof balcony system
- Medium wear resistance
- Extremely crack-bridging
- Decorative with six finishes
- UV-stable

SIKA SYSTEM / PERFORMANCE
Sika Balcony Premium.
Sikafloor® Monoflex MB-55
Primer: Sika Bonding Primer
Base layer: Sikafloor-405
Reinforcement: Sika Reemat Premium
Intermediate layer: Sikafloor-405
Top coat: Sikafloor-405 fully broadcast with Sikafloor Quartz Sand 501
Seal coat: Sikafloor-415
Total system thickness:
~ 1.5 – 2mm



REQUIREMENTS
Smooth, crack-bridging, decorative screed



- Medium wear resistance
- Highly crack-bridging
- Decorative
- UV-stable

SIKA SYSTEM / PERFORMANCE
Sika Balcony Standard System
Primer: Sikafloor-150/-151
Base layer: Sikafloor-400 N Elastic, one part, coloured, highly elastic, moisture curing, polyurethane resin for self-smoothing systems
Total system thickness:
~ 1 – 1.5mm

Pulastic® SPORTS SURFACES, HIGH PERFORMANCE INDOOR AND OUTDOOR SPORTS FLOORING SYSTEMS

Descol, part of the global Sika building products business, is the market leader in sports flooring systems.

There is a wide range of Pulastic sports floor options available. Your sports floor can be exactly matched to your specific requirements, giving you the floor that is ideal for you – safe, comfortable, durable, and with the sports performance you require.

MINIMISATION OF INJURIES

A Pulastic sports floor offers maximum, immediate shock absorption – reducing the risk of impact injury. It is the perfect choice for children's sports.

Shock absorption is achieved through vertical deformation. On a traditional timber gymnasium floor adequate shock absorption is only achieved if the athlete is large enough to deform the timber floor over a wide area (this is referred to as area-elastic behaviour). A small child is not heavy enough to cause this deformation and for them falling on a timber gymnasium floor is like falling on concrete. Point-elastic Pulastic sports floors show an immediate high shock absorption level and respond very quickly to dynamic impact.

A SURFACE THAT ATHLETES LOVE COMPETING ON
The performance of a multifunctional sports floor has to satisfy a number of criteria. A Pulastic sports floor can be optimised for the sports that will be played on it, with consistent play properties (uniform bounce, uniform shock absorption, uniform friction, etc.) and good ball response (height of the bounce, the rolling behaviour, etc).

PEACE OF MIND
Descol's 45 years of experience and more than 25 million square metres of sports flooring installed worldwide, provide confidence that a Pulastic sports floor will stand the test of time.

The first Pulastic sports floor was laid in New Zealand in 1995 and there are now more than fifty Pulastic sports floors throughout New Zealand.

Furthermore, you have the confidence of dealing directly with the product manufacturer, Sika, a company that you know will be around for as long as your floor.

Pulastic sports floors are fully tested to EN 14904, and their performance meets and in many cases exceeds international standards.

A seamless, polyurethane Pulastic sports floor offers unequalled life span performance, with excellent wear resistance, high resistance to rolling and dynamic loads, and outstanding UV-resistance.

WHERE TO USE A PULASTIC SPORTS FLOOR
- In multi-purpose sports halls
  - Basketball · Badminton · Volleyball
- Netball Courts (indoor and outdoor)
- Tennis Courts (indoor and outdoor)
- Gymnasiums
- Fitness clubs
- Roller skating/hockey
- Squash Courts
- Indoor track and field
  - Spike resistant Pulastic SP

Pulastic® SPORTS SURFACES INSTALLATION

Six Steps to Success

STEP 1
SHOCK ABSORBING MAT

- The shock absorbing mat is bonded to the subfloor using a solvent-free adhesive.

STEP 2
SEALING

- The shock absorbing mat is then sealed, prior to installation of the base layer.

STEP 3
BASE LAYER

- The self-smoothing, liquid-applied base layer creates a seamless Pulastic floor. It is installed using notched trowels to ensure a uniform thickness.

STEP 4
SECOND BASE LAYER (OPTIONAL)

- In some Pulastic flooring systems, the base layer is installed in two applications.

STEP 5
TOP COAT

- Pulastic sports floor are available in a wide range of colours. They have very high wear resistance, and their matt finish minimises distracting reflections.

STEP 6
LINE MARKING AND LOGOS

- The finishing touch for every sports floor is the line marking and addition of any logos.

Pulastic® PARTNERS

WE HAVE VALUED PARTNERS AROUND THE WORLD, INCLUDING TESTING AND RESEARCH INSTITUTES AND SPORTS FEDERATIONS. TESTING INSTITUTES CONTINUOUSLY MONITOR THE QUALITY OF OUR FLOORS, WHILE SPORTS FEDERATIONS PROMOTE THE INTERESTS OF THEIR SPORTS, BOTH DOMESTICALLY AND INTERNATIONALLY.

FIVB
FIVB governs Volleyball and Beach Volleyball worldwide. FIVB is part of the Olympic Movement, contributing to the success of the Olympic Games.

FIBA
FIBA, or Federation Internationale de Basketball, is the international governing body for all basketball federations. FIBA establishes the Official Basketball Rules and the specifications for equipment and facilities.

IHF
The International Handball Federation is recognised by the International Olympic Committee as the sole representative of international handball, leading, developing and promoting handball around the world.

BWF
The Badminton World Federation is the governing body for the sport of badminton. BWF is empowered by the 164 member National Badminton Federations and the International Olympic Committee to govern the sport of badminton.

USGBC
LEED (Leadership in Energy and Environmental Design) is an internatioanally recognised evaluation and certification system for sustainable building, set up by the U.S Green Building Council. LEED indicates that a building is designed and built in accordance with strategies that aim to improve the performance in the fields of energy saving, water saving, decrease of CO2 emissions, better indoor climates and imrpoved quality of the environment. Descol is associated with USGBC through Sika.

IAKS
IAKS is the No.1 contact when it comes to the design, construction, equipping and maintenance of sports facilities and sports-oriented leisure facilities. IAKS contributes to the creation of functional, cost-effective and environment-friendly sports and leisure facilities.

ISA
ISA Sport is an independent research organisation, providing expert advice in the areas of feasibility, location, usability, expected running costs, equipment and the use of building materials.

DEKRA
Dekra Certification (formerly KEMA Quality) performs audits and provides certification for the quality of management systems in many industries. Descol is certified according to ISO 9001/14001/ VCA**/MVO prestatieladder (CSR), inspired by ISO 2600

ECOSPECIFIER
The objective of Ecospecifier is to promote sustainable and ecological materials among professionals in the construction industry, such as architects, designers, builders and specifiers. The wider objective is to create more sustainable physical surroundings by increasing the use of environmentally friendly and healthy products, materials and design processes. Descol and it's distributor in Australia are 'Ecospecifier Global Verified'.

Sikagard® SOLUTIONS FOR TANK LINING, COOLING BASEMENTS AND WATER TREATMENT FACILITIES

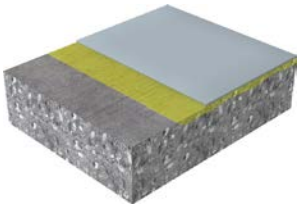
REINFORCED CONCRETE TANKS ARE used almost everywhere in infrastructure and industry today, in clean and dirty water and sewage plants, power plants and transmission networks, chemical plants, food & beverage plants, power production, wineries, pulp & paper production and in agricultural facilities.

TANK LINING
They are exposed to many different mechanical, chemical and thermal stresses; many of these are imposed simultaneously, for example chemicals at different concentrations and temperatures in different volumes and loadings. The level of exposure and the combination of the resultant stresses can also vary greatly over time.

Dependent on your specific project requirements, Sika can always provide the best protective coating system to protect the structure of the tank; this is because of the wide range of synthetic resin technologies that we formulate our products from. In refurbishment or maintenance situations, Sika can also provide the most appropriate repair solutions, prior to applying the selected protective coating system to bring the tank, back into service after the minimum down time, and then provide a long future service life.

DRINKING WATER FACILITIES
The internal protection of tanks and pipes in potable (drinking) water facilities is also a very specialised application. Almost all countries now have their own or regional legislation and materials certification procedures for the materials for this purpose, which must be strictly adhered to. The objective of these protective coating systems is to preserve the quality of the drinking water and protect the concrete and steel structures that contain and transport it at the same time. Sika products and systems have all the necessary International and National approvals for contact with potable / drinking water.

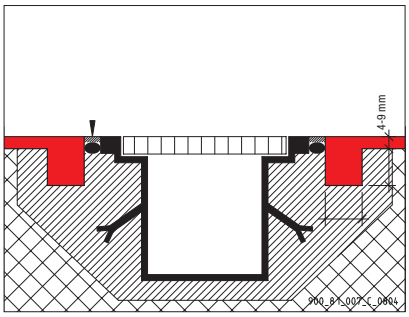
REQUIREMENTS
Smooth, chemical resistant lining



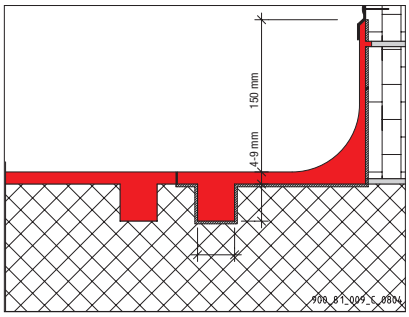
- High wear and abrasion resistance
- Good impact resistance
- Good chemical resistance
- Medium thermal resistance
- Easy cleaning
- Coloured
- Potable/drinkable water suitable

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

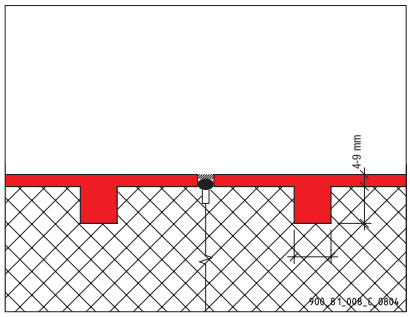
DETAILING AND JOINTING FOR FLOORING APPLICATIONS



Details for Sikafloor PurCem



Details for Sikafloor PurCem



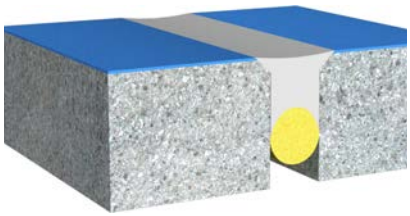
Details for Sikafloor PurCem

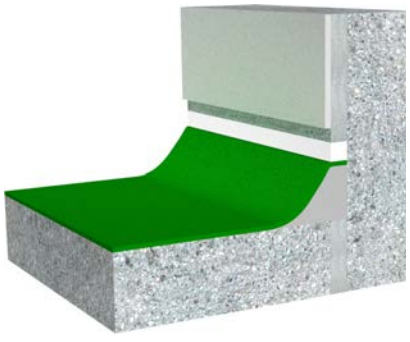
DRAINAGE CHANNELS / GULLIES

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

JOINTING

There is no way to prevent all of the joints in floors, but they are causes of the major damages in flooring applications due to different reasons. Therefore, the proper planning, design of a floor joint, has to be performed with specific precautions to prevent future damage. Furthermore, industrial floors require reliable joint sealants to resist chemical and mechanical wear, particularly floors designed for vehicular traffic, or cleaning machines, etc. Sika solutions for these joint sealants include the well proven and reliable Sikaflex-11 FC, Sikaflex Tank, Sikasil-Pool or Sikdur-51 for many types of floor joints including connecting joints between different materials.





High Performance Sealant for Flooring

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

Primer: Sika Primer-3 N
Joint sealant: Sikaflex-11 FC, Sikaflex Tank, a moisture curing, one part elastic sealant based on polyurethane designed for flooring.
Primer: Not required, unless on damp concrete, then use Sikadur-52
Joint sealant: Sikaur-61, epoxy sealant for cured floors over 18 months old.

DESIGN SUSTAINABLE CONSTRUCTION WITH SIKA HIGH PERFORMANCE FLOORING SYSTEMS

DESIGN LIFE

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

STRUCTURAL REQUIREMENTS

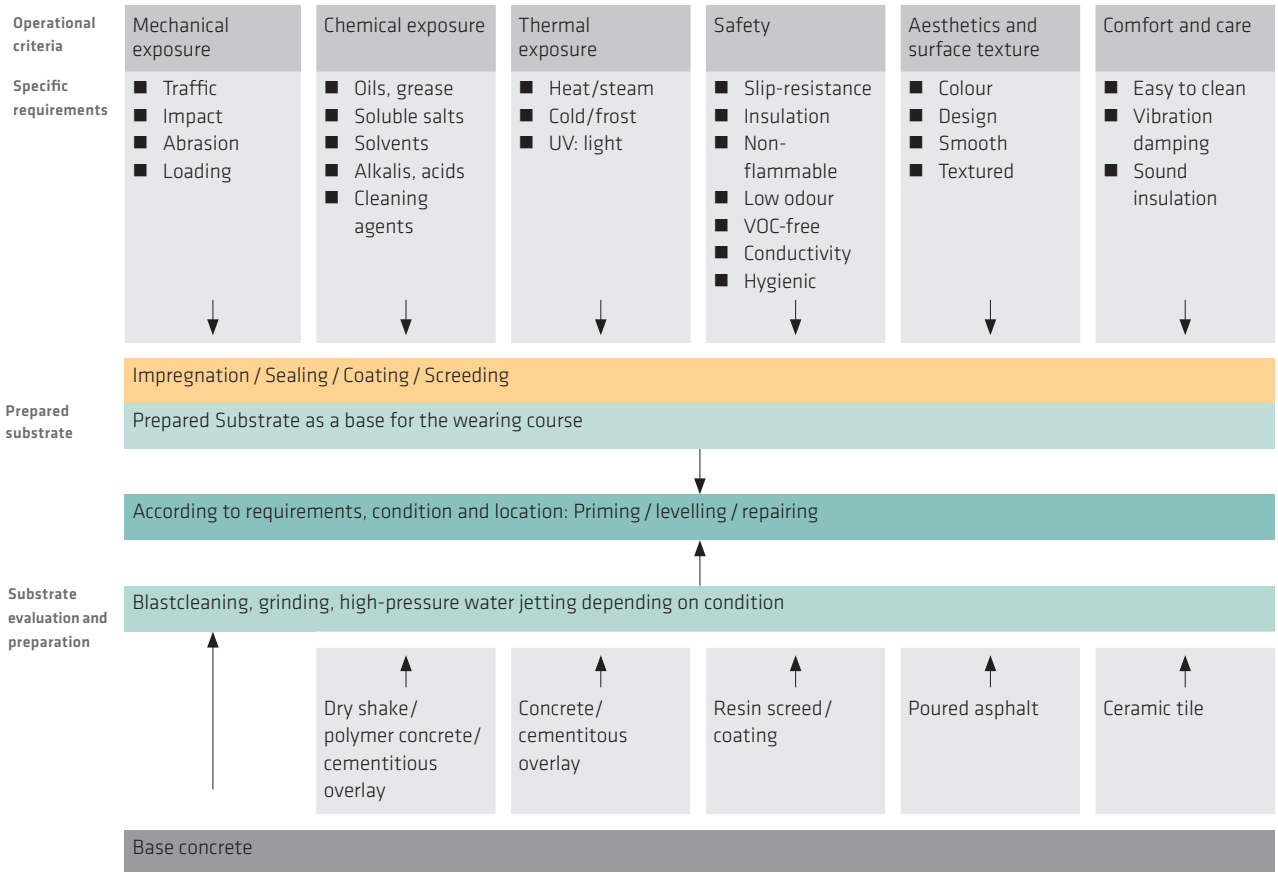
The static and dynamic loadings that will be imposed during both construction and service have to be considered. The floor topping must be capable of withstanding these demands, but it can only function as well as the substrate to which it is applied, i.e. the structural concrete slab or screed.

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

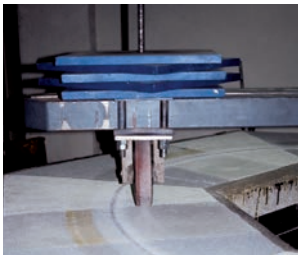
COLOUR AND APPEARANCE

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

KEY REQUIREMENTS FOR CONSIDERATION IN SELECTING A FLOOR SYSTEM



PROJECT RELATED PERFORMANCE REQUIREMENTS



TRAFFIC AND MECHANICAL WEAR

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

CHEMICAL RESISTANCE

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

SERVICE TEMPERATURE

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

SLIP RESISTANCE

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

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.

FLOOR COATING ON GREEN AND DAMP CONCRETE

No Osmosis

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

CRACK-BRIDGING ABILITY

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

DAMPING OF IMPACT NOISE

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

NEUTRAL ODOUR, VOC-FREE

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

ELECTRICAL CONDUCTIVITY/ ESD

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

CLEANING AND MAINTENANCE

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

THERMAL CONDUCTIVITY

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

PROJECT RELATED PERFORMANCE REQUIREMENTS

MULTIPLE COLOUR SHADES

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

UV LIGHT RESISTANCE

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

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

For Food

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

PARTICLE

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

FLATNESS AND LEVEL

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

1-COMPONENT SYSTEMS

1 C

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

CUT THE WAITING TIME IN BOTH NEW CONSTRUCTION AND REPAIR WORKS

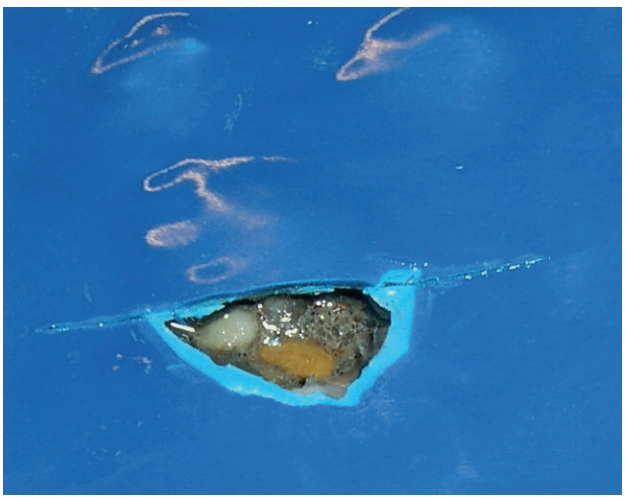
THE SCHEDULED FLOORING "START" AND "FINISH" ON SITE, does not always match the overall construction time required (i. e. necessary waiting times / delays due to substrate condition or environmental limitations, etc.).

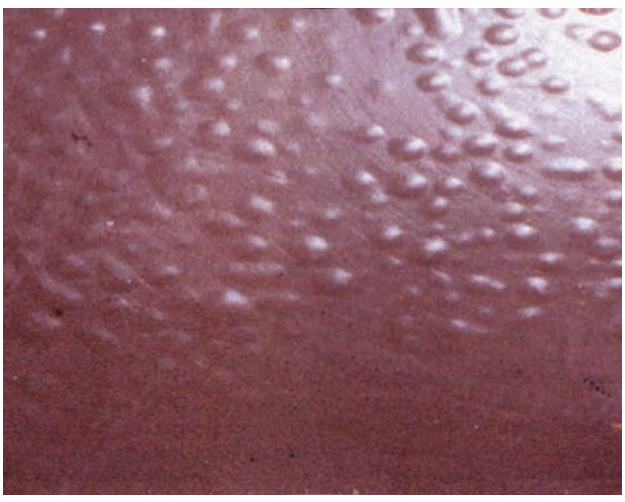
The floor finishes on most construction sites are one of the last applications and so they are usually done under time pressure. If you have to wait until the ideal conditions (pull-off strength 1.5 N/mm²) and humidity (<4 % pbv) in the concrete slab are achieved, then most flooring materials require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

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

The advantages of Sikafloor EpoCem are based on the unique system components. It consists of an epoxy dispersion in a cementitious self-leveling mortar screed. Application thickness varies from 2 to 8mm, dependent on the system. With this material you can achieve a fully homogeneous, sound and smooth substrate for the floor topping. The combined epoxy-cement matrix forms a temporary barrier against rising moisture and damp concrete; it also provides a high strength substrate. This uniform and homogeneous intermediate layer allows over-coating with vapour impermeable high solids and high build resin based coatings within a short waiting time of 18 to 36 hours after application. There is no additional surface preparation and conditioning necessary to achieve a pore free smooth floor.

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



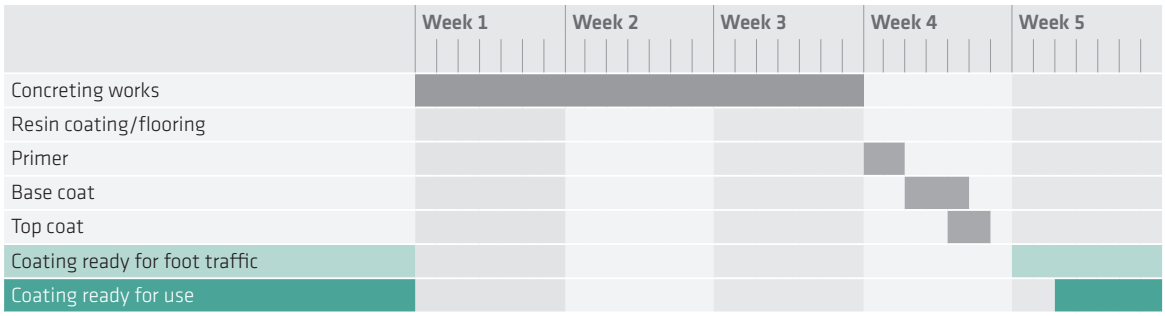


CUT THE WAITING TIME IN BOTH NEW CONSTRUCTION AND REPAIR WORKS

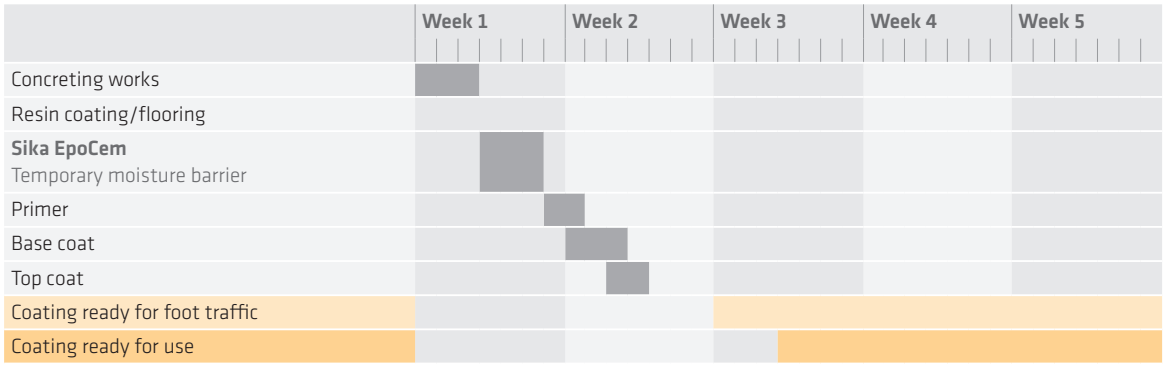
SCHEMATIC OF PLANNED TIME SAVINGS WITH Sika® EpoCem® TECHNOLOGY:

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

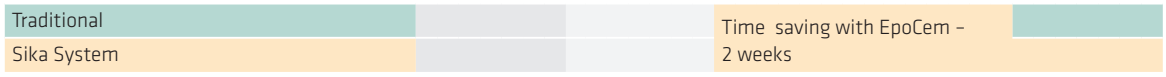
TRADITIONAL CONSTRUCTION PROGRAMME



PROGRAMME SIKA SYSTEM



TIME SAVING WITH Sika EpoCem



EpoCem®

No more Waiting. No more Delays.

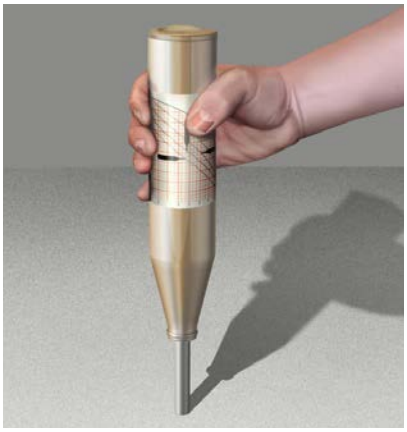
Sikafloor® APPLICATION PROCEDURES

Substrate Inspection and Preparation

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

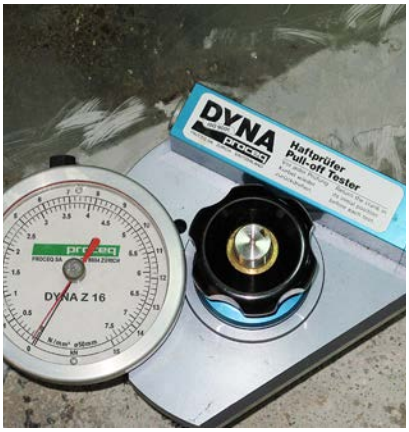
Thorough inspection and assessment are essential to determine its condition and the necessary surface preparation for a successful flooring system to be applied.

A durable bond must be achieved between the new flooring system and the substrate, which requires a clean and contaminant free, dry (according to the system requirements) and sound surface to be mechanically prepared to remove any cement laitance, loose or friable particles and provide the profile required for the selected floor system. The final surface should be vacuumed to remove any dust prior to the application.



MEASURING THE COMPRESSIVE STRENGTH

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



MEASURING THE COHESIVE STRENGTH

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

SUBSTRATE MOISTURE CONTENT

It is extremely important to measure the substrate moisture content because cement bound substrates should normally only be over-coated at a moisture level of < 4% pbv.
ASTM D4263 is a simple test using a polyethylene-sheet taped to the concrete surface. This should be left in position for at least 24 hours, prior to removal and testing.
Moisture Meters such as the Tramex Concrete Encounter CME 4 can then give a clear reading of the moisture content as a % pbv.
Moisture content > 4% by volume (or 6% if Sikafloor-161/-160 primer is used), or visible rising moisture (condensation) on the bottom of the sheet, indicates the need for additional drying time or the use of Sikafloor EpoCem Technology.

Sikafloor® APPLICATION PROCEDURES

AMBIENT CONDITIONS

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

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

PREPARATION AND CLEANING

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

Sikafloor® APPLICATION PROCEDURES

Product Mixing

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

DRILL AND MIXING PADDLE

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

DOUBLE MIXING PADDLE (FREE HAND OR ON A STAND)

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

FORCED ACTION PAN MIXER

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

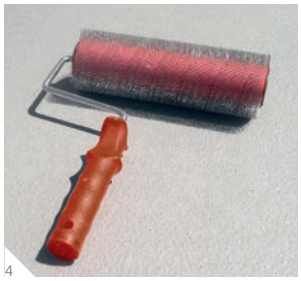
Sikafloor® APPLICATION PROCEDURES

Application Tools

1


2

3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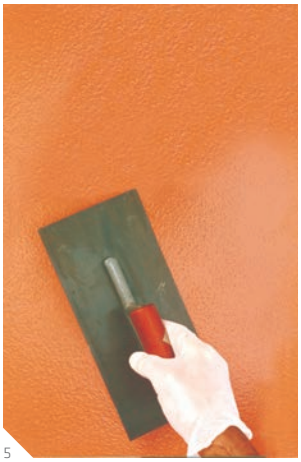
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1 Barrel-cart: modified for drum handling with the Application Trolley.
2 Application Trolley: allows easy movement of drums on site.
3 Mixing gauge: adjustable for every mixing ratio and every drum size.
4 Spiked Rollers: Left a steel spike – right a plastic spike, to remove entrapped air.
5 Sealing of broadcast layers with a straight trowel or a "squeegee" blade.
6 Primer application with a medium pile roller.
7 Application of Sikafloor-264 high build coating with a textured roller.
8 Typical pump for premixed cementitious screeds such as the Sikafloor Level range.
9 Power float with a variable speed control for trowel finishing of concrete and resin floors.
10 Wet Film Thickness gauge for coatings application thickness control.

Note: For more detailed information, please contact your local Sika Representative.
www.sika.co.nz

SIKA FLOORING CASE STUDIES

Case Studies

FONTERRA - PACKING ROOM FACILITY

Downtime due to flooring repairs or upgrades is the bane of many a manufacturing or processing plant. What can make it worse is having to wait even longer for a damp substrate to dry out enough to install the new flooring.

Luckily for Fonterra, their Canpac Packing Room facility in Hamilton suffered little downtime thanks to Sika's unique Sikafloor-81 EpoCem moisture barrier technology which allowed the Sikafloor-264 self smoothening high performance floor coating to be installed within Fonterra's strict timeframe.

NEW ZEALAND DAIRY PROCESSORS LTD - MILK EXPORTS

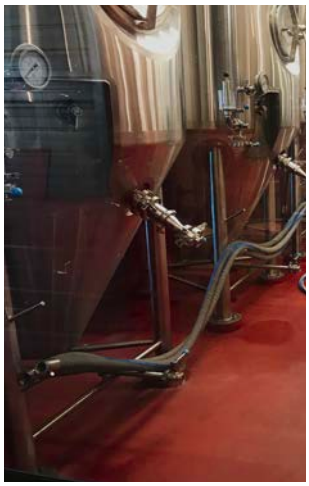
New Zealand Dairy Processors Ltd is now exporting up to 130,000 litres of UHT milk per day to Hong Kong and China from their new Tauranga factory. To meet the factory's strict food hygiene and project timeline requirements, high performance Sikafloor PurCem flooring was used throughout the plant.

The Sika PurCem flooring was applied over new 300mm thick concrete floor slabs that were only 7 days old. Many flooring systems would require the floor slab to be minimum 28 days old. New Zealand Specialised Coatings Ltd applied approximately 2000m² of Sika flooring to wet processing, packing, chemical makeup areas and storage locations throughout the plant.

IN RESIDENCE LIMITED - THE FOUNDATION DESIGN CENTRE

Exceptional design, quality and functionality were the key requirements for the floor selection process for In Residence Ltd in The Foundation Design Centre in Parnell, Auckland. In Residence is a family owned business dedicated to providing the world's best tapware, bathroom accessories, and bathroomware to home owners and commercial projects. When they moved to a bigger showroom in The Foundation Design Centre in Parnell, Auckland, the same principles were used for choosing a showroom floor finish in keeping with their high quality, luxurious products.

Sikafloor-81 EpoCem was used as a temporary moisture barrier, followed by Sikafloor-150 to prime the floor. Sikafloor-264 was used to create the stunning black perfect finish to offset the chrome, brassware, and porcelain on.



LITTLE CREATURES - FOOD MANUFACTURING

The client required a robust, non-slip, hygienic, food grade, seamless, easy clean, flooring system. As the manufacturing facility can be viewed by the public, it was essential that the flooring system also be decorative as well as highly functional.
Coving was required up the block walls to a height of 100cm to ensure a seamless, easy clean surface. Little Creatures is a popular "open plan" craft brewery and restaurant so the brewing area floor is visible to the public. The aesthetics of the finished floor were therefore an important consideration too.

The addition of Sika Extender T allowed the product to be applied vertically up the walls to the required 100cm to create seamless coving.
Red is also the colour of the Little Creatures logo. Sika PurCem was supplied in a Red Oxide colour which while mirroring the operation's logo also gave an attractive contrast to the stainless steel and aluminum of the brewing machinery.

WHO WE ARE

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

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BUILDING TRUST