BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor®-269 ECF CR

DESCRIPTION

Sikafloor®-269 ECF CR is a two part, total solid, electrostatic conductive, low particle and ultra-low VOC/AMC emission, self-smoothing epoxy resin for floor covering designed for cleanroom environments. "Total solid epoxy composition acc. to the test method Deutsche Bauchemie e.V. (German Association for construction chemicals)". Sikafloor®-269 ECF CR is the main wearing course of the Sikafloor® Multidur ES-28 ECF/EQ System.

USES

Sikafloor®-269 ECF CR may only be used by experienced professionals.

- Especially designed for the use in cleanroom environments, where ultra-low VOC/AMC and particle emissions are mandatory, such as optical goods, medical or space industry.
- Also suitable as a hard wearing course for many industries, such as automotive, pharmaceutical, storage facilities and warehouses.

CHARACTERISTICS / ADVANTAGES

- Ultra-low VOC/AMC emissions
- Low particle emissions
- Organo phosphate and phthalate free
- Good chemical and mechanical resistance
- Electrostatic conductive system
- Easy to clean
- Economical
- Liquid proof
- Total solid
- Gloss finish

ENVIRONMENTAL INFORMATION

LEED Rating
Sikafloor®-269 ECF CR conforms to the requirements of LEED EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings SCAQMD Method 304-91 VOC Content < 100 g/l.

APPROVALS / STANDARDS

- Synthetic resin screed material according to EN 13813:2002, Declaration of Performance 02 08 01 02 045 0 000008 2017, certified by Factory Production Control Body No. 0921, certificate 2017, and provided with the CE marking
- Coating for surface protection of concrete according to EN 1504-2:2004, Declaration of Performance 02 08 01 02 045 0 000008 2017, certified by Factory Production Control Body No. 0921, certificate 2017, and provided with the CE marking
- Particle emission certificate Sikafloor®-269 ECF CR CSM Statement of Qualification - ISO 14644-1, class 4 - Report No. SI 0908-494 and GMP class A, Report No. SI1008-533.
- Outgassing emission certificate Sikafloor-269 ECF CR: CSM Statement of Qualification - ISO 14644-8, class - 9.6 - Report No. SI 0908-494.
- Biological Resistance in accordance with ISO 846, CSM Report No. SI 1008-533.
- Fire classification in accordance with EN 13501-1, Report-No. 2009-1823 K1, Bodycoat Frankfurt, Germany, August 2009.
- Outgassing Datasheet Sikafloor®-269 ECF CR (+90°C), M+W Group, 13.05.2009.

PRODUCT INFORMATION

Chemical Base	Epoxy		
Packaging	Part A	24,9 kg containers	
	Part B	5,1 kg containers	
	Part A+B	30 kg ready to mix units	
Appearance / Colour	Resin - part A	coloured, liquid	
	Hardener - part B	transparent, liquid	
	Almost unlimited choice of colour shades. Due to the nature of carbon fibres providing the conductivity, it is not possible to achieve exact colour matching. With very bright colours (such as yellow and orange), this effect is increased. Under direct sun light there may be some discolouration and colour variation, this has no influence on the function and performance of the coating.		
Shelf Life	24 months from date of production		
Storage Conditions	The packaging must be stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5°C and +30°C.		
Density	Part A	~ 1.7 kg/l	(DIN EN ISO 2811-1)
	Part B	~ 1.0 kg/l	
	Mixed resin	~ 1.5 kg/l	
	All Density values at +23°C		
Solid content by weight	~100 %		
Solid content by volume	~100 %		

TECHNICAL INFORMATION

Shore D Hardness	~84 (14 days / +23°C)	(DIN 53 505)
Abrasion Resistance	Resin (filled): ~ 50 mg (CS 10/1000/1000) (14 days / +23°C)	(EN ISO 5470-1 (Taber Abraser Test))
Compressive Strength	Resin (filled with Sikafloor® Filler 1): ~ 100 N/mm² (28 days/+23°C)	(EN 13892-2)
Tensile Strength in Flexure	Resin (filled with Sikafloor® Filler 1): ~ 44 N/mm² (28 days/+23°C)	(EN 13892-2)
Tensile Adhesion Strength	> 1.5 N/mm² (failure in concrete)	(ISO 4624)
Chemical Resistance	Resistant to many chemicals. Please contact Sika technical service.	
Thermal Resistance	**Exposure***	**Dry heat**
	Short-term max. 7 d	+50°C
	Short-term moist/wet heat* up to +80°C where exposure is only occasional (i.e. during steam cleaning etc.) *No simultaneous chemical and mechanical exposure.	
Electrostatic Behaviour	Resistance to ground[1)]	$R_g < 10^9$ Ω (IEC 61340-4-1) (DIN EN 1081)
	Typical average resistance to ground[2)]	$R_g < 10^6$ Ω
	[1)] This product fulfils the requirements of ATEX 137 [2)] Readings may vary, depending on ambient conditions (i.e. temperature, humidity) and measurement equipment.	

SYSTEM INFORMATION

Systems	Please refer to the System Data Sheet of:
	Sikafloor® Multidur ES-28 ECF/EQ — Smooth, unicolour Clean Room certified conductive Epoxy Floor Covering

APPLICATION INFORMATION

Mixing Ratio	Part A : part B = 83: 17 (by weight)
Consumption	Self-smoothing wearing course (Film thickness ~ 1.5 mm) — Sikafloor®-269 ECF CR filled with Sikadur® 501 IN — Maximum 2.0 kg/m² Binder + Sikadur® 501 IN. Depending on the temperature the filling grade varies from: 1 : 0.1 pbw (1.8 + 0.2 kg/m²) 1 : 0.2 pbw (1.6 + 0.4 kg/m²)
	These figures are theoretical and does not allow for any additional material required due to surface porosity, surface profile, variations in level and wastage etc. For further details please refer to the system related System Data Sheet.
Ambient Air Temperature	+15°C min. / +30°C max.
Relative Air Humidity	80% r.h. max.
Dew Point	Beware of condensation! The substrate and uncured floor must be at least 3°C above dew point to reduce the risk of condensation or blooming on the floor finish.
Substrate Temperature	+15°C min. / +30°C max.
Substrate Moisture Content	< 4% pbw moisture content. Test method: Sika®-Tramex meter, CM-measurement or Oven-dry-method. No rising moisture according to ASTM (Polyethylene-sheet).

Pot Life

Temperatures	Time
+15°C	~ 45 minutes
+20°C	~ 30 minutes
+30°C	~ 15 minutes

Applied Product Ready for Use

Temperature	Foot traffic	Light traffic	Full cure
+15°C	~ 72 hours	~ 7 days	~ 21 days
+20°C	~ 48 hours	~ 4 days	~ 7 days
+30°C	~ 24 hours	~ 2 days	~ 5 days

Note: Times are approximate and will be affected by changing ambient conditions.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

The concrete substrate must be sound and of sufficient compressive strength (minimum 25 N/mm²) with a minimum pull off strength of 1.5 N/mm².
The substrate must be clean, dry and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc. If in doubt apply a test area first.
Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open textured surface.
Weak concrete must be removed and surface defects such as blowholes and voids must be fully exposed.
Repairs to the substrate, filling of blowholes/voids and surface levelling can be carried out using appropriate products from the Sikafloor®, Sikadur® and Sikagard® range of materials.
The concrete or screed substrate has to be primed or levelled in order to achieve an even surface. High spots must be removed by e.g. grinding. All dust, loose and friable material must be completely removed from all surfaces before application of the product, preferably by brush and/or vacuum.

MIXING

Prior to mixing, stir part A mechanically. When all of part B has been added to part A, mix continuously for 2 minutes until a uniform mix has been achieved. When parts A and B have been mixed, add Sikadur® 501 IN and mix for a further 2 minutes until a uniform mix has been achieved. To ensure thorough mixing pour materials into another container and mix again to achieve a consistent mix. Over mixing must be avoided to minimise air entrainment. Sikafloor®-269 ECF CR must be thoroughly mixed using a low speed electric stirrer (300 - 400 rpm) or other suitable equipment.

APPLICATION

Sikafloor®-269 ECF CR is poured, spread evenly by means of a serrated trowel e.g. Large-Surface Scraper No. 656, Toothed blades No. 25 (www.polyplan.com). After spreading the material evenly, turn the serrated trowel and smooth the surface in order to achieve an aesthetically higher grade of finish. Roll immediately (within max. 10 minutes of application) in two directions with a steel spiked roller to ensure even thickness and to remove entrapped air. To obtain the highest level of aesthetic finish, spike roll in two directions at a 90 degree angle, passing only once in each direction.

CLEANING OF TOOLS

Clean all tools and application equipment with Thinner C immediately after use. Hardened and/or cured material can only be removed mechanically.

MAINTENANCE

To maintain the appearance of the floor after application, Sikafloor®-269 ECF CR must have all spillages removed immediately and must be regularly cleaned using rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and vacuum techniques etc. using suitable detergents and waxes. For further details please refer to the Method Statement "Cleaning & Maintenance of Sikafloor® Systems".

FURTHER DOCUMENTS

Substrate quality & Preparation
Please refer to Sika Method Statement: “EVALUATION AND PREPARATION OF SURFACES FOR FLOORING SYSTEMS”.
Application instructions
Please refer to Sika Method Statement: “MIXING & APPLICATION OF FLOORING SYSTEMS”.
Maintenance
Please refer to “Sikafloor®- CLEANING REGIME”.

LIMITATIONS

- All values have been determined using Sikafloor® Filler 1. Other quartz sand type will have an effect on the product, such as filling grade, levelling properties and aesthetics. Generally, the lower the temperature the less the filling grade.
- Prior to application, confirm substrate moisture content, relative air humidity and dew point. If > 4% pbw moisture content, Sikafloor® EpoCem® may be applied as a T.M.B. (temporary moisture barrier) system.
- Levelling: Rough surfaces need to be levelled first because varying thickness of the Sikafloor®-269 ECF CR wearing course will influence the conductivity and aesthetical appearance. Therefore use Sikafloor®-161HC levelling mortar (see PDS).
- Do not apply Sikafloor®-269 ECF CR on substrates with rising moisture
- Do not blind the primer.
- Freshly applied Sikafloor®-269 ECF CR must be protected from damp, condensation and water for at least 24 hours.
- Layer thickness of wearing course: ~1.2 mm. Excessive thickness (more than 2.0 kg/m²) causes reduced conductivity.
- Before the application of a conductive flooring system, a reference area has to be applied. This reference area must be assessed and accepted from the contractor/client.
- Under certain conditions, underfloor heating combined with high point loading, may lead to imprints in the resin.
- If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO_2 and H_2O water vapour, which may adversely affect the finish.
- For heating use only electric powered warm air blower systems.The incorrect assessment and treatment of cracks may lead to a reduced service life and reflective cracking - reducing or breaking conductivity.
- For exact colour matching, ensure the Sikafloor®-269 ECF CR in each area is applied from the same control batch numbers.

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / j type sb) is 500 g/l (Limits 2010) for the ready to use product.
The maximum content of Sikafloor®-269 ECF CR is < 500 g/l VOC for the ready to use product.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

Sika India Pvt. Ltd.
620, Diamond Harbour Road
Commercial Complex II
Kolkata - 700 034
Tel : +91 33 24472448
Fax : +91 33 23978688
Mail : info.india@in.sika.com