

Sikagard®-63 N

2-part epoxy protective coating

Product Description

Sikagard-63N is a two component solvent-free high build thixotropic protective coating based on epoxy resin. When cured Sikagard-63N provides a hard, glossy film with high resistance to abrasion and chemical attack.

Uses

- Sikagard-63N is used as a heavy-duty abrasion resistant high build coating material, designed for high resistance against corrosion, weathering and moderate to severe chemical attack.
- Sikagard-63N is suitable for use on concrete, epoxy mortars, epoxy cements, sandblasted iron, steel, aluminium, non-polymer modified cementitious mortars and renders.
- Sikagard-63N can be applied as a protective coating for silos, storage tanks, pipes, tunnels and galleries. Also in laundries, factories, chemical process areas, sewage treatment works, dairies etc., as an impervious chemical resistant coating for floors and walls.

Characteristics / Advantages

- Excellent chemical resistance (including 98% sulphuric acid).
- Preventing biogenic corrosion
- High abrasion resistance.
- Excellent adhesion to most building materials.
- Excellent mechanical strengths.
- Protective and decorative.
- Easy for cleaning and graffiti removal.

Product Data

Form Liquid thixotropic epoxy resin

Colours Pebble Grey (RAL 7032)
Other colours available on request.

Packaging Pre proportioned 10 kg kit Part A : 8.7 kg
Part B : 1.3 kg

Storage Conditions/ Shelf-Life Stored in the original containers within the temperature range of +5°C to +35°C, this product will keep for a minimum of two (2) years.

Construction



Technical Data

Density	1.35 kg / litre	
Adhesive strength (DIN 53232)	To dry concrete	> 1.5 MPa approx.*
	To sandblasted steel	> 24 MPa approx.
	To aluminium	>16 MPa approx.
	<i>*failure in concrete</i>	

Resistance

Chemical Resistance Sikagard-63N was submerged in 98% sulphuric acid with the following results.

Time	Weight loss	Colour	Shore A Hardness
Initial	-	Gloss grey	88
1-day	0.2g	Matt grey	88
8-day	0.3g	Matt grey	88
6-months	0.7g	Matt grey	86

Application Details

Consumption coverage 0.3 – 1.0 kg/m² per coat depending on method of application, temperature, and surface texture, at the recommended film thickness per coat. Normally 2-3 coats.

Substrate Preparation The substrate must be sound, dry, free from dust and any surface contaminants (eg. oil, grease, fats, chemicals, rust, paint, form release and curing membrane residues etc.). Blow holes or irregularities should be filled and the substrate levelled with appropriate Sikafloor or Sikadur mortars prior to application of Sikagard-63N. This is essential in all areas of contained liquids or water.

Pre-seal the surface of porous and/or damp substrates with Sikagard-720 EpoCem. This is a very fine fairing mortar formulated on a hybrid epoxy resin/cementitious base. Sikagard-720 EpoCem should be applied in conditions of falling substrate temperature to avoid the formation of pin holes, blow holes or drumminess caused by expanding air in the porous substrate.

Cementitious materials other than EpoCem should be at least 4 weeks old and should be prepared by mechanically wire-brushing, acid etching, scarifying, abrasive blasting or high pressure waterblasting.

Application Conditions / Limitations

Application Temperature Minimum 8°C, Maximum 30°C

Maximum overcoat period 48 hours @ 20°C

Film thickness per coat 200 to 660 microns

Coefficient of thermal expansion 7.5 x 10⁻⁵ mm/m/°C approx.

(-10°C to +40°C)

Application Instructions

Mixing Sikagard-63N is supplied in pre-weighted containers. Mix all of Part B with all of Part A and the pigment pack in the large container using a low speed drill and windmill stirrer (max. 600 rpm).
Mix until no streaks of colour are visible (about 3 to 5 minutes). Mix so as not to entrap too much air in the product. Use immediately. Application is made easier if materials are stored at between 15°C to 23°C for 24 hours prior to mixing.

Application Method / Tools	<p>Sikagard-63N may be applied by brush, roller or spatula. Apply at least the first coat to porous substrates when the substrate temperature is falling. Ideally, start the coating application at sunset. The air in the substrate pores will be contracting then and will physically suck the coating into the pores and cracks enhancing the penetration and sealing function of the coating.</p> <p>Apply a minimum of two coats (three coats for chemical and high mechanical resistance). Ideally, use differing colours on each coat to enable easier application and site control. Recoating should occur when the previous coat can still be clearly pressed in with a fingernail. If recoating cannot be carried out within 48 hours, roughen surface with glass paper, wipe with Sika Colma Cleaner and recoat without delay.</p>			
Cleaning of Tools	<p>Uncured material may be cleaned from application tools, etc. by using Sika Colma Cleaner (flammable solvent). Cured material can only be removed mechanically.</p>			
Curing Details				
Maximum relative humidity during cure	85%			
Approximate cure times		30°C	20°C	10°C
	Repaintable after	3 hours	5 hours	9 hours
	Walkable after	8 hours	10 hours	16 hours
	Full chemical resistant cure	7 days	9 days	15 days
Potlife (10kg mix)	15 minutes approx. @ 20°C	- at higher temperatures potlife is reduced - at lower temperatures potlife is extended.		
	Refer 'Important Notes'			

Chemical Resistance to other common materials

(3 coats on steel sheet – 500 microns approximately)

Test medium	Test temp °C	Exposure Period and Performance Rating					
		1 day	7 days	30 days	2 mths	6 mths	12 mths
Acetic acid 20%	20	A	A	A	A	AD	C
	40	A	A	A	AD	C	-
Ethyl Acetate	20	A	B	C	-	-	-
Acetone	20	A	C	-	-	-	-
Ammonia 10%	20	A	A	A	A	A	A
	40	A	A	A	A	A	AD
Caustic Soda 30%	20	A	A	A	A	A	A
Cement Water	20	A	A	A	A	A	AD
	40	A	A	A	A	A	BD
Citric Acid 20%	20	A	A	A	A	AD	AD
	40	A	A	AD	AD	AD	AD
Detergents (e.g. liquid "Ajax")	20	A	A	A	A	A	A
	40	A	A	A	A	AD	AD
Distilled water	20	A	A	A	A	A	A
	40	A	A	A	A	A	AD
	60	A	A	A	BD	BD	BD
Ethanol	20	A	A	A	B	C	-
	40	A	B	C	-	-	-
Ethanol/Water 60:40	20	A	A	A	A	A	A
Formic acid 10%	20	A	A	A	A	A	B
Fuel oil (EMPA)	20	A	A	A	A	A	A
	40	A	A	A	A	A	A
	60	A	A	A	A	A	A
Hydraulic fluids (eg. "Acrosafe", "Skydrol")	20	A	A	A	A	A	A
	40	A	A	A	A	B	C
Hydrochloric acid 10%	20	A	A	A	A	A	A
Hydrochloric acid, concentrated	20	A	AD	AD	AD	AD	AD
	40	AD	AD	AD	BD	C	-
Hydrogen peroxide 5%	A	A	A	A	A	B	B
Iron (III) chloride sol. 35%	20	A	A	AD	AD	AD	AD
	40	A	A	AD	AD	AD	AD
Iron (II) sulphate sol. 35%	20	A	AD	AD	AD	AD	AD
	40	A	AD	AD	AD	AD	AD
Sodium Hypochlorite 14% Cl	20	A	A	AD	BD	BD	C
Kerosene	20	A	A	A	A	A	A
	40	A	A	A	A	A	A
Lactic acid 20%	20	A	A	A	AD	BD	C
	40	A	A	AD	C	-	-
Liquid manure	20	A	A	A	A	A	AD
	40	A	A	A	AD	AD	AD

**Chemical Resistance
(continued)**

(3 coats on steel sheet – 500 microns approximately)

Test medium	Test temp °C	Exposure Period and Performance Rating					
		1 day	7 days	30 days	2 mths	6 mths	12 mths
Liquid silage	20	A	A	A	AD	AD	AD
	40	A	A	AD	BD	BD	BD
Methyl ethyl ketone MEK	20	A	C	-	-	-	-
	40	AD	AD	C	-	-	-
Nitric acid 20%	20	AD	AD	AD	C	-	-
	40	AD	AD	C	-	-	-
Oxalic acid 10%	20	A	A	AD	AD	BD	C
	40	A	AD	AD	C	-	-
Phosphoric acid 40%	20	A	AD	AD	BD	BD	C
	40	AD	AD	BD	C	-	-
Postassium permanganate 10%	20	A	A	B	C	-	-
Red Wine	20	A	A	A	A	A	A
Sodium Carbonate Solution (saturated)	20	A	A	A	A	A	A
	40	A	A	A	A	A	A
Sodium Chloride Solution (saturated)	20	A	A	A	A	A	A
	40	A	A	A	A	A	A
Sodium Sulphite Solution (saturated)	20	A	A	A	A	A	A
	40	A	A	A	A	A	A
Styrene	20	A	A	A	A	A	B
Sulphuric Acid 50%	20	AD	AD	AD	AD	AD	AD
	40	AD	AD	AD	AD	AD	AD
Sulphurous Acid 5%	20	A	A	AD	AD	AD	BD
	40	A	AD	AD	AD	AD	BD
Tartaric Acid 20%	20	A	A	A	A	A	A
Toluene	20	A	A	B	B	B	B
	40	A	A	B	B	B	C
Trichloroethylene	20	A	B	C	-	-	-
Water	20	A	A	A	A	A	A
	40	A	A	A	A	A	A
	60	A	A	A	B	B	B
White wine	20	A	A	A	A	A	A

For information about resistance to other media, please consult our Technical Department.

A = resistant to prolonged contact

B = temporarily resistant

C = breakdown of coating

D = discolouration of coating

Important Notes

- Do not dilute the product as this will affect in-service performance. Thinners or solvents must not be used.
- For application in damp conditions please consult our Technical Department for further information.
- Do not part mix containers.
- Do not mix and apply product that has a temperature of greater than 30°C. If applying at higher than 30°C, as soon as the Sikagard-63N is mixed transfer the container into an esky containing ice to just below the rim of the container, then apply the Sikagard-63N from the open container in the esky.
- The temperature at which the Sikagard-63N is stored at during the 24 hours before it is mixed will govern its potlife when mixed.
- If the temperature of a porous substrate (which includes the vast majority of concrete) is rising, ie. is in direct sunlight prior to late afternoon, the air in the pores and cracks is expanding and if a wet coating is placed over such a substrate the expanding air will blow bubbles in the coating and prevent the liquid coating penetrating the substrate pores and cracks etc. Prior to the coating reaching the gel phase the bubbles will burst and leave "pin holes" in the coating, whereas when in the gel phase bubbles will be "frozen" into the cured coating. These bubbles will be a weak point in the coating as their wall thickness will be less than the applied film thickness on the substrate.
- To avoid unsightly water spotting do not apply Sikagard-63N when ambient temperature will reach "dew point" before the coating has cured.
- Similarly do not allow water to contact Sikagard-63N that is not seven (7) days old @ 20°C or older at lower temperatures since it will mark the coating.
- If the moisture content of concrete is more than 4%, use EpoCem as a temporary moisture barrier.
- Can be used over Sika Monotop repair mortars
- Maximum time between coats is 48 hours without needing abrasion.
- Exposure to sunlight or UV radiation can result in discolouration and slight chalking. This will have no adverse effect on the protective function of the coating.

Please consult our Technical Department for further information.

Health and Safety Information

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

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.



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