Product Data Sheet Edition 19/07/2012 Identification no: 020602000310000047 SikaCor® VEL

SikaCor[®] VEL

Conductive Vinylester Laminate system

Product Description	 SikaCor® VEL is a glass fibre reinforced, 2-pack vinylester based coating system and an inert powder: SikaCor[®] VEL primary screed SikaCor[®] VEL laminate SikaCor[®] VEL top coat SikaCor[®] VEL Primer 	
Uses	SikaCor® VEL is suited for sealing reinforced concrete receiving vats and chambers, indoors or outdoors, or for steel tanks for the storage of aggressive liquids (e.g. concentrate acids, leaches and solvents). SikaCor® VEL is also suitable as a coating system to be driven on directly by vehicles with pneumatic tyres or with tyres of solid rubber, Vulkollan or polyamide, e.g. in electroplating works, pickling plants, and in plants where oxidising materials are manufactured, treated or used.	
Characteristics / Advantages	Wide range of chemical resistance to acids, leachates, solvents and notably to oxidising and flammable substances Crack bridging Conductive Trafficable Rapid hardening	

Product Data

Form

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Appearance / Colours	SikaCor® VE (solution conductive), Dark Grey	RAL7031
	SikaCor® VE (solution), Pebble Grey	RAL7032
	SikaCor® VE (solution), Yellow glaze	
	SikaCor® VE (hardener)	Yellowish transparent
	SikaCor® VE Carbon (Powder)	Black

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Packaging			
	SikaCor® VE (solution)	25kg and 180kg drums	
	SikaCor® VE (hardener)	1kg plastic bottle	
	SikaCor® VE Carbon(powder)	25kg bags	
	Glass Fibre matting (450 g/m ²	²) 35kg (1.3m x 60m)	
	SikaCor surface fleece (27g/m	²) 2.7kg (1m x 100m)	
Storage			
Storage Conditions/	SikaCor® VE (solution)	3 months	
	SikaCor® VE (hardener)	6 months	
	SikaCor® VE Carbon(powder)	24 months	
	(P)		
Technical Data			
Chemical Base	SikaCor® VE (solution)	Vinvlester resin	
	SikaCor® VE (Soldion)		
	SikaCor® VE (Tarbon(nowder)	Carbon	
		Carbon	
Density			
	SikaCor® VE (solution) yellow	isn transparent ~1.1 g/cm 4.4 m/sm^3	
	SikaCor® VE (nardener)	\sim 1.1 g/cm	
	SikaCor® VE (powder)	~0.54 g/cm (bu	ik density)
	SikaCor® VE (conductive solu	tion) $\sim 1.26 \text{ g/cm}^3$	
<u> </u>	SikaCor® VE (conductive solu	tion) RAL/032 ~1.34 g/cm	
Crack Bridging	Up to max. 0.2mm		
Crack Resistance Acc to ISO 527	~ 73 N/mm ² (horizontally in the	e layer)	
Electrical resistance	<u><</u> 1 x 10 ⁸		
Mechanical / Physical Properties			
Bond Strength	Substrate:		
	Concrete: > 1.5 N/m Steel (SA 2.5): > 15 N/m Aluminum: > 10 N/m	m² (failure in concrete) m² m²	(DIN EN 13892-8) (DIN EN 24624) (DIN EN 24624)
Resistance			
Chemical Resistance	According to the approval of th approval number Z-59.12-69 fo 5b, 6, 6b, 7, 7a, 7b, 8, 9, 9a, 1	ne DIBt (German Institute of Build or test groups 1, 1a, 2, 3, 3a, 3b, 0, 11, 12, 13, 14, 15 and 15a	ing Technology), 4, 4a, 4b, 4c, 5, 5a,
	Additonal building inspectorateHydrochloric Acid \leq 37%Sulfuric Acid \leq 70%Nitric acid \leq 65%Aqueos Sodium hypochlorite (Hydrogen peroxide \leq 30%Chromic Acid \leq 50%Note: In particular cases discothe chemical resistance itself. TEMPERATURE RESISTANC Dry HeatUp to approx +Damp heatDepending on c	e approval for the following mater 12% active chlorine) loration of medium may occur. Th CE 100°C hemical exposure on request	ials: nis does not effect
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System Information

Information		
System Structure	Primary Screed:	
	SikaCor® VE (solution)	(100 parts)
	SikaCor® VE (hardener)	(1.5 parts)
	SikaCor® VE (powder)	(80 parts)
	Laminate:	
	SikaCor® VE (solution)	(100 parts)
	SikaCor® VE (hardener)	(1.5 parts)
	Topcoat	
	SikaCor® VE (solution)	(100 parts)
	SikaCor® VE (hardener)	(1.0 parts)

Application Details

Substrate Quality

Consumption / Dosage

Primary Screed	Product	Consumption
Solution	SikaCor® VE (solution)	~ 1kg/m²
Hardener	SikaCor® VE (hardener)	~ 0.015kg/m²
Powder	SikaCor® VE (powder)	~ 0.8kg/m²
Primary Screed	SikaCor® VE Screed	~ 0.7 -1.5kg/m²

Laminate	Product	Consumption
Solution	SikaCor® VE (solution)	~ 1.074kg/m²
Hardener	SikaCor® VE (hardener)	~ 0.016kg/m²
Laminate	SikaCor® VEL	~2.5kg/m²

Topcoat non-conductive	Product	Consumption
Solution	SikaCor® VE (solution)	~ 1.2kg/m²
Hardener	SikaCor® VE (hardener)	~ 0.012kg/m²
Topcoat	SikaCor® VEL	~0.3kg/m²

Topcoat conductive	Product	Consumption
Solution	SikaCor® VE (solution)	~ 1.3kg/m²
Hardener	SikaCor® VE (hardener)	~ 0.013kg/m²
Topcoat	SikaCor® VEL	~0.3kg/m²

These figures are theoretical and do not allow for any additional material due to surface porosity, surface profile ,variations in level and wastage etc.

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: Cleaning of the surface by shot-blasting, pressure blasting or milling (after milling shot-blasting is necessary). The surface must be dry, firm, fing gripping, free trom loose and frable particles, motar latance, dust and other contarninations. Residual moisture content not above 4% acc. to CM. The average value of surface tensite schemically contaminated surfaces, additional adequate cleaning mitches are not particle and the subject to the provisions of watter resources law may only be coaled by qualified coaling firms possessing carificates of capability. Sitel: Blast cleaning to Sa 2 ½ according to ISO 12944, part 4. Substrate Temperature +5°C min, /+30 °C max. Ambient Temperature +5°C min, /+30 °C max. Substrate Moisture 50% r.h. max. (temperature 2 3 K above the dew point) Dew Point Beware of condensation! The substrate and uncured coating must be at least 3°C above dew point to reduce the risk of condensation of blooming on the coaling surface. Application Instructions Fill SikaCor® VE solution in a container and add SikaCor® VE hardener at the specified mixing ratio. Sift thoroughly until a homogeneous compound is obtained. Then fill into a clean container to stir up again. Add powder according application and required mixing ratio. Sift thoroughly until a homogeneous control vel. Application Method / Tools Troweling, laminating, rolling = undiluted Primary acceeding: SikaCor® VEL binding material is first rolled onto the hardened SikaCor0 VEL Primary screed with a biof-andor rolide with SikaCor® VEL bi	Substrate Preparation	
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Primary screeding: SikaCor® VEL primary screeding should be applied with smoothing trowel. Laminate: SikaCor® VEL binding material is first rolled onto the hardened SikaCor® VEL Primary screed with a pile-fabric roller. Glass fibre matting (Vetrotex M 113 or Advantex M 113) with a mass per unit area of 450 g/m ² is then immediately laid on, pressed in with the roller and simultaneously saturated with SikaCor® VEL binding material. A 2 nd layer of the same glass fibre matting is laid on top of the 1 _{st} layer, thoroughly soaked, matting layer, pressed down in the same way with the roller, and saturated with SikaCor® VEL binding material. Finally the 2 nd layer of glass fibre matting is covered by a layer of surface matting (approx. 30 g/m ²) pressed in with a laminating roller and rolled out ensuring that any air that has become included is completely expelled. Top coat: In order to discharge static electricity, conductive tapes / braids are glued on to the SikaCor® laminating layer, joined to the equipotential connection, and covered with the top coat SikaCor® VE Lösung leitfähig (solution conductive). Repeat application after 3 - 5 hours after curing of the first top coat. Alternatively to the conductive top coat you can apply SikaCor® VE Lösung RAL 7032 (solution RAL 7032) as non-conductive top coat. Non slip characters: To improve the non-slip characteristic the 2 _{nd} coating may be broadcasted with carbon silicide (0.5 mm). Needed quantity is about 0.5 kg/m ² . Clean all tools and application equipment with Acetone immediately after use.	Application Method / Tools	Troweling, laminating, rolling = undiluted
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	Cleaning of Tools	Clean all tools and application equipment with Acetone immediately after use.

Potlife

~30 min

Waiting Time /
Overcoating

Before applying SikaCor[®] VEL:

Screed	Walkable	Overcoatable
+20°C	2 hours	16 days
Laminate		
+10°C	12 hours	12 hours
+20°C	2 hours	2 hours
Topcoat		
+10°C	12 hours	12 hours
+20°C	2 hours	2 hours

Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity. Notes on Application / Provide a good and sufficient ventilation during application! Limitations Water, even in minimal quantities, may damage the accelerating system and stop the hardening process of the laminate resin. Keep tools and mixers absolutely dry Value Base 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. Please note that as a result of specific local regulations the performance of this product Local Restrictions may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields. For information and advice on the safe handling, storage and disposal of chemical Health and Safety products, users shall refer to the most recent Material Safety Data Sheet containing Information physical, ecological, toxicological and other safety-related data. Legal Notes





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SikaCor® VEL