

## PRODUCT INFORMATION

### ESKANOL VE-L

#### PRODUCT DESCRIPTION

**ESKANOL VE-L** is a fibreglass mat reinforced, conductive laminate lining based on vinyl ester resin. **ESKANOL VE-L** can cover cracks up to 0.5 mm according to DIBt (German Institute for Construction Technology) guidelines.

#### COATING LAYERS CONSUMPTION

The laminate lining consists of the two-component primer **ESKANOL EF PRIMER** or alternatively the **ESKANOL EF-450H PRIMER**, the two-component **ESKANOL VE** lamination coat reinforced with two layers of 300 or 450 g/m<sup>2</sup> fibreglass mats and the two-component topcoat **ESKANOL VE CONDUCTIVE**. The overall dry film thickness is built up depending on the present chemical and thermal loads and can be up to approx. 2.5 mm.

#### FIELDS OF APPLICATION

The laminate system **ESKANOL VE-L** is designed for the protection of concrete components, sumps, and collecting basins against organic and inorganic acids, oxidizing acids, lye and vast majority of the organic solvents.

#### APPROVALS

**ESKANOL VE-L** is approved (**Z-59.12-416**) by the German Institute of Construction Technology (DIBt) for sumps, pits, collecting basins and reinforced concrete surfaces.

#### FEATURES

- Resistance to continuous operating temperatures up to +80°C (liquids)
- Excellent chemical resistance
- Outstanding adhesion to concrete
- Excellent mechanical properties
- Good crack-bridging properties. Can cover cracks up to 0.5 mm
- Can be applied on surfaces with a residual moisture of ≤10%
- Good conductivity

#### CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

#### SUBSTRATE

Substrates are components made of concrete, screed or plaster. Components to be coated shall be designed and manufactured in accordance with EN 14879-1. In addition, DIN 1045 must also be observed.

#### SURFACE PRE-TREATMENT

Appropriate action shall be taken to prepare the concrete surfaces; dry and free of dust and free of contaminants such as oil or grease. The concrete shall have minimum tensile strength of 1.5 N/mm<sup>2</sup> and minimum compressive strength of 25 N/mm<sup>2</sup>. The residual moisture in the concrete shall not exceed 4% when using **ESKANOL EF PRIMER**. At a residual moisture of ≤ 10% **ESKANOL EF-450H PRIMER** must be used.

#### ENVIRONMENTAL CONDITIONS

Throughout the coating process, the temperatures of the substrate and coating materials shall be maintained within the range specified by SKO. All surfaces shall be maintained at a temperature at least 3K above the dew point in order to prevent condensation.

#### APPLICATION

Before the application of the product, the application instruction must always be observed.

The **ESKANOL VE** laminate layer is rolled onto the primed surface and the first fibreglass mat is immediately placed, soaked with resin solution and pressed onto the substrate with lamination rollers. The second fibreglass mat is placed onto the uncured layer, soaked with the resin solution and also pressed with a lamination roller.

Then the **ESKANOL VE CONDUCTIVE** layer is rolled blister-free. Finally, the conductive top layer is applied on the top.

**Note:** During application, the lined surface should be shaded from direct or indirect sunlight whenever possible.

#### MIXING RATIO

Primer for surfaces with residual moisture of < 4%:

ESKANOL EF PRIMER	Parts by Weight	Parts by Volume
ESKANOL EF PRIMER	100	2.00
ESKANOL EF HARDENER	55	1.20

Primer for surfaces with residual moisture of ≤ 10%:

ESKANOL EF-450H PRIMER*	Parts by Weight	Parts by Volume
ESKANOL EF PRIMER	100	2.00
ESKANOL E-450H	60	1.20

\* Must be used for DIBt Approval

Laminate Layer	Parts by Weight	Parts by Volume
ESKANOL VE-SOLUTION 350	100	3.0
ESKANOL M50 HARDENER	2	0.06

Black Topcoat (conductive)	Parts by Weight	Parts by Volume
ESKANOL VE CONDUCTIVE	100	3.0
ESKANOL M50 HARDENER	2	0.06

\* Must be used for DIBt Approval

Gray Topcoat (conductive)	Parts by Weight	Parts by Volume
ESKANOL VE CONDUCTIVE GRAY	100	4,0
ESKANOL M50 HARDENER	2	0,09

## ESKANOL VE-L

### CONSUMPTION

Layer	Product	Coverage [g/m <sup>2</sup> ]
Primer	ESKANOL EF PRIMER or ESKANOL EF-450H PRIMER	ca. 300
Laminate layer**	ESKANOL VE SOLUTION 350	ca. 2500
	2 x fibreglass mat 300 g/m <sup>2</sup> *	ca. 660
Black Topcoat	ESKANOL VE CONDUCTIVE	ca. 500
Gray Topcoat	ESKANOL VE CONDUCTIVE GRAY	ca. 500

\* For DIBt approval, the 300 g/m<sup>2</sup> ECR glass mat and the black topcoat must be used.

\*\* Crack bridging up to 0.3 mm

Layer	Product	Coverage [g/m <sup>2</sup> ]
Primer	ESKANOL EF PRIMER or ESKANOL EF-450H PRIMER	ca. 300
Laminate layer***	ESKANOL VE SOLUTION 350	ca. 2900
	2 x fibreglass mat 450 g/m <sup>2</sup> *	ca. 1000
Black Topcoat	ESKANOL VE CONDUCTIVE	ca. 500
Gray Topcoat	ESKANOL VE CONDUCTIVE GRAY	ca. 500

\*\*\* Crack bridging up to 0.5 mm

### POT LIFE / WORKING TIME [min]

Product	10 °C	20 °C	30 °C
ESKANOL EF PRIMER	ca. 120	ca. 60	ca. 40
ESKANOL EF-450H PRIMER	ca. 120	ca. 60	ca. 40
ESKANOL VE CONDUCTIVE	ca. 40	ca. 30	ca. 20
ESKANOL VE CONDUCTIVE GRAY	ca. 40	ca. 30	ca. 20

### RECOAT TIME (20 °C)

Product	Min. [h]	Max. [h]
ESKANOL EF PRIMER	ca. 24	ca. 48
ESKANOL EF-450H PRIMER	ca. 24	ca. 48
ESKANOL VE SOLUTION 350	ca. 6	ca. 48
ESKANOL VE CONDUCTIVE	ca. 6	ca. 48
ESKANOL VE CONDUCTIVE GRAY	ca. 6	ca. 48

### CLEANING

Clean all equipment with **ESKANOL CLEANER** immediately after use.

### SAFETY MEASURES

The material safety data sheets of the individual components, the safety instructions on the packing (label) as well as the legal requirements for handling hazardous materials must be observed.

### PACKING UNITS

The products are supplied in the following standard package sizes:

Product	Size	Article No.
E-fibreglass mat 300 g/m <sup>2</sup>	-	10371
ECR-fibreglass mat 300 g/m <sup>2</sup>	-	10367
ECR-fibreglass mat 450 g/m <sup>2</sup>	-	10366
ESKANOL EF PRIMER	25 kg	10011
ESKANOL EF PRIMER	200 kg	10010
ESKANOL EF-450H	15 kg	10026
ESKANOL EF-450H	200 kg	10025
ESKANOL EF HARDENER	15 kg	10024
ESKANOL EF HARDENER	200 kg	10023
ESKANOL M50 HARDENER	1 kg	10098
ESKANOL M50 HARDENER	5 kg	10097
ESKANOL M50 HARDENER	10 kg	10096
ESKANOL M50 HARDENER	25 kg	10095
ESKANOL VE SOLUTION 350	25 kg	10638
ESKANOL VE SOLUTION 350	205 kg	10637
ESKANOL VE CONDUCTIVE	20 kg	10074
ESKANOL VE CONDUCTIVE GRAY	20 kg	10725
ESKANOL CLEANER	14 kg	10002
ESKANOL CLEANER	155 kg	10000

### STORAGE

The products must be stored in a cool and dry place, away from direct sunlight. At the specified storage temperatures a shelf life of the products is given of at least for the following periods:

Product	Temperature	Shelf Life
ESKANOL CLEANER	5 - 25 °C	60 Months
ESKANOL EF PRIMER	5 - 20 °C	12 Months
ESKANOL EF-450H	5 - 20 °C	12 Months
ESKANOL EF HARDENER	5 - 20 °C	12 Months
ESKANOL VE SOLUTION 350	5 - 20 °C	6 Months
ESKANOL VE CONDUCTIVE	5 - 20 °C	6 Months
ESKANOL VE CONDUCTIVE GRAY	5 - 20 °C	6 Months
ESKANOL M50 HARDENER	5 - 20 °C	6 Months

If the storage time is exceeded, the materials must be tested before use. Higher storage and transport temperatures will reduce the shelf life. The containers must be kept tightly closed. Liquid products must be stored frost-proof. In addition, the DIN 7716 must be observed.

## ESKANOL VE-L

Technical Data	Standard	Unit	Value
Compressive Strength (laminated layer)	EN ISO 604 (ASTM D695)	N/mm <sup>2</sup>	63 - 68
Modulus of Elasticity (Bend Test)	EN ISO 178 (ASTM D790)	N/mm <sup>2</sup>	7000
Hardness Barcol	EN 59 (ASTM D2583)	-	≥ 40
Min. Adhesion Strength Concrete	EN ISO 4624 (ASTM D7234)	N/mm <sup>2</sup>	1.5****
Viscosity (resin solution)	EN ISO 2555 (ASTM D2196)	mPa·s	ca. 300
Linear Coefficient of Thermal Expansion	DIN 53752 (ASTM C531)	1/K	27 - 30 x 10 <sup>-6</sup>
Tensile Strength	EN ISO 527 (ASTM C531)	N/mm <sup>2</sup>	ca. 50
Resistance to Ground	-	Ω	< 10 <sup>6</sup>
Max. Operating Temperature Liquids	-	°C	+80
Short-term Operating Temperature Liquids	-	°C	+100

\*\*\*\* Depending on the concrete strength

**Note:** The indicated temperatures are dependent on the present load and may vary

Information given in the fact sheet above corresponds to the current knowledge available to us regarding our products at the time of its drafting and is intended as a guideline for informational purposes. However, because of the multiple possibilities regarding possible applications, processing and on site conditions, any information given in the fact sheet above is not legally binding, in particular, without being limited to, such information shall not be interpreted as a warranty of merchantability or of fitness for a particular purpose. Customer therefore is advised to conduct its own testing or make an inquiry with our technical department before ordering. We reserve the right to change the product at any time, in particular, without being limited to, minor changes because of advancements in technology. If by way of exception, the information given in the fact sheet above is incorporated by reference into any contract concluded with us under German Law, such information, shall only be interpreted as determining the specific requirements of the contractual products as set out in § 434 BGB (German Civil Code) and shall not be interpreted as constituting a guarantee of condition.

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