

PRODUCT INFORMATION

LINING 65

PRODUCT DESCRIPTION

LINING 65 is a fibreglass mat reinforced laminate lining, based on a chemical and thermal resistant Bisphenol-A vinyl ester resin.

Due to the excellent mechanical properties, **LINING 65** can cover cracks up to 0.2 mm according to DIBt (German Institute for Construction Technology) guidelines and is therefore also suitable for concrete structures.

COATING LAYERS CONSUMPTION

The laminate lining consists of the two-component **COROFLAKE N PRIMER**, the three-component **LINING 65** basecoat, the two-component **LINING 65** reinforced layer with usual two 450 g/m² fibreglass mats as well as a 26 g/m² C-glass surface veil and the two-component **LINING 65** sealing. The quantity and the basis weight of the glass mats is variable, depending on the load. The total applied DFT depends on the present chemical and thermal load and can be up to approx. 3.0 - 4.0 mm with two 450 g/m² glass mats. If a spark testing on concrete surfaces is required, **COROFLAKE N PRIMER AS** must be used as primer.

FIELDS OF APPLICATION

The laminate system **LINING 65** is designed for the protection of concrete and steel components against organic and inorganic acids and bleaches. It is mainly used in concrete thickeners, containment areas, concrete pits and drains, steel vessels and wet electric filters. **LINING 65** is also very successfully used in absorbers, vessels and tanks in flue gas desulphurization plants. The field of application ranges from chemical industry over the pulp industry to steel and ore processing industry.

FEATURES

- Resistance to continuous operating temperatures up to +80°C (liquids)
- Very good chemical resistance to inorganic and organic acids
- Good resistance to aliphatic solvents and oxidizing chemicals
- Excellent adhesion to concrete and steel
- Good crack-bridging properties
- Very good mechanical properties

CHEMICAL RESISTANCE

Information on the chemical resistance properties is available upon request.

SUBSTRATE

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

SURFACE PRE-TREATMENT

C-STEEL

Surfaces to be coated must be clean, dry and free of contaminants. All contaminants, including non-visible detectable contaminants, must be removed in accordance with DIN TR 55684 and EN ISO 8502.

Non-alloyed steel surfaces shall be abrasive blasted to "Near White Metal" in accordance with EN ISO 12944-4. A surface preparation degree of SA 2½ (SSPC-SP 10; NACE No. 2) as specified in EN ISO 8501-1 and a "medium (G)" roughness degree as specified in EN ISO 8503-2 must be achieved. A minimum surface profile of $R_z \geq 70 \mu\text{m}$ is required.

To prevent flash rust, the primer must be applied immediately after the blasting and cleaning of the substrate or the component must be air conditioned to a relative humidity of $\leq 40\%$.

CONCRETE

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/mm² and minimum compressive strength of 25 N/mm². The residual moisture content must not exceed 4%.

ENVIRONMENTAL CONDITIONS

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

APPLICATION

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

Trowel applies the **LINING 65** basecoat onto the primed substrate at approx. 1.0 - 1.5mm. Upon placement of the basecoat, the first fibreglass mat is pressed onto the surface and saturated by roller with **LINING 65** mixture. Onto the uncured layer the second fibreglass mat is pressed and saturated again by roller with **LINING 65** mixture. Then a 26 g/m² C-glass surface veil is pressed onto the surface and saturated by roller with **LINING 65** mixture.

Finally the **LINING 65** sealing is rolled twice onto the surface. 5% **THIN FILM CURING AGENT** are added additionally to the second **LINING 65** sealing. Grinded surfaces must generally be cleaned with **SOLVENT F12**.

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

MIXING RATIO

The primer and coating components are supplied in pre-measured units so that weighing or measuring of the components is kept to a minimum. After the unit has been mixed it shall be used within the specified pot life.

Primer	Parts by Weight	Parts by Volume
COROFLAKE N PRIMER	100	100
HARDENER No. 1 CLEAR	2	2

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Primer (conductive)	Parts by Weight	Parts by Volume
COROFLAKE N PRIMER AS	100	100
COROFLAKE ACCELERATOR No. 1	1 - 2	1.1 - 2.1
HARDENER No. 1 CLEAR	2	2

Basecoat	Parts by Weight	Parts by Volume
LINING 65 RESIN	100	100
HARDENER No. 1 CLEAR	2	2
FILLER F1	200	189

Laminate Layer	Parts by Weight	Parts by Volume
LINING 65 RESIN	100	100
HARDENER No. 1 CLEAR	2	2

1 st Sealing	Parts by Weight	Parts by Volume
LINING 65 RESIN	100	100
HARDENER No. 1 CLEAR	2	2

2 nd Sealing	Parts by Weight	Parts by Volume
LINING 65 RESIN	100	100
HARDENER No. 1 CLEAR	2	2
THIN FILM CURING AGENT	5	6.1

CONSUMPTION

Layer	Product	Coverage [g/m ²]
Primer	COROFLAKE N PRIMER	ca. 300 (Concrete) / ca. 150 (Steel)
Basecoat	LINING 65 RESIN	ca. 1000
	FILLER F1	ca. 2000
Laminate Layer	LINING 65 RESIN	ca. 2000
	2 x Fibreglass mats 450 g/m ²	ca. 1000
	1 x C-glass surface veil 26 g/m ²	ca. 30
1 st Sealing	LINING 65 RESIN	ca. 150
2 nd Sealing	LINING 65 RESIN	ca. 150
	THIN FILM CURING AGENT	ca. 10

POT LIFE / WORKING TIME [min]

Product	15°C	20°C	30°C
COROFLAKE N PRIMER	ca. 60	ca. 40	ca. 20
COROFLAKE N PRIMER AS	ca. 60	ca. 35	ca. 10
LINING 65	ca. 60	ca. 45	ca. 25

RECOAT TIME (20°C)

Product	Min. [h]	Max. [Days]
COROFLAKE N PRIMER	ca. 8	ca. 14
COROFLAKE N PRIMER AS	ca. 4	ca. 14
LINING 65	ca. 4	ca. 7

CLEANING

Clean all equipment with **SOLVENT T-200** 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.

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PACKING UNITS

The products are supplied in the following standard package sizes:

Product	Size	Article No.
COROFLAKE ACCELERATOR No. 1	0.4 kg	590 2985
COROFLAKE N PRIMER	5 kg	590 0480
COROFLAKE N PRIMER	20 kg	590 0040
COROFLAKE N PRIMER AS	5 kg	590 2983
COROFLAKE N PRIMER AS	20 kg	590 2990
C-glass surface veil - 26 g/m ²	250 m ²	590 9800
E-Glass mat - 450 g/m ²	5 m ²	590 0253
E-Glass mat - 450 g/m ²	20 m ²	590 0260
E-Glass mat - 450 g/m ²	50 m ²	590 0277
FILLER F1	25 kg	591 0140
HARDENER No. 1 CLEAR	0.1 kg	590 0181
HARDENER No. 1 CLEAR	0.4 kg	590 0019
LINING 65 RESIN	5 kg	590 0435
LINING 65 RESIN	20 kg	590 0411
SOLVENT F12	4 kg	590 0095
SOLVENT T-200	4 kg	590 0610
SOLVENT T-200	8 kg	590 0611
THIN FILM CURING AGENT	0.75 kg	590 0214

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
COROFLAKE ACCELERATOR No. 1	5 - 20°C	6 Months
COROFLAKE N PRIMER	≤ 10°C	9 Months
	≤ 20°C	6 Months
COROFLAKE N PRIMER AS	5 - 20°C	6 Months
FILLER F1	-	24 Months
HARDENER No. 1 CLEAR	5 - 20°C	12 Months
LINING 65 RESIN	5 - 20°C	6 Months
SOLVENT F12	5 - 20°C	12 Months
SOLVENT T-200	5 - 25°C	60 Months
THIN FILM CURING AGENT	5 - 20°C	12 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.

Technical Data	Standard	Unit	Value
Compressive Strength (Laminate Layer)	EN ISO 604 (ASTM D695)	N/mm ²	65
Modulus of Elasticity (Bend Test)	EN ISO 178 (ASTM D790)	N/mm ²	6000 - 8000
Hardness Barcol	EN 59 (ASTM D2583)	-	≥ 30
Min. Adhesion Strength Concrete	EN ISO 4624 (ASTM D7234)	N/mm ²	1.5*
Min. Adhesion Strength Steel	EN ISO 4624 (ASTM D4541)	N/mm ²	7
Test Voltage (earliest after 24 hours)	EN 14879	kV / 100µm DFT	0.5
Viscosity	EN ISO 2555 (ASTM D2196)	mPa·s	390 ± 50
Linear Coefficient of Thermal Expansion	ISO 11359-2 (ASTM C531)	1/K	27-30 x 10 ⁻⁶
Tensile Strength	EN ISO 527 (ASTM D638)	N/mm ²	50
Max. Operating Temperature Liquids	-	°C	+80

* 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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