Product Information

Dolit LC (S)

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PRODUCT GROUP

Coatings Laminate

BINDER BASE

Phenolic resin

PROPERTIES / APPLICATION

Crack-bridging laminate system based on a modified phenolic resole for the protection of steel surfaces. The system can also be applied to suitable Dolit rubber linings.

Wide range of applications as a highly chemically resistant coating system, especially when exposed to acids and solvents as well as chlorinated hydrocarbons and methylene chloride.

- Temperature resistance
  - Up to 90 °C dry load on steel (direct stress on the laminate).
  - The temperature resistance is basically dependent on the project-specific chemical stress.
- Very high chemical resistance to a wide range of media, such as various inorganic and organic acids, greases, oils and fuels, solvents and various chlorinated hydrocarbons.
- Depending on requirements, Glass-Fibre-Mat 450 g/m² can also be used instead of Glass-Fibre-Mat 300 g/m².
- Electrically conductive adjustable by using Dolit-Hybrid-Fleece 20L.

SYSTEM DESIGN

- 2 x Dolit VE Barrier layer
- **If necessary**
  - Scattering with Dolit-Filler 16
  - Dolit LC Scraper Coat
- Dolit LC Laminate (2 x Glass-Fibre-Mat 450 g/m² + Glass-Fleece 30 g/m² in Dolit LC Laminating Solution)

Layer thickness (without Scattering with Dolit-Filler 16 and Dolit LC Scraper Coat) ≈ 2 mm

The coating can be made conductive by using Dolit-Hybrid-Fleece 20L instead of Glass-Fleece 30 g/m².

PHYSICAL DATA

Physical property	DIN	ASTM	Value	Unit
Shore D hardness	DIN 53505	ASTM D 2240	> 60	Shore D
Adhesive strength to steel	DIN EN ISO 4624		> 2	MPa
Electr. leakage resistance (when Dolit-Hybrid-Fleece 20L is used)	DIN EN 14879-3 At >70% relative humidity	ASTM F 150/98	≤ 10^6	Ω

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PRECONDITIONS

The temperatures for the substrate, ambient air and Dolit materials must be between 15 °C and 30 °C during application. The optimum processing temperature is 20 °C. Higher and lower temperatures affect the working time and consistency of the composition. Consumption and application performance may change as a result.

During application, the substrate must be kept absolutely dry. No moisture (condensate, mist, etc.) may get onto the surfaces to be protected.

Unevenness must already be levelled out in the substrate.

Distance to dew point has to be at least 3 K, at a relative humidity of above 70 % at least 5 K.

The construction site must be protected from draught and direct sunlight.

STEEL

Refer to DIN EN14879-1.

The steel surface is blasted to near white blast cleaning. A surface cleanliness of Sa 2½ according to DIN EN ISO 12944-4 and the roughness grade "Medium (G)" according to DIN EN ISO 8503-1; minimum surface roughness R_z = 70 µm must be achieved. After blasting, the reformation of rust must be prevented by suitable measures.

DELIVERY FORM / BEST BEFORE DATE

Component	Item no.	Quantity	Package	Months
Dolit-LC-Solution	5233013001	25 kg	Hobbock	12
Dolit-LC-Hardener	5233012006	10 kg	Canister	24
Dolit-VE-Solution	5232003001	25 kg	Hobbock	6
Dolit-VE-Accelerator	5232001023	2.5 kg	Can	24
Dolit-VE-Hardener	5232002007	1 kg	Bottle	12
Cab-O-Sil TS 720	5011016044	0.5 kg	Bag	24
Dolit-CN-Powder	5233045021	15 kg	Bag	24
Dolit-Filler 16	5211203001	25 kg	Bag	24
Glass-Fibre-Mat 450 g/m² W=127cm L=80m	9300900388	102 m²	Roll	unlimited
Glass-Fleece 30 g/m² W=100cm	9300900089	250 m²	Roll	unlimited
Dolit-Hybrid-Fleece 20L	5219020003		Roll	unlimited

- All components must be stored and transported in a dry and frost-free place.
- The minimum shelf life applies to a storage temperature of 20 °C. Higher temperatures shorten, lower temperatures extend the minimum shelf life.

Safety notice

- For handling, storage and transport, observe the relevant safety data sheets!

WORKING EQUIPMENT

NOTE! **The materials to be processed can have an aggressive effect on mixing and processing tools due to the solvents, acidic, alkaline or abrasive components they contain. Therefore, please use only suitable tools for mixing and processing.**

Measuring cup

Scale

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Mixing vessel
Drilling machine
Anchor stirrer
Paint roller
Brush
Disk roller
Scissors
Laminating brush
Special colour roller 9703640123
Metal smoothing trowel

GISCODE

Product	GISCODE
Dolit VE Barrier layer	SB-STY20
Dolit LC Scraper Coat	SB-P30
Dolit LC Laminate	SB-P40

MIXING RATIO / CONSUMPTION

DOLIT VE BARRIER LAYER ON STEEL

Dolit VE Barrier layer apply 2 x 0.300 kg/m² each. Total consumption: 0.600 kg/m²

DOLIT VE BARRIER LAYER

Component	kg/m²	Part by weight	kg/batch	Litres/ batch
Dolit-VE-Solution	0.281	100.0	2.180	2.000
Dolit-VE-Accelerator	0.006	2.0	0.045	0.045
Dolit-VE-Hardener	0.007	2.5	0.055	0.055
Cab-O-Sil TS 720	0.006	2.0	0.045	0.900
Total	**0.300**	**106.5**	**2.325**	

Area per batch	≈ 7.75 m²

IF NECESSARY

SCATTERING WITH DOLIT-FILLER 16

Component	kg/m²
Dolit-Filler 16	3.000

DOLIT LC SCRAPER COAT

Component	kg/m²	Part by weight	kg/batch	Litres/ batch
Dolit-LC-Solution	0.720	100	2.000	1.650
Dolit-CN-Powder	1.080	150	3.000	4.320
Total	**1.800**	**250**	**5.000**	

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Area per batch	≈ 2.8 m²

LAMINATE

NOTE! **Depending on the project-specific geometry, additional consumption for mats, fleece and solution must be planned due to the overlapping of the glass fibre materials.**

DOLIT LC LAMINATING SOLUTION

Component	Part by weight	kg/batch	Litres/batch
Dolit-LC-Solution	100	10.000	8.300
Dolit-LC-Hardener	16	1.600	1.350
Total	**116**	**11.600**	
Optional for wall surfaces Cab-O-Sil TS 720	1	0.120	2.400

	On Dolit VE Barrier layer	**On** Dolit LC Scraper Coat
Consumption kg/m²	2.200	2.000
Area per batch	≈ 5.2 m²	≈ 5.8 m²

GLASS-FIBRE-MAT 450 G/M²

Component	m²	
Glass-Fibre-Mat 450 g/m²	2.2	

GLASS-FLEECE 30 G/M²

Component	m²	
Glass-Fleece 30 g/m²	1.1	

ALTERNATIVE FOR CONDUCTIVE LAMINATE (INSTEAD OF GLASS FLEECE)

Component	m²	
Dolit-Hybrid-Fleece 20L	1.1	

MIXING / APPLICATION

Processing may only be started when the application requirements are met and can be maintained during the entire processing and curing.

Scattered surfaces should be lightly grinded over after curing. In any case, the surface must be carefully cleaned of loose material before applying further coats.

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MIXING SEQUENCE

DANGER

The mixing sequence for VE systems must be strictly adhered to, otherwise there is a risk of explosion!

Mixing sequence for Dolit VE barrier layer

- Liquid components are measured or weighed out.
- First add Dolit-VE-Solution to the mixing vessel.
- Then add Dolit-VE-Accelerator and stir carefully with an anchor stirrer (300 - 500 rpm) to a homogeneous solution.
- Only then add Dolit-VE-Hardener and mix again carefully until a homogeneous solution is formed.
- Move the stirrer past the vessel wall and bottom.

Mixing sequence for other components

- Stir solutions well with an anchor stirrer (300 - 500 rpm) before use or partial withdrawal. Move the stirrer past the vessel wall and bottom.
- Liquid components are measured or weighed out, transferred to a mixing vessel and carefully stirred.
- Mix the components with a drill and an anchor stirrer (300 - 500 rpm) to a homogeneous solution. Move the stirrer past the vessel wall and bottom.
- Solids are measured or weighed out individually, added to the solution in portions and mixed in carefully until a lump-free mixture is obtained.

APPLICATION

Dolit VE Barrier layer

- Apply the first coat of the barrier layer with a paint roller or brush. No puddles must be left in concrete depressions or expansion joints.
- After the first coat has hardened, apply the second coat of the barrier layer in the same way.

If necessary

- Scatter the fresh second coat of the barrier layer with Dolit-Filler 16.
- Remove loose, excess scattering material after curing.

If required (if Dolit VE Barrier layer has been scattered)

Dolit LC Scraper Coat

- Apply the levelling compound in the required thickness to the spread, hardened primer using the smoothing trowel. Trowel marks and ridges are to be avoided.

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Dolit LC Laminate

At Dolit VE Barrier layer without scattering

- Apply to the hardened Dolit VE Barrier layer with the special colour roller 9703640123 Dolit LC Laminating Solution.
- Freshly embed the glass fibre mat 450 g/m² in two layers one after the other with the necessary overlap (approx. 5 cm).
- Press on each layer individually with the disc roller and apply Dolit LC Laminating Solution with the special paint roller 9703640123.
- Each layer is vented with the disc roller.
- The seams of the individual layers are to be staggered by 20 cm.
- If not all layers can be applied in one work step, apply Dolit LC Laminating Solution again after the surface is tack-free and continue working as described.
- The final layer Glass-Fleece 30 g/m² must always be applied together with the underlying Glass-Fibre-Mat 450 g/m².

If required onDolit LC Scraper Coat

- Embed the Glass-Fibre-Mat 450 g/m² freshly into the Dolit LC Scraper Coat in two layers one after the other with the necessary overlap (approx. 5 cm).
- Further application is carried out as described for processing on Dolit VE Barrier layer without scattering.

POT LIFE

- The pot life depend on the temperature and are as follows at 20 °C.

Dolit VE Barrier layer	**If necessary** Dolit LC Scraper Coat	Dolit LC Laminating Solution
≈ 40 min	≈ 60 min	≈ 30 min

WAIT- / CURING TIME

The minimum waiting time before further processing and the maximum waiting time between working steps are at 20 °C.

Layer	Until further processing	Maximum waiting time
Dolit VE Barrier layer **(1st coat)**	3 h	78 h
Dolit VE Barrier layer **(2nd coat)**	3 h	72 h No maximum waiting time is to be observed for scattered surfaces.
If necessary Dolit LC Scraper Coat	none	≈ 40 min
Dolit LC Laminate **(e.g. for subsequent layers based on phenolic resins)**	24 h	48 h

The finished coating is fully mechanically and chemically loadable at 20 °C after 7 days.

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LEAK TEST LAMINATE ON STEEL SUBSTRATES

The laminate can be tested for leaks on steel substrates after completion. This can be done with a spark tester. The test voltage is 2 - 3 KV (for set-up with 2 x Glass-Fibre-Mat 450 g/m² + Glass-Fleece 30 g/m²). The laminate must have a curing time of at least 5 days before the test procedure.

The conductive version with Dolit-Hybrid-Fleece 20L cannot be tested for leaks. However, if a leak test is to be carried out in conjunction with a conductive version, a suitable structure must be agreed with our application technology department before application.

CLEANING

Tools that are soiled with uncured materials can be cleaned with Dolit-Universal-Cleaner. Clean only in well ventilated areas and observe safety measures.

SAFETY / DISPOSAL

- Ensure sufficient ventilation, especially when working in closed rooms, pits or containers.
- Observe fire and smoking ban.
- Observe safety data sheets, hazard statements and safety advice on the containers.
- Wear prescribed personal protective equipment. Avoid skin contact with the materials.
- Clean and care for hands with skin protection soap and ointment. Do not use solvents.
- Wear a dust mask during grinding work, e.g. repairs.
- Follow operating instructions according to §14 GefahrstoffV and Technical Rules for Hazardous Substances TRGS 507.
- Comply with the accident prevention regulations of the employers' liability insurance associations.
- Avoid direct contact of the materials with the flame, especially when welding, watch out for welding beads.
- Preferably consume residual quantities.
- Do not pour residues down the sink or into the dustbin.
- Collect residues for disposal separately in durable, sealable and labelled containers.

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