

Product Information

Dolit^{LF}

BL.FU.001 | 04/12/2023



CRS
Chemical Resistant Systems

PRODUCT GROUP

Coatings Laminate

BINDER BASE

Furan resin

PROPERTIES / APPLICATION

Crack-bridging laminate system based on a modified furan resin for application on primed steel and concrete surfaces or on a Dolit Acid protection membrane.

Wide applicability as a coating system with high chemical resistance, especially to acids, alkalis and solvents (as well as hydrocarbons).

- Temperature resistance
 - Up to 60 °C on concrete.
 - Up to 100 °C 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 and alkalis, greases, oils and fuels, solvents and various hydrocarbons.
- Can be used inside buildings or outdoors.
- 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

On concrete

- Dolit 848 Primer
- Dolit VE Barrier layer
- Sprinkling Dolit-Filler 15
- Dolit FN Scraper Coat
- Dolit LF Laminate Concrete (2 x Glass-Fibre-Mat 450 g/m² + Glass-Fleece 30 g/m² in Dolit LF Laminating-Solution)

Layer thickness ≈ 3 mm

On steel

- 2 x Dolit VE Barrier layer
- Dolit LF Laminate Steel (2 x Glass-Fibre-Mat 450 g/m² + Glass-Fleece 30 g/m² in Dolit LF Laminating Solution Steel)

Layer thickness ≈ 2 mm

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

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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 |
| Adhesive strength to concrete/screed | DIN EN ISO 4624 | | > Intrinsic tensile strength concrete | 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 |

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.

CONCRETE / SCREED

Refer to DIN EN14879-1.

The substrate must be pretreated to achieve sufficient adhesive tensile strength. It must be free from cement slurry, cement skin, loose and friable parts, structural defects and separating substances.

The residual moisture of cementitious substrates must not exceed 4 %.

The effect of water or water vapour pressure on the back of the coating/lining must be prevented.

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.

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DELIVERY FORM / BEST BEFORE DATE

| Component | Item no. | Quantity | Package | Months |
|---|------------|--------------------|----------|-----------|
| Dolit-848-Solution | 5235290001 | 25 kg | Hobbock | 24 |
| Dolit-848-Hardener | 5235288017 | 12.5 kg | Drum | 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 |
| Dolit-FN-Solution | 5233007001 | 25 kg | Hobbock | 24 |
| Dolit-FN-Powder | 5233036021 | 15 kg | Bag | 24 |
| Dolit-LF-Solution | 5233015001 | 25 kg | Hobbock | 24 |
| Dolit-LF-Hardener Dolit-LF-Hardener must be stored and transported at >15 °C. | 5233014003 | 5 kg | Canister | 24 |
| Glass-Fibre-Mat 450 g/m ² W=127cm L=80m | 9300900388 | 102 m ² | Roll | unlimited |
| Glass-Fleece 30 g/m ² W=100cm | 9300900089 | 250 m ² | Roll | unlimited |
| Dolit-Hybrid-Fleece 20L | 5219020003 | | Roll | unlimited |
| Dolit-Filler 15 | 5211202001 | 25 kg | Bag | 24 |
| Cab-O-Sil TS 720 | 5011016044 | 0.5 kg | Bag | 24 |

- 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
Mixing vessel
Drilling machine
Anchor stirrer
Paint roller
Brush
Disk roller
Scissors
Mohair roller
Laminating brush
Metal smoothing trowel

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GISCODE

| Product | GISCODE |
|---|----------|
| Dolit 848 Primer | RE80 |
| Dolit VE Barrier layer | SB-STY20 |
| Dolit FN Scraper Coat | SB-F30 |
| Dolit LF Laminate Concrete, Dolit LF Laminate Steel | SB-F30 |

MIXING RATIO / CONSUMPTION

CONCRETE

PRIMER

Dolit 848 Primer

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|--------------------|-----------------------|----------------|--------------|----------------|
| Dolit-848-Solution | 0.200 | 100 | 2.000 | 1.800 |
| Dolit-848-Hardener | 0.100 | 50 | 1.000 | 1.000 |
| Total | 0.300 | 150 | 3.000 | |

| | |
|----------------|---------------------|
| Area per batch | ≈ 10 m ² |
|----------------|---------------------|

Dolit VE Barrier layer

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|----------------------|-----------------------|----------------|--------------|----------------|
| Dolit-VE-Solution | 0.281 | 100 | 2.180 | 2.000 |
| Dolit-VE-Accelerator | 0.006 | 2 | 0.045 | 0.045 |
| Dolit-VE-Hardener | 0.007 | 2.5 | 0.055 | 0.055 |
| Cab-O-Sil TS 720 | 0.006 | 2 | 0.045 | 0.900 |
| Total | 0.300 | 106.5 | 2.325 | |

| | |
|----------------|-----------------------|
| Area per batch | ≈ 7.75 m ² |
|----------------|-----------------------|

Sprinkling Dolit-Filler 15

| Component | kg per m ² |
|-----------------|-----------------------|
| Dolit-Filler 15 | 0.500 |

SCRAPER COAT

Dolit FN Scraper Coat

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|-------------------|-----------------------|----------------|--------------|----------------|
| Dolit-FN-Solution | 0.692 | 100 | 2.000 | 1.650 |
| Dolit-FN-Powder | 1.108 | 160 | 3.200 | 4.600 |
| Total | 1.800 | 260 | 5.200 | |

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| | |
|----------------|----------------------|
| Area per batch | ≈ 2.9 m ² |
|----------------|----------------------|

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 LF Laminating-Solution

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|-------------------|-----------------------|----------------|---------------|----------------|
| Dolit-LF-Solution | 1.940 | 100 | 10.000 | 8.300 |
| Dolit-LF-Hardener | 0.060 | 3 | 0.300 | 0.220 |
| Total | 2.000 | 103 | 10.300 | |

| | |
|----------------|----------------------|
| Area per batch | ≈ 5.1 m ² |
|----------------|----------------------|

NOTE!

In order to achieve better stability on wall surfaces, 1 part Cab-O-Sil TS720 can be added per 100 parts by weight of Dolit LF laminating solution (corresponds to 2.0 l or 0.1 kg per batch).

Glass-Fibre-Mat 450 g/m²

| Component | m ² |
|--------------------------------------|----------------|
| Glass-Fibre-Mat 450 g/m ² | 2.2 |

Glass-Fleece 30 g/m²

| Component | m ² |
|----------------------------------|----------------|
| Glass-Fleece 30 g/m ² | 1.1 |

Alternative - conductive laminate

| Component | m ² |
|-------------------------|----------------|
| Dolit-Hybrid-Fleece 20L | 1.1 |

STEEL

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 per m ² | Part by weight | kg per Mix | Liters per Mix |
|----------------------|-----------------------|----------------|--------------|----------------|
| Dolit-VE-Solution | 0.281 | 100 | 2.180 | 2.000 |
| Dolit-VE-Accelerator | 0.006 | 2 | 0.045 | 0.045 |
| Dolit-VE-Hardener | 0.007 | 2.5 | 0.055 | 0.055 |
| Cab-O-Sil TS 720 | 0.006 | 2 | 0.045 | 0.900 |
| Total | 0.300 | 106.5 | 2.325 | |

| | |
|----------------|-----------------------|
| Area per batch | ≈ 7.75 m ² |
|----------------|-----------------------|

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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 LF Laminating Solution Steel

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|-------------------|-----------------------|----------------|---------------|----------------|
| Dolit-LF-Solution | 2.136 | 100 | 10.000 | 8.300 |
| Dolit-LF-Hardener | 0.064 | 3 | 0.300 | 0.220 |
| Total | 2.200 | 103 | 10.300 | |

| | |
|----------------|----------------------|
| Area per batch | ≈ 4.7 m ² |
|----------------|----------------------|

NOTE! In order to achieve better stability on wall surfaces, 1 part Cab-O-Sil TS720 can be added per 100 parts by weight of Dolit LF Laminating Solution Steel (corresponds to 2.0 l or 0.1 kg per batch).

Glass-Fibre-Mat 450 g/m²

| Component | m ² |
|--------------------------------------|----------------|
| Glass-Fibre-Mat 450 g/m ² | 2.2 |

Glass-Fleece 30 g/m²

| Component | m ² |
|----------------------------------|----------------|
| Glass-Fleece 30 g/m ² | 1.1 |

Alternative - conductive laminate

| Component | m ² |
|-------------------------|----------------|
| 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 sanded over after curing. In any case, the surface must be carefully cleaned of loose material before applying further coats.

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

CONCRETE

Primer

- Dolit 848 Primer apply with paint roller or brush. No puddles must be left in concrete depressions or expansion joints.

Barrier layer

- Apply the Dolit VE Barrier layer with a paint roller or brush. No puddles must be left in concrete depressions or expansion joints.
- Sprinkle the fresh barrier layer with Dolit-Filler 15.
- After curing, excess Dolit-Filler 15 is removed.

Scraper Coat

- Apply the filling mass to the primed substrate in the desired thickness with a metall smoothing trowel. Trowel marks and ridges are to be avoided.

Laminate

- The Glass-Fibre-Mat 450 g/m² are freshly embedded in the Dolit FN Scraper Coat in two layers one after the other with the necessary overlap (approx. 5 cm).
- Each layer is pressed on individually with the disc roller and laminating solution is applied with the paint roller.
- Each layer is vented with the disc roller.
- The seams of the individual layers are to be staggered by 20 cm.
- If it is not possible to process all layers in one operation, re-apply laminating solution after the surface has stopped sticking and continue as described.
- The final Glass-Fleece 30 g/m² layer must always be processed together with the underlying Glass-Fibre-Mat 450 g/m².



STEEL

Barrier layer

- Apply the Dolit VE 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, a second coat Dolit VE Barrier layer is applied.

Laminate

- Apply to the hardened Dolit VE Barrier layer with a paint roller or brush Dolit LF Laminating Solution Steel.
- 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 LF Laminating Solution Steel with the paint roller.
- 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 LF Laminating Solution Steel 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.

POT LIFE

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

| Dolit 848 Primer | Dolit VE Primer | Dolit FN Scraper Coat | Dolit LF Laminating-Solution |
|------------------|-----------------|-----------------------|------------------------------|
| 60 – 120 min | ≈ 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 848 Primer | 16 h | 14 d |
| Dolit VE Barrier layer (for 2nd primer) | 3 h | 78 h |
| Dolit VE Primer (for FN scraper coat/laminate) | 3 h | 14 d |
| Dolit LF Laminate (e.g. for subsequent layers based on furan resin) | 24 h | 48 h |

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

Abbreviations

h = hours

d = days

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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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This issue replaces all previous versions.