

Product Information

Dolit Flake VE-C

FL.VE.002 | 04/12/2023



CRS
Chemical Resistant Systems

PRODUCT GROUP

Coatings Flake

BINDER BASE

Epoxy-Novolac-Vinylester

PROPERTIES / APPLICATION

Sprayable coating with special graphite barrier fillers for coating ducts, vessels and chimney stacks of flue gas cleaning systems and other system parts exposed to strong alkalis and hydrofluoric acid.

Top coat on e.g. Dolit Flake VE-G.

The barrier fillers align themselves parallel to the substrate due to the spray application. This achieves very good diffusion and permeation resistance to water vapour.

- High chemical resistance to strong alkalis, hydrofluoric acid and solvents.
- Electrically conductive
- Very good diffusion resistance.
- Temperature resistant up to 200 °C (dry stress), up to 80 °C (wet stress).

SYSTEM DESIGN

- Dolit Flake Primer
- Dolit Flake VE-C Spray coating

PHYSICAL DATA

| Physical property | DIN | ASTM | Value | Unit |
|----------------------------------------|---------------------------------------------|---------------|------------------------|-------------------|
| Density | DIN EN ISO 1183-1 | ASTM D 792 | 1.17 | g/cm ³ |
| Flexural strength ^[1] | DIN EN ISO 178 | ASTM C 580 | 30 | MPa |
| Compressive strength ^[1] | DIN EN ISO 604 | ASTM C 579 | 40 | MPa |
| Tensile strength ^[1] | DIN EN ISO 527 | | 20 | MPa |
| Therm. Coefficient of linear expansion | ISO 11359-2 | ASTM C 531 | 3.1 x 10 ⁻⁵ | 1/K |
| Electr. leakage resistance | DIN EN 14879-3 At >70% relative humidity | ASTM F 150/98 | ≤ 10 ⁶ | Ω |

^[1] Mean value, determined on annealed samples.

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PRECONDITIONS

The temperatures for the substrate, ambient air and Dolit materials must be between 12 °C and 25 °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 $R_z = 70 \mu\text{m}$ 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-FLP-Solution | 5232098001 | 25 kg | Hobbock | 6 |
| Dolit-FL-VEC-Solution | 5232071001 | 25 kg | Hobbock | 6 |
| Dolit-VE-Hardener | 5232002007 | 1 kg | Bottle | 12 |
| Dolit-Accelerator OF | 5232011023 | 2.5 kg | Bottle | 12 |

- 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.

Mohair roller, paintbrush

Airless spraying machine with accessories, gear ratio $\approx 70:1$, operating pressure 3 - 4 bar,
Nozzles 519 (primer) and 523 / 527 (flake)

Measuring cup

Scale

Mixing vessel

Drilling machine

Basket spiral agitator

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GISCODE

| Product | GISCODE |
|--------------------------------|----------|
| Dolit Flake Primer | SB-STY30 |
| Dolit Flake VE-C Spray coating | SB-STY30 |

MIXING RATIO / CONSUMPTION

DOLIT FLAKE PRIMER

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|----------------------|-----------------------|----------------|--------------|----------------|
| Dolit-FLP-Solution | 0.144 | 100 | 5.000 | 4.500 |
| Dolit-Accelerator OF | 0.003 | 2 | 0.100 | 0.100 |
| Dolit-VE-Hardener | 0.003 | 2 | 0.100 | 0.100 |
| Total | 0.150 | 104 | 5.200 | |

Area per batch ≈ 34.7 m²

DOLIT FLAKE VE-C SPRAY COATING

| Component | kg per m ² | Part by weight | kg per Mix | Liters per Mix |
|------------------------|-----------------------|----------------|---------------|----------------|
| Dolit-FL-VEC-Solution | 0.772 | 1.000 | 25.000 | 21.200 |
| Dolit-Accelerator OF | 0.012 | 0.015 | 0.380 | 0.380 |
| Dolit-VE-Hardener | 0.016 | 0.020 | 0.500 | 0.500 |
| Sum per 1 shift | 0.800 | 1.035 | 25.880 | |

Area per batch ≈ 31.9 m²

LAYER STRUCTURE AND LAYER THICKNESS

- Apply at least 2 coats.
- To achieve a layer thickness of 1 mm, 2 layers must be applied.

MIXING / APPLICATION

MIXING SEQUENCE



DANGER

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

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Dolit Flake Primer

- Liquid components are measured or weighed out
- For partial quantities, first add Dolit-FLP-Solution to the mixing vessel
- Then add Dolit-Accelerator OF and mix carefully with a basket spiral mixer (300 - 500 rpm) until a homogeneous mixture is formed.
- Then add Dolit-VE-Hardener and mix thoroughly until a homogeneous mixture is formed.

Dolit Flake VE-C Spray coating

- Liquid components are measured or weighed out
- For partial quantities, first add Dolit-FL-VEC-Solution to the mixing vessel
- Then add Dolit-Accelerator OF and mix carefully with a basket spiral mixer (300 - 500 rpm) until a homogeneous mixture is formed.
- Then add Dolit-VE-Hardener and mix thoroughly until a homogeneous mixture is formed. Move the stirrer past the vessel wall and bottom.

APPLICATION

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

Higher and lower temperatures affect the working time and consistency of the composition. Consumption, film thickness and application performance may change as a result.

All materials should have the same temperature during processing.

When using the airless spraying method, make sure that the complete spraying equipment, including the media-carrying hoses, is not exposed to direct sunlight.

- Dolit Flake Primer should preferably be applied by airless spraying. On small surfaces, the application can alternatively be done with a brush or roller.
- Dolit Flake VE-C Spray coating is applied to the tack-free Dolit Flake Primer using the airless spraying method. On small surfaces, the application can alternatively be done with a brush or roller. Here, a higher number of application processes is necessary to achieve the intended layer thickness.
- Avoid the formation of drip noses!

POT LIFE

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

| Dolit Flake Primer | Dolit Flake VE-C Spray coating |
|--------------------|--------------------------------|
| ≈ 55 min | ≈ 60 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 Flake Primer | 6 h | 78 h |
| Dolit Flake VE-C Spray coating | 6 h | 78 h |

The finished coating is fully loadable mechanically after 3 days at 20 °C and mechanically and chemically after 7 days.

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.

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Use Dolit-Cleaner A to clean the syringe equipment. 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.

All information contained in this Product Information is based on the present state of our knowledge and practical experience. All data are approximate values for guidance only. A legally binding warranty of certain characteristics or the suitability for a certain purpose of use cannot be derived from this.

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This issue replaces all previous versions.

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