

SigaFlex 510

Low-emission, flexible, 2-component polyurethane coating

Empowered by Expertise!

Description:

SigaFlex 510 is a low-emission, free-flow, 2-component polyurethane coating suitable for smooth, energy-elastic coatings, as well as for slip resistant scattered coatings.

The coating has good flow- and smoothing properties and cures with almost no shrinkage. The cured coating is hard and tough but also flexible and resistant to mechanical load.

SigaFlex 510 offers special advantages where increased flexibility is necessary due to, e.g. substrate susceptible to deformation, like mastic asphalt, flake boards, metallic and reconstruction substrate.

The resistance to chemicals like water, salt solutions, diluted acids and alkalis, mineral oil, and diesel fuel is sufficient. For organic acids polyurethane coatings offer special advantages.

Note: **SigaFlex 510** is available in different colours. Even though due to its chemical structure the material is not resistant to yellowing. Slight colour tone alteration is possible. Please note our general recommendation on colour / colour tones. Pale colours should be additionally sealed with colour stable **SigaFlex 537**.

Attention: Sealers are suitable only to a limited extent for forklift-traffic. Please seek advice. Indentions cannot be excluded for concentrated point load.

Characteristics:

- Solvent-free
- Smooth, pigmented surfaces
- Suitable for scattering with silicium carbide/delustering agent
- Ready-to-use
- Elastic deformation
- Resistant to hydrolysis and Saponification
- For reconstruction work
- Free of deleterious substances against varnish

Application:

- Low-emission coating for recreation rooms according to AgBB.
- Suitable for commercially used areas with average mechanical load, e.g. production and storage areas in many economic sectors (2 mm coating).
- Base and top coats for slip resistant scattered coatings in layers of 3 - 5 mm.
- Commercially used areas with mechanical load, minor exposure to chemicals and water.
- Smooth and slightly scattered wear layers (scattered with delustering agent or silicium carbide).
- Used on substrates susceptible to deformation like mastic asphalt, metallic, wooden, and mixed substrate.

Technical data:

| | | |
|--------------------------------|---------------------------------------|--|
| Mixing ratio | Parts by weight Parts by volume | A : B = 5 : 1 A : B = 100 : 25 |
| Processing time | Temperature Time | 10 °C / 50 °F 45 minutes 20 °C / 68 °F 25 minutes 30 °C / 86 °F 15 minutes |
| Processing temperature | | Minimum 10 °C / 50 °F (room- and floor-temperature) |
| Curing time (Accessibility) | Temperature Time | 10 °C / 50 °F 24 - 36 hrs. 20 °C / 68 °F 18 - 24 hrs. 30 °C / 86 °F 14 - 18 hrs. |
| Curing | | 2 - 3 days for mechanical load at 20 °C / 68 °F 7 days for chemical resistance at 20 °C / 68 °F |
| Further coatings | | After 18 - 24 hours, but not longer than 48 hours at 20 °C / 68 °F |
| Consumption | | 2.2 - 3.3 kg/m ² |
| Layer thickness | | 1.5 - 2.5 mm |
| Addition of quartz sand | | Starting at layers of 2 mm up to 30 % depending on usage and temperature |
| Packaging | | Hobbock-Combi 30 kg |
| Colours | | Colours upon request! |
| Shelf life | | 12 months (originally sealed) |

1. Build-up of Coats

Substrate preparation – mineral substrate

- Prepare the substrate, like e.g. concrete, cement screed or other mechanically, e.g. by shot-blasting.

Substrate preparation without in-between sanding

- Prime with the recommended SIGAS-Base Coats: **SigaPox 410**, **SigaPox 481**, **SigaPox 415**, consumption: 0.3 - 0.4 kg/m². For low-emission coatings use the recommended base coat **SigaPox 481**.
 - Optional: Scratch coat application with **SigaPox 410**, **SigaPox 481**, **SigaPox 415**, and **SIGAS quartz sand-mix 2/1**, mixing ratio 1 : 0.8 parts by weight, consumption approx. 0.8 - 1.2 kg/m² of the mixture.
 - Alternatively a scratch coat with **SigaFlex 510** or **SigaFlex 511** in addition of approx. 20 - 30 % quartz sand 0.1/0.3 mm, consumption approx. 0.8 - 1.0 kg/m² may be applied right after the base coat application without scattering.
- Important note:** Only when using the base coats **SigaPox 410** or **SigaPox 481**, **SigaFlex 510** may be applied after a curing time of at least 14 up to 48 hours at the max. (at 20 °C / 68 °F) without any in-between sanding. When using **SigaPox 415**, **SigaFlex 510** may be applied on the nonporous surface after a curing time of 4 to 24 hours at the max (at 20 °C / 68 °F). In-between sanding **is mandatory** when using other base coats or time cycles.
 - Apply **SigaFlex 510** with a toothed trowel, consumption 2.3 - 2.6 kg/m². Vent after 10 to 20 minutes with a spiked roller.

Substrate preparation – mastic asphalt

- Prepare substrate mechanically by shot blasting.
- Apply a scratch coat using **SigaFlex 511** or **SigaFlex 510** in addition of 20 - 30 % quartz sand, grain size 0.1/0.3 mm, consumption approx. 0.8 - 1.0 kg/m². Subsequent coatings may be applied when the surface is free of pores.
- Apply **SigaFlex 510** with a toothed trowel, consumption 2.3 - 2.6 kg/m². Vent after 10 - 20 minutes with a spiked roller.

Decorative, low-emission top sealer

For decorative coatings seal with the covering sealer **SigaFlex 537**. **Low-emission when used within the system**, consumption 0.150 - 0.180 kg/m². By adding **SIGAS anti-slip additive** the slip resistance grade can be adjusted up to R11.

Substrate preparation with in-between sanding

- Prime with one of the other epoxy resin base coats: consumption 0.3 - 0.4 kg/m².
- Scatter the fresh surface with quartz sand 0.3/0.8 mm, consumption approx. 0.5 - 1.0 kg/m².
- Apply a scratch coat using **SigaFlex 511** or **SigaFlex 510** right on top. Add approx. 20 - 30 % quartz sand 0.1/0.3 mm, consumption approx. 0.8 - 1.0 kg/m². For subsequent coatings the surface has to be free of pores.
- Apply **SigaFlex 510** with a toothed trowel, consumption 2.3 - 2.6 kg/m². Vent after 10 - 20 minutes with a spiked roller.

2. Substrate

The substrate to be coated has to be levelled, dry, free of dust, has to have adequate tensile and compressive strength, and be free from weakly-bonded components or surfaces. Materials impairing adhesion, such as grease, oil, and paint residues must be removed using suitable methods. Please refer to the product information of the recommended SIGAS-Base Coats, like e.g. **SigaPox 410**, **SigaPox 412**, **SigaPox 481**, or **SigaPox 416**. The surface to be coated should be prepared mechanically, preferably by shot-blasting. The prepared area has to be primed accurately, saturated, and free of pores. Estimating the substrate according to the necessary sealed state may be difficult, so a scratch coat is recommended for smoothing the surface. If the substrate hasn't been sealed completely bubbles and pores may appear because of rising air. Conduct a trial if in doubt. To improve adhesion scatter the surface with approx. 0.5 - 1.0 kg/m² quartz sand, grain size 0.3/0.8 mm.

Mastic asphalt: A scratch coat using **SigaFlex 510** may be applied straight on top. Prime steel substrate using **SigaPox 412**, flake boards with **SigaPox 410** and scatter with quartz sand, grain size 0.3/0.8 mm.

3. Mixing

Combi-trading units will be supplied in the correctly measured mixing ratio. Component A has sufficient volume for the entire trading unit. Decant the hardener compound B into the resin. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes, for a material that is homogeneous and free of streaks. To avoid mixing errors it is recommended to empty the resin/hardener-mixture into a clean container and mix briefly once again ("to repot"). Stir up the single components for partial withdrawals and weigh for the exact mixing ratio.

4. Processing / Handling

Process the material immediately after mixing with a coating knife or trowel by applying an even layer on the prepared surface. The product is adjusted with an

optimum of air venting. To upgrade the moistening of the substrate, optimizing the flow-properties, and removing any air blows, it is recommended to roll with a spiked roller. Roll time- delayed after 10 - 15 minutes with the spiked roller. Divide working areas before starting work and always work "fresh-in-fresh" to avoid any shoulders. Do not scatter too early because of air venting, optimum point of time is after 15 - 30 minutes at 20 °C / 68 °F.

Floor- and air-temperature must not fall below 10 °C / 50 °F and humidity must not exceed 75 %. The material to be processed has to be tempered according to the room-temperature. The floor temperature may be 3 °C / 37.4 °F at the max. less than the surrounding temperature to exclude a dew-point situation on the surface and on the fresh coating. If a dew-point situation occurs curing may be disturbed and foaming may occur.

Do not process at increased insolation or on strongly heated surfaces because processing time will decrease and blisters may appear. Fresh polyurethane coatings are susceptible to humidity. Keep within the recommendations for humidity.

Coating dewy substrate, using moist sand, as well as sweat will lead to foaming of the material and have to be avoided.

Curing time applies to 20 °C / 68 °F. Lower temperature may increase, higher temperature may decrease the curing and processing time. Ensure of recommended processing conditions during curing. If working conditions are not complied with, deviations in the described technical properties may occur in the end product.

5. Cleaning

To remove fresh contamination and to clean tools use **Cleaner V30** or **V40** immediately. Hardened material can only be removed mechanically.

6. Storage

Store in dry and at frost-free conditions. Ideal storage temperature is between 10 - 20 °C / 50 - 68 °F. Bring to a suitable working temperature before application. Tightly re-seal opened containers and use the content as soon as possible.

7. Special Remarks

The product is subject to the hazardous material-, operational safety-, and transport-regulations for hazardous goods. Refer to the DIN-Safety Data Sheet and the information on the labelled containers!

GISCODE: PU 40

Indication of VOC-Content:

(EG-Regulation 2004/42)

Maximum Permissible Value 500 g/l (2010,II,j/lb): Ready-for-use product contains < 500 g/l VOC.

Technical Data*

| | | | | |
|-----------------------------|------------------|-------|-------------------|-----------------------------------|
| Viscosity | Components A + B | 3700 | mPas | DIN EN ISO 3219 (23 °C / 73.4 °F) |
| Solids content | | 100 | % | SIGAS-Method |
| Density | Components A + B | 1.45 | kg/l | DIN EN ISO 2811-2 (20 °C / 68 °F) |
| Weight loss | | 0.3 | weight-% | (after 28 days) |
| Water absorption | | < 0.2 | weight-% | DIN 53515 |
| Bending tensile strength | | 40 | N/mm ² | DIN EN 196/1 |
| Tensile strength | | 25 | N/mm ² | DIN EN ISO 527 |
| Max. tear growth resistance | | 76 | kN/m | DIN ISO 34-1 |
| Compressive strength | | 45 | N/mm ² | DIN EN 196/1 |
| Breaking elongation | | 52 | % | DIN EN ISO 527-3 |
| Shore-hardness D | | 65 | - | DIN 53505 (7 days) |
| Abrasion (Taber Abraser) | | 55 | mg | ASTM D4060 |

(*Values achieved in sampling are average values. Variation in product specification is possible.)

SigaFlex 510; 0.00/05.12.2017. All information contained herein is based on the current state of our knowledge and practical experience at the time of release. Therefore, please make sure that this is the actual edition of the Technical Data Sheet. All data are only intended as a guideline for informational purposes and do not constitute a legally-binding warranty of the suitability for a certain purpose of use, due to its dependence on site conditions and possible processing, use and applications. All information contained in this technical datasheet is subject to change without notice.

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