Empowered by Expertise!

SigaFlex 522

High-quality, highly photostable 2-component polyurethane coating

Description:

SigaFlex 522 is a high-quality, free-flow coating based upon a liquid, 2-component polyurethane resin. **SigaFlex 522** is used for flexible coatings especially for interior areas with impact sound insulation and decorative features.

SigaFlex 522 is used for areas which require good usage, comfort, and an appealing appearance like show-rooms, office- and sale-rooms, hospitals, and so on.

On the contrary to other known polyurethane industrial coatings, **SigaFlex 522** is made of photo-stable raw materials. Because the coating is pho- to stable even pale, bright, and decorative colour tints are available. The coating has good free-flow and smoothing properties and cures with almost no shrinkage. The cured coating shows good flexibility and is crack-bridging starting at layers of 2 mm. **SigaFlex 522** is used for interior areas requiring more flexibility due to the substrate, e.g. mastic asphalt, flake boards, metallic substrates, and reconstruction areas.

To increase the walking comfort and to increase the impact sound insulation **SigaFlex 522** may be combined with the flexible interlayer **SigaFlex 512.**

The material offers good resistance to water, salt solutions, diluted alkalis, and acids. **SigaFlex 522** is available in SIGAS-standard colours and may also be produced in pale and brilliant special colours. The coating is very suitable for Color flakes scattering.

SigaFlex 522 offers good abrasion resistance qualities. Sealing is generally recommended with suitable top sealers like **SigaFlex 530**, **SigaFlex 533**, or **SigaFlex 535.**

Characteristics:

- Highly photostable
- Smooth, pigmented surface
- Flexible, crack-bridging
- Impact sound insulation
- Solvent-free
- Low emission
- Ready-to-use
- For reconstruction
- Free of deleterious substances against varnish

Application:

- High-quality, comfortable, jointless floor coating for areas with light or medium mechanical load.
- High-quality, decorative flooring for areas with especially high demand to photostability and resistance to yellowing.
- As low emission coating with recreation room accreditation, like e.g. sales areas, offices, exhibition areas, kindergarten, doctor's offices, schools, and many more.
- Suitable for exterior areas like patios, balconies, and winter gardens when the correct product system will be used.
- Suitable for deformable substrate like mastic asphalt, metallic, wooden or mixed substrate, as well as substrate susceptible to cracks.

Technical data:

Mixing ratio	Parts by weight Parts by volume	A : B = 2 : 1 A : B = 100 : 63		
Processing time	Temperature Time	10 °C / 50 °F 40 - 45 min	20 °C / 68 °F 25 - 30 min	30 °C / 86 °F 15 - 20 min
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 12 – 15 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 curing, but not longer than 48 hours at 20 °C / 68 °F		
Consumption		Approx. 1.3 kg/m^2 for each mm of layer		
Recommended thickness of layers		2 mm		
Packaging		Hobbock-Combi 30 kg		
Colours		Colours upon request!		
Shelf life		12 months (originally sealed)		

1. Build-up of Coats

Preparing the substrate – mineral substrate

- Prepare the substrate, like e.g. concrete, cement screed or others 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. Use **SigaPox 481** for low emission coatings.
- 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, if needed.
- Alternatively a scratch coat with **SigaFlex 511** or **SigaFlex 522** in addition of approx. 20 - 30 % of 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 coat **SigaPox 410** or **SigaPox 481, SigaFlex 522** may be applied right away without any in-between sanding on a free of pore substrate.
  Note for a curing time of at least 14 hours up to a max. of 48 hours (at 20 °C/ 68 °F). When using **SigaPox 415, SigaFlex 522** may be applied after at least 4 hours up to a max. of 24 hours (at 20 °C / 68 °F). For all other base coats or changed time cycles an in-between sanding is mandatory.
- Apply **SigaFlex 522** with a rake, e.g. with a toothed trowel, consumption 2.3 - 2.6 kg/m². Vent with a spiked roller after 10 to 20 minutes.

Substrate preparation – mastic asphalt

- Prepare substrate mechanically by shot blasting.
- Apply a scratch coat with **SigaFlex 511** or **SigaFlex 522** in addition of 20 - 30 % quartz sand, grain size 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 522** with a coating knife, e.g. toothed trowel, consumption 2.3 - 2.6 kg/m². Vent after 10 to 20 minutes with a spiked roller.

Decorative, low-emission top sealer

- For decorative coatings apply a non-pigmented or covering sealer with **SigaFlex 535** or **SigaFlex 537,** low-emission within the system, consumption 0.140 - 0.160 kg/m². By adding **SIGAS anti-slip additive** to **SigaFlex 535** or **SigaFlex 537** or by using **SigaFlex 535-R10** or **SigaFlex 537-R10** a slip resistance grade up to R11 can be achieved.
- Scattering with Color flakes is possible in combination with a non-pigmented sealer.

Substrate preparation with in-between sanding for exterior areas

- Prime with **SigaPox 412.** Consumption approx. 0.3 - 0.5 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 522** right on top. Add approx. 20 - 30 % quartz sand 0.1/0.3 mm, consumption approx. 0.8 - 1.0 kg/m². The surface has to be free of pores before applying any subsequent coatings.
- Apply **SigaFlex 522** with a rake, e.g. with a toothed trowel, consumption 2.3 - 2.6 kg/m². Vent with a spiked roller after 10 to 20 minutes.
- For exterior areas use the non-pigmented or covering sealer **SigaFlex 533** or **SigaFlex 534,** consumption 0.150 - 0.180 kg/m². By the addition of **SIGAS anti-slip additive** a slip resistance grade up to R11 can be achieved. Scattering with Color flakes and subsequently sealing with a non-pigmented sealer is recommended.
- If necessary apply a fleece-reinforced sealer in combination with **SigaFlex 550.**

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. For concrete, moisture content must not exceed 4.5 CM-%, remaining residual humidity. The possibility of moisture ingress from the rear must be permanently excluded. Please refer to the product information of the recommended SIGAS-Base Coats like **SigaPox 410**, **SigaPox 412, SigaPox 415,** and **SigaPox 481.**

The surface to be coated should be prepared mechanically. The prepared area has to be primed accurately, saturated, and free of pores. 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.

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").

4. Processing / Handling

Process the material immediately after mixing with a coating knife or trowel by applying an even layer on the prepared substrate. 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. To avoid any shoulders always work "fresh-in-fresh" and divide the working areas.

It is mandatory to wear clean overshoes when sealing the coat **SigaFlex 522.** Nail shoes are not permissible.

Fresh polyurethane coatings are very sensitive to moisture. It is essential to keep the moisture conditions. Coating dewy substrate, using moist sand, as well as sweat lead to foaming of the material and has to be avoided. Conduct measurements before starting to work.

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. Technical properties may be affected.

Do not process at increased insolation or on strongly heated surfaces because processing time will decrease and blisters may appear.

Special remark: For a slightly thickened **SigaFlex 522** use only our **SigaMot 966.** Other thixotropic agents may disturb the curing.

If the products to be applied onto the same surface are pigmented, these preferably have to belong to the same lot. Indeed, by using products taken from different lots, slight color variations depending on the raw material can not be excluded. The lot number is indicated on the container label. With certain colors -particularly white, yellow and orange or with light pastel colors- the recommended coating thickness must be observed, in order to guarantee hiding power.

In specific light and weather conditions and after long and intensive use, color variations, loss of gloss and yellowing may occur.

If the use of swivel chairs or other wheeled pieces of furniture is expected, suitable caster chairs or special floor protection mats are recommended to avoid wearing and abrading the floor.

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 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	Ca. 3.600	mPas	DIN EN ISO 3219 (23 °C / 73.4 °F)
Solids content		> 99	%	SIGAS-Method
Density	Components A + B	1.30	kg/l	DIN EN ISO 2811-2 (20 °C / 68 °F)
Breaking elongation		55	%	DIN EN ISO 527-3
Max. tear growth resistance		48	kN/m	DIN ISO 34-1
Shore-hardness D		62	-	DIN 53505 (28 days)
Abrasion (Taber Abraser)		25	mg	ASTM D4060

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

VOC-Contents

The product complies with the high requirements to low VOC-contents, as required for sustainable construction. Therefore these values exceed by far the European Union directive 2004/42/EG (decopaint-directive).

	Reference to*	Max. Value	Actual Content
Directive 2004/42/EG Decopaint-directive	Component A	≤ 500 g/l	21 g/l
	Component B	≤ 500 g/l	0 g/l
DGNB German Sustainable Building Council	Components A + B	< 3 %	0.9 %
climate:active Climate protection initiative of the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water	Components A + B	< 3 %	0.9 %
LEED Leadership in Energy and Environmental Design	Components A + B	< 100 g/l	12 g/l
Minergie Eco® Quality standard of the "Minergie society ", Switzerland	Components A + B	< 1 (< 2) %	0.9 %

(* According to the decopaint-directive single components are used for the calculation. For the quality rating system for sustainable construction the mixture of both components in the correct mixing ratio is the determining factor.)

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