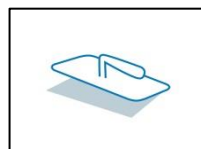
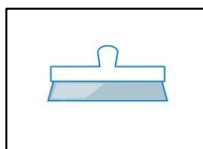


**Product Description**

**DisboPOX 231 SF** is a high build, two component (Base & Hardener), amine cured, solvent free, pigmented epoxy Sealer and Primer coat. **DisboPOX 231 SF** can be used as self-priming roller coat for suitable mineral, concrete and cement screeds floor surfaces and seal coat for interior floor coating broadcast systems. It is a self-smoothing, hardwearing, easy to apply product, with excellent chemical, abrasion, and impact resistance. **DisboPOX 231 SF** is used as a sealer or scratch coat with, and without, the addition of quartz sand as required.

**Recommended Use**

Suitable for interior use (exterior as intermediate coat only) use on normal absorbent mineral/concrete floor surfaces:

Concrete, Cement or Epoxy screeds/mortars

On approved primers/base coats (like **DisboPOX 210 SF**) depending on the conditions of the concrete substrate

Unsuitable are all mineral substrates which showing not sound and dry, surface defects, cement laitance, weak compressive strength, rising moisture, contaminants or condensation.

**DisboPOX 231 SF should only be used by experienced and trained professionals.**

**Recommended Fields of Application**

Warehouses and workshops

Showrooms and shops

Production assembly areas

Garages, parking bays, ramps, car parking and car park decks

Pedestrian walk ways

Hotels and restaurants

Laboratories and plant rooms

Food and beverage manufacturing and processing

Engineering workshops and assembly lines

Schools and hospitals

Industrial and commercial kitchens

Pharmaceutical areas and cleaning rooms

**Physical Properties\***

Colour	Selected range of colours. Always use material of same batch or mix different batches, when applying on seamless surfaces.
Volume solids	98±2%
VOC	40 g/litre
Thinner/Cleaner	Epoxy thinner
Finish	Gloss
Flash point	> 25°C
Packing size	25 kg pack - 21.80 : 3.20 (Base + Hardener) 5 kg pack - 4.36 : 0.64 (Base + Hardener) 1 kg pack - 0.87 : 0.13 (Base + Hardener)
Mixing ratio	6.9 base: 1.0 hardener pbw
Shelf life	6 months

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# Technical Data Sheet

## DisboPOX 231 SF



**Two Component, High-Build Solvent Free Epoxy Floor Surface Top Coat and Primer  
For Interior (Exterior as intermediate coat under DisboPUR 630 PU only)**

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\*The values stated are average values. All Data is valid for mixed product only. The actual value determined on an individual delivery may deviate slightly, without compromising product suitability. In some markets commercial shelf life can be dictated shorter by local legislation. The above is minimum shelf life, thereafter the paint quality is subject to re-inspection.

### Advantages

Excellent wear and abrasion resistance  
Solvent free and no odour during application  
Easy application  
Good compressive and flexural strength  
After full curing physiologically harmless  
Good chemical resistance and proven against wide range of industrial chemicals  
Slip resistant finish in different textures as required available to suit conditions to avoid slipping  
Very hard wearing - durable, low maintenance costs  
Good mechanical resistance  
Liquid proof  
Resistant to most of aqueous solutions, caustic solutions, diluted acids, petrol, animal oils, greases, urine and fats  
Durable and low maintenance costs

### Certificates and Test Values\*

DCL confirm  
ADCE certified civil supplier  
VOC tested as per USEPA 24

Test Name	Test Method	Remarks
VOC	USEPA-24	40 g/L
Bonding Strength	ASTM D4541-17	5,21 N/mm <sup>2</sup>
Compressive Strength (28 days)	ASTM C579-18	78.8 N/mm <sup>2</sup>
Flexural Strength (28 days)	ASTM C 580-18	36.6 N/mm <sup>2</sup>
Tensile Strength	ASTM C307-18	19.04 N/mm <sup>2</sup>
Flame Spread Index (FSI)	ASTM E84-19	0 = Class A: FSI 0-25
Smoke Development Index (SDI)	ASTM E84-19	0 = Class A: SDI 0-450

\*Additional certificates and approvals may available on request or could be arranged if required. The material offers good general chemical resistance, but as in all corrosive situations, a full analysis of operating and exposure conditions is required, followed by reference to chemical resistance data to ensure product suitability.

### Substrate Quality and Surface Preparation

The long-term durability of any resin floor system is determined by the adhesive bond achieved between the flooring material and the substrate.

IT IS MOST IMPORTANT THAT SUBSTRATES ARE CORRECTLY PREPARED PRIOR APPLICATION!

All substrates (new and old) must be structurally sound and free from contamination such as oil and grease, rubber skid marks mortar and paint splashes, curing compound residues or other adhesion impairing contaminants. Conventional concrete curing compounds should be removed before application.

Excess laitance deposits are best removed by mechanical surface profiling, like diamond grinding, ball blasting, grit or shot blasting, milling or hydro-jetting (including the necessary post-treatment), followed by brush and vacuum cleaning to remove dust debris to achieve an open textured surface. Mechanical wire brushing may be appropriate for small areas.

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Oil and grease penetration should be removed using a proprietary chemical degreaser or by hot compressed air treatment. Any damaged areas, surface irregularities or blowholes/voids should be repaired before application. Adjust the substrate evenness of the planned, finer surface finish. If necessary, carry out additional substrate levelling measures. The compressive strength of the substrate shall not be less than 25MPa. Damaged, weak concrete should be cut back to sound concrete and surface defects must be made good with a suitable cementitious repair mortar or a filler coat of **DisboPOX Epoxy Filler SF**. The concrete slab in contact with the ground must have a vapour barrier installed. Repairs must be well set and dried out. Damp or not fully cured substrates can lead to defects in subsequent coats, such as blistering or cracks. Check existing coatings for their load-bearing capacity. Remove any non-load bearing or structurally weak coatings. The pull-off (adhesive/tensile bond) strength of substrates must be 1.5 N/mm<sup>2</sup> on an average, with a minimum individual value of 1.0 N/mm<sup>2</sup>. The residual moisture content of the substrate must not exceed 4% pbw when using the CM-measurement or Oven-dry-method. No raising moisture according to ASTM (Polyethylene-sheet). The temperature of the substrate must be at least 3°C above the current dew point temperature. A damp proof course must have been properly installed and be intact. IF IN DOUBT, APPLY TEST AREA FIRST! Protect walls and columns against resin splashes using masking tape and plastic sheeting.

### Mixing the Coating

**DisboPOX 231 SF** should be mixed in the proportions supplied in the exact ratio. Before mixing, precondition both base and hardener components to a temperature of approximately 15 to 25°C.

**DO NOT MIX BY HAND!**

For optimum performance, all components of the Five Star® MP Epoxy Patch should be conditioned to between 18°C and 28°C prior to use. The Components A (base) and B (hardener) of **DisboPOX 231 SF** should be thoroughly stirred before the two are mixed together. Pre-mix each liquid component thoroughly. Mix mechanically using a slow speed stainless steel (300-400 rpm) electric stirrer with a wing type mixing paddle or other suitable equipment. For the preparation of mortars use a forced action mixer of rotating pan, paddle or trough type. Free fall mixers should not be used. Mix the base slowly in its container, and then the entire contents of the hardener container should be poured into the base container while continuing to mix the two materials thoroughly for 3 to 4 minutes. Scrape the sides and the bottom of the container several times to ensure complete mixing. Keep the mixer blades submerged in the coating to avoid introducing air bubbles. Keep mixer at bottom of pail to avoid introducing air.

**DO NOT WORK OUT OF THE ORIGINAL CONTAINER!**

After proper mixing to a homogeneous consistency pour the mixed material of base and hardener into a fresh container and mix for another minute thoroughly to achieve a consistent mix. Mix thoroughly until the colour is homogenous. If required, add the quartz sand and mix for a further 2 minutes until a uniform mix has been achieved. Use the material as quickly as possible after mixing.

**ENSURE SHORT STIRRING TIMES AT LOW SPEED TO PREVENT AIR BUBBLE FORMATION IN THE MATERIAL!**

Foam formation can have an impact on adhesion and can cause visible small pores. This, in turn, leads to patchy and inhomogeneous drying and visible imperfection of the coating layer. Only if necessary adjust the working consistency of **DisboPOX 231 SF** with Epoxy thinner up to max. 5%.

### Film Thickness and Spreading Rate on Average Quality Substrate\*

**Primer/Base/Roller/Sealer Coat- on low/medium porous, even concrete, smooth**

	Minimum	Typical	Maximum		Consumption
Wet film thickness	180	205	230	µm	
Dry film thickness	175	200	225	µm	
Theoretical spreading rate	3.8	3.3	2.9	m <sup>2</sup> /kg	0.26-0.35 kg/m <sup>2</sup>

*If the coating is not to be over coated within 48 hours, the fresh primer should be sanded off (not to excess, but grain to grain) with DisboADD 450 (0.1-0.4mm): Consumption 0.5-1.0 kg/m<sup>2</sup>*

*If necessary (for anti-slip) sprinkle in excess the fresh levelling layer with DisboADD 460 (0.4-0.7mm) or DisboADD 480 (0.7-1.2mm): Consumption 3.0-5.0 kg/m<sup>2</sup>*

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**Two Component, High-Build Solvent Free Epoxy Floor Surface Top Coat and Primer  
For Interior (Exterior as intermediate coat under DisboPUR 630 PU only)**

#### **Roller/Sealer Coat - on medium/rough porous, uneven concrete or anti-slip prepared base coats**

	Minimum	Typical	Maximum	Consumption
Wet film thickness	230	255	280	μm
Dry film thickness	225	250	275	μm
Theoretical spreading rate	2.9	2.7	2.4	m <sup>2</sup> /kg 0.35-0.42 kg/m <sup>2</sup>

#### **Levelling Coat - on medium/rough porous, uneven concrete, maximum up to 2 mm**

	Minimum	Typical	Maximum	Consumption
Wet film thickness	1940	2040	2140	μm/mm
Dry film thickness	1900	2000	2100	μm/mm
Theoretical spreading rate	0.8	0.7	0.6	m <sup>2</sup> /kg 0.6-0.8 kg/m <sup>2</sup> /mm
			Filled with DisboADD 450 (0.1-0.4mm)	0.6-0.8 kg/m <sup>2</sup> /mm

\*Indicated rates are indicative per coat. This indication does not take into account usage for spilling or loss on site. These figures are theoretical and do not allow for any additional material required due to surface porosity, surface profile, variations in level or wastage etc. or application conditions. Coverage on non-slip aggregate would reduce spreading rate considerably. Consumption of the mixed material is dependent on the surface condition, porosity and roughness, and may be higher on very rough or porous substrates. The exact rate of consumption for your particular project is best established by a trial application on site and executed by your desired applicator.

#### **Pot Life / Working Life\***

Substrate temperature	10°C	25°C	40°C	
Pot Life	45	25	15	minutes

\*Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

#### **Drying Time\***

Substrate temperature	10°C	25°C	40°C	
Dry to over coat, minimum	24	12	6	hours
Dry to over coat, maximum	96	48	24	hours
Ready for use - foot traffic	48	24	12	hours
Ready for use - light traffic	5	3	2	days
Ready for use - full cure for service	10	7	5	days

\* Drying time generally related to air circulation, temperature, film thickness, no of coats and relative humidity. The given data must be considered as guidelines per coat only. The actual drying time before recoating may be shorter or longer, depending on film thickness, ventilation, humidity, underlying substrate, requirement for early handling and mechanical strength etc. The figures given are typical with: Good ventilation (outdoor exposure or free circulation of air), typical film thickness, on coat on top of inert substrate and relative humidity 70%. Dry to over coat, minimum: The shortest time allowed before the next coat can be applied. Dry to over coat, maximum, atmospheric: The longest time allowed before the next coat can be applied. Ready for use: Minimum time before the coating can be permanently exposed to the intended environment/medium.

#### **Application Conditions/Limitations**

New concrete floor should be at least 28 days old or have a moisture content of less than 4% before proceeding with epoxy application. Substrate temperature should be max. 30°C and min. 10 and at least 3°C above the dew point of the air and for at least 24 hours after the application at (15°C).

**DisboPOX 231 SF** should not be applied on surfaces known to, or likely to suffer from, rising dampness, potential osmosis problems or have a relative humidity greater than 75%. The curing time of the material is influenced by the ambient, material and substrate temperatures. At low temperatures, the chemical reactions are slowed down; this lengthens the pot life, open time and curing times. High temperatures speed up the chemical reactions thus the time frames mentioned above are shortened accordingly. To fully cure, the material, substrate and application temperature should not fall below the minimum. For all floor coating applications, apply on a constant or falling temperature only as this will decrease the risk of bubble formation due to expansion of air that is enclosed in the concrete! If applied during rising temperatures "pin holing" may occur from rising air. After application, the material should be protected from direct contact with water for approx. 24h (at 20°C). Within this period, contact with water can cause a surface bloom and/or surface tackiness, both of which must be removed.

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**Two Component, High-Build Solvent Free Epoxy Floor Surface Top Coat and Primer  
For Interior (Exterior as intermediate coat under DisboPUR 630 PU only)**

In common with all epoxy materials, some slight shade changes may be experienced over the long term when placed in adverse exposure conditions. Any such change in shade is not regarded as being detrimental to performance.

### Application Equipment's/Tools

**DisboPOX 231 SF** can be applied to the prepared substrate by spreading with a squeegee, roller, brush or trowel. The best choice depending to substrate condition, application method and how the material will be used. Re-usable tools must be cleaned carefully with **Epoxy Thinner**. Always ensure that the tools are to be in use for Epoxy material only (not for PUR or water based Epoxy!).

### Associated Products

**DisboPOX 210 SF** (Transparent, solvent-free epoxy primer)

**DisboPOX Epoxy Filler SF** (Off-white to beige, solvent free epoxy filler)

<b>DisboADD</b> (Silica quartz sands/fillers):	<b>Product name</b>	<b>Grain size</b>
	<b>DisboADD 450</b>	0.1 – 0.4 mm
	<b>DisboADD 460</b>	0.4 – 0.7 mm
	<b>DisboADD 480</b>	0.7 – 1.2 mm
	<b>DisboADD 490</b>	1.2 – 2.0 mm

Various **non-aqueous DisboPOX/DisboPUR topcoats** can be used in combination with this product. Contact Caparol for specific system recommendation.

**Caparol Epoxy Thinner** (Thinner)

### Cleaning of Tools

Tools must be cleaned immediately after use or during longer breaks with **Epoxy Thinner**.

### Typical Application Procedure\*

#### Primer/Base Coat

Ensure that the substrate is free from dust and building debris and that the area has been secured to prevent intrusion of dust, airborne particles, insects, small animals, etc. Make sure that windows and doors are closed. To avoid colour deviation from one batch of the resin to another, only use resins with the same batch number in the same area.

All concrete surfaces to be overlaid with **DisboPOX 231 SF** should be primed and prepared as required with **DisboPOX 210 SF**. As well; **DisboPOX 231 SF** can be diluted with up to 10% Caparol **Epoxy Thinner** and used itself as the primer coat.

If the coating is not to be over coated within 48 hours, the fresh primer should be sanded off (not to excess, but grain to grain) with **DisboADD 450** (0.1-0.4 mm). Also to sprinkle sand onto the wet primed surface is required for:

- Subsequent anti-slip (anti-skid) coatings, applied by roller, use DisboADD 460 (0.4-0.7 mm)
- Subsequent self-levelling coatings, applied by trowel, use DisboADD 480 (0.7-1.2 mm)
- Subsequent screed coatings, use DisboADD 480 (1.2-2.0 mm)

If the application of **DisboPOX 231 SF** is delayed more than 24 hours at 40°C and 48 hours at 25°C after the application of the primer (not sanded off), then the primer must be thoroughly abraded to give an adequate mechanical key and solvent wiped.

A subsequent application of a solvent-free, non-aqueous **DisboPOX /DisboPUR** coating can be carried out in accordance to the respective Technical Data Sheet and/or Method Statement.

#### Roller/Sealer Coat

Apply two coats of **DisboPOX 231 SF**. 1st coat should be applied using a good quality roller, suitable for epoxy application, or squeegee to achieve a continuous coating. Ensure that loose hairs on the roller are removed before use. A minimum film thickness of 200 microns should be applied; this can be increased as per specifications. When the base coat has reached initial cure then 2nd coat can be applied with desired thickness by medium haired roller. The second coat should be applied at a right angle to the first coat. Care should be taken to ensure that a continuous film is achieved.

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**Two Component, High-Build Solvent Free Epoxy Floor Surface Top Coat and Primer  
For Interior (Exterior as intermediate coat under DisboPUR 630 PU only)****Levelling Coat**

Apply one priming coat of **DisboPOX 231 SF** as described above. Then produce for the Scratch Leveller Coat a mixture out of 1 part by weight of **DisboPOX 231 SF** and 1 part by weight of **DisboADD 450**. No thinning is recommended. The filled **DisboPOX 231 SF** should be applied by squeegee on to the undulated areas or minor cracks after the application of primer.

**Anti-slip Application**

For anti-slip texture finish, the **DisboPOX 210 SF** or **DisboPOX 231 SF** shall be applied as per standard application with minimum film thickness of 200-250 microns. The base coat should then be dressed with the chosen/required anti-slip grain **DisboADD**; this should be done immediately after application. The recommended procedure is to completely blind the base coat i.e. applies excess dressing aggregates to completely obliterate the base coating. Alternatively, the anti-slip grains can be broadcast in a light random dressing to provide a less dense finish. When the base coat has reached initial cure, the excess aggregate should be vacuum cleaned from the surface. Then apply 1 or 2 top coats of **DisboPOX 231 SF** by medium haired roller at desired thickness or as per specifications. Care should be taken to ensure that a continuous film is achieved and the rough surface, caused by the aggregates completely sealed. Please note that some reduction in gloss will result.

**Important Note**

This product is for professional use only. The applicators and operators shall be trained, experienced and have the capability and equipment to mix/stir and apply the coatings correctly and according to Caparol's technical documentation.

Applicators and operators shall use appropriate personal protection equipment when using this product. The user of the product must test the product's suitability for the intended application and purpose. Users must always refer to the most recent issue of the local Technical Data Sheet (TDS) for the product concerned, copies of which will be supplied on request.

Field service where provided does not constitute supervisory responsibility. Suggestions made by Caparol either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not Caparol, are responsible for carrying out procedures appropriate to a specific application.

**Maintenance**

To maintain the appearance of the floor after application, **DisboPOX 231 SF** must have all spillages removed immediately and must be regularly cleaned using rotary brush, mechanical scrubbers, scrubber dryer, high pressure washer, wash and vacuum techniques etc. using suitable detergents and waxes.

**Colour Stability**

In common with all epoxy materials, some slight shade changes may be experienced over the long term when placed in adverse exposure conditions. Such products may fade and chalk when exposed to sunlight and weathering. Any such change in shade is not regarded as being detrimental to performance.

**Storage and Handling**

6 months when stored in warehouse conditions between 15 - 35°C in the original, unopened packs. The product must be kept in a cool, dry, enclosed, well ventilated space and away from source of heat and ignition. Do not expose to direct sun-light. Containers must be kept tightly closed and always handle with care. Keep out of reach of children.

**Disposal**

Material and related packaging must be disposed of in a safe way in accordance with the full requirements of the local authorities. Attention should be paid to removing wastage from site in compliance with standard construction site procedure. Only completely containers should be handed in for recycling. Liquid and hardened material which contains organic solvents or other hazardous substances shall be disposed of as paint waste. Uncured product residues are special hazardous waste. Do not empty contents into wadis, drains or watercourses.

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## Health and Safety

After full curing, **DisboPOX 231 SF** is physiologically harmless. Please observe the precautionary notices displayed on the container. Use under well ventilated conditions. Do not inhale spray mist. Avoid skin contact. Wear safety gloves, goggles and protective clothing. When working with the product do not eat, smoke or work near a naked flame.

Spillage on the skin should immediately be removed with suitable cleanser, soap and water. If mixed resin meets the skin, it must be removed before it hardens with a resin removing cream followed by washing with soap.

Avoid prolonged inhalation of solvent vapors. Some people are sensitive to epoxy resins, hardeners, and solvents; it should not meet skin and eyes or be swallowed. All respiratory equipment's must be suitable for the purpose and meet appropriate standards. In case contact with eyes, rinse immediately with plenty of water and seek medical advice immediately.

The regulations of the local trade association and/or other authorities, regulating safety and hygiene of workers handling epoxy resins must be followed.

## Disclaimer

This guideline is given based on the present state of our best scientific and practical knowledge of the products when properly stored, handled and applied under normal conditions in accordance with Caparol's recommendations. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. Caparol's products are considered as semi-finished goods and as such, products are often used under conditions beyond Caparol's control. Caparol cannot guarantee anything but the quality of the product itself.