

Technical Data Sheet

FS-EP-FLOOR

Self-Smoothing Epoxy Floor Topping (0.5 – 3.0 mm)

DESCRIPTION

FloorSafe™ FS-EP-FLOOR is a high gloss, self-smoothing, fast cure, epoxy resin floor finish applied between 0.5 and 3.0 mm thickness. It combines outstanding wearing properties with chemical resistance and a decorative finish. The fast cure advantage supports quick refurbishing works allowing the remainder of site activities to continue ahead of schedule. Ideally suited where a seamless, joint-free finish is required and maximum cleanliness is essential.

USES

FS-EP21-RP is suitable for environments that benefit from a tough, chemically resistant system. Typical areas include:

- Laboratories and clean rooms
- Pharmaceutical manufacturing
- Food and beverage production
- Warehouses and storage areas
- General light industry

FEATURES

- Seamless — easily cleanable to maintain high standards of hygiene
- Fast cure — allows foot traffic within 8 hours
- Does not support growth of bacteria and fungus
- Tough and hard wearing — durable with low maintenance cost
- Resistant to a wide range of chemicals and liquids
- Self-smoothing — provides a flat high gloss finish
- Suitable for use as a topping on existing epoxy screed
- Supplied in pre-measured packs for 0.5 mm and 3.0 mm thickness requirements
- Available in any standard RAL colours

PHYSICAL PROPERTIES @ 27 ± 1°C

Pot Life	~30 minutes
Mixed Density	~1.61 g/cc
Foot Traffic	8 hours
Full Cure	7 days
Bond Strength	> 1.5 N/mm ² (ASTM C 882)
Compressive Strength	> 60 N/mm ² (EN 13892-2)
Flexural Strength	≥ 35 N/mm ² (EN 13892-2)
Tensile Strength	> 20 N/mm ² (EN 13892-2)
Shore D Hardness	> 80 (ASTM D 2240)
Abrasion Resistance	~0.03 g loss/1000 cycles (ASTM D4060)
VOC Content	32 g/L

COVERAGE ESTIMATES

Pack Size: 18.50 kg — Part A (Resin) 4.50 kg + Part B (Hardener) 2.50 kg + Part C (Filler) 11.00 kg + Part D (Pigment) 0.50 kg

Thickness	Part C (Filler)	Coverage / pack	Mixed Density
0.5 mm	9.0 kg	21 m ²	1.57 g/cc
1.0 – 2.0 mm	11.0 kg	11.5 m ² @ 1mm / 5.75 m ² @ 2mm	1.61 g/cc
3.0 mm	12.0 kg	4 m ²	1.65 g/cc

Note: Part A, Part B and Part D quantities remain constant across all thicknesses. Only Part C (Filler) quantity varies.

CHEMICAL RESISTANCE

FloorSafe™ FS-EP21-RP is resistant to a wide range of chemicals. Ratings: R = Resistant (28 days+) L = Limited resistance (up to 7 days) N = Not resistant S = Short term (up to 1 day)

Reagent	Conc. %	Rating
Acetic acid	10	R
Acetic acid	50	N
Acetone	100	N
Ammonia	10	R
Ammonia	35	L

Reagent	Conc. %	Rating
Beer	100	R
Citric acid	50	R
Formic acid	50	N
Hydrochloric acid	25	R
Hydrogen Peroxide	20 vol	R
Kerosine	100	R
Lactic acid	25	R
Methylated Spirit	100	N
Milk	100	R
Nitric acid	30	R
Nitric acid	70	N
Oleic acid	100	R
Orange Juice	100	R
Petrol	100	R
Phosphoric acid	10	R
Red Wine	100	R
Salt	Saturated	R
Sodium hydroxide	50	R
Sodium hypochlorite	15	R
Sugar	Saturated	L
Sulphuric acid	10	R
Sulphuric acid	25	R
Sulphuric acid	75	R
Xylene	100	L

APPLICATION INSTRUCTIONS

Installation of FloorSafe™ FS-EP21-RP should be carried out by a Jenga approved applicator.

Surface Preparation:

Note: The substrate should have a surface tensile strength of at least 1.5 N/mm².

It is essential that FS-EP21-RP is applied to sound, clean and dry surfaces to ensure maximum adhesion. The ideal substrate is a flat, lightly textured and clean surface. Surface irregularities must be ground down or filled out with suitable repair materials.

Note: Any joints in the base, such as movement joints, should be brought through to the finished surface and suitably sealed.

Concrete Floors:

- New concrete floors must be allowed to cure for at least 28 days and shall have an effective damp-proof membrane below to prevent rising dampness.
- The concrete substrate must be hard, sound, and free of dust and barrier materials such as mortar, curing agents, laitance, oil, and grease that will inhibit adhesion.
- Overwatered or weak concrete surfaces must be prepared down to sound, solid concrete by mechanical methods. Remove dust and debris using vacuum equipment.
- Concrete surfaces should be mechanically prepared by grinding, contained shot blasting, or similar, and vacuum cleaned.

Note: The surface moisture content should be less than 5% before commencement. Do not apply to floors with rising moisture. Do not apply in temperatures less than 10°C or where ambient relative humidity is greater than 85%.

Epoxy Screeds / Underlay:

- The surface of the epoxy screed or underlay should be cleaned free of dust and contaminants that could inhibit adhesion.
- Any surface irregularities must be ground down or filled out with a suitable epoxy repair compound.

Priming:

- Priming is not necessary when FS-EP21-RP is laid on epoxy screed or underlay.
- All concrete floors must first be primed with FloorSafe™ FS-EPP-2R or a suitable epoxy primer, depending on substrate condition. Refer to the individual primer data sheets.
- One or more coats of primer may be required depending on the condition and porosity of the concrete substrate. High porosity substrates will be evident by rapid suction and absorption after preparation.
- Poorly primed surfaces may lead to blistering or pin holing in the cured resin. Allow overnight drying after priming before applying FS-EP21-RP.

Mixing:

- The individual contents of each component should be thoroughly stirred before mixing together.
- Mix Part D with Part A and ensure smooth, uniform mixing.
- Pour the entire contents into a larger mixing vessel and incorporate Part B and Part C.
- Mix thoroughly with a spiral mixing paddle in a slow speed drill for 3 minutes until a consistent homogeneous mix is achieved.
- One or more packs may be mixed simultaneously to ensure a quick rate of installation.

Note: Once mixed, FS-EP21-RP will generate heat and lose working time if left in the mixing container or kept in bulk. Apply immediately after mixing.

STORAGE AND SHELF LIFE

FloorSafe™ FS-EP21-RP has a shelf life of 12 months when kept in a dry, clean store between 5°C and 30°C in the original unopened containers. The product should be protected from frost, direct sunlight, and sources of heat.

DISPOSAL / SPILLAGE

Spillage of any product components should be absorbed onto sand or other inert materials and transferred to a suitable disposable vessel. Disposal of spillage and empty packaging should be in accordance with local waste disposal authority regulations. Refer to the current MSDS for further information.

PRECAUTIONS

Ensure adequate ventilation during mixing and application. Avoid contact with the eyes, nasal passages, mouth, and unprotected skin. Wear protective gloves and eye/face protection at all times. A suitable barrier cream may be used if necessary. In case of eye contact, rinse immediately with plenty of clean water and seek medical advice. After skin contact, wash immediately with soap and water. Prolonged skin contact should be avoided, especially where the user has an allergic reaction to resin-based materials. Observe personal hygiene and wash hands after work or at any interruption. Take care when removing gloves to avoid contaminating the inside. In case of accidents seek medical advice. Refer to current MSDS for complete safety information.

NOTE

The technical data contained in this datasheet are based on laboratory testing and site experience and are provided in good faith. BGSB Construction Products Ltd reserves the right to amend technical data without prior notice and accepts no liability for loss or damage arising from incorrect use, inadequate preparation, or failure to follow the instructions herein.

Application:

- Apply the mixed material to the prepared surface without delay using a trowel or depth-set rake to achieve the desired thickness.
- As soon as the material has been laid, and as work progresses, gently roll the surface with a spiked roller to release any entrapped air and blend out trowel marks.
- Protect the work area during installation and during the initial curing period to prevent debris from contaminating the surface, as this will lead to blemishes in the hardened cured finish.

CLEANING

FS-EP21-RP can be removed from tools and equipment using a suitable thinner immediately after use. Any hardened material must be removed mechanically.

MAINTENANCE

Good housekeeping and regular cleaning are essential to maintain the performance of FS-EP21-RP. Spillages should not be allowed to dry as this results in higher chemical concentrations causing early failure. Regular cleaning with a rotary scrubbing machine using a water miscible cleaning agent or hot water washing at temperatures up to 50°C is recommended.

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