

Technical Data Sheet

FS-PU70-4K

Heavy Duty Polyurethane Floor Topping (2 – 6 mm)

DESCRIPTION

FloorSafe™ FS-PU70-4K is a self-smoothing polyurethane resin flooring system with outstanding wear and chemical resistance, ideally suited for areas where a seamless, joint-free finish is required and maximum cleanliness is essential. Suitable for food, pharmaceutical, and general heavy duty plant and traffic environments. Can be installed from 2 mm up to 6 mm thickness.

USES

FS-PU70-4K is suitable for environments that benefit from a tough, chemically resistant system. Typical areas include:

- Food and beverage production
- Pharmaceutical manufacturing
- Warehouse and storage
- Semi wet processing zones
- Chemical plants
- General heavy duty plant and traffic areas

FEATURES

- Hard wearing — extremely durable and abrasion resistant with low maintenance cost
- Rapid application — can be applied on 7 days old concrete or 2 days old polymer screeds
- Resistant to a wide range of chemicals and liquids
- Seamless — easily cleanable to maintain high standards of hygiene
- Microbiologically inert
- High Impact resistance — Classified 'High Impact Resistance' under BS 8204: Part 1: 1999
- Supplied in pre-measured packs for ease of mixing and consistency at site

AVAILABLE COLOURS

Golden Yellow (RAL 1004) • Maize Yellow (RAL 1006) • Yellow Green (RAL 6018) • Cream (RAL 9001) • Signal Red (RAL 3001) • Grass Green (RAL 6010) • Pure Green (RAL 6037) • Dusty Grey (RAL 7037) • Light Blue (RAL 5012) • Light Grey (RAL 7035) • Silver Grey (RAL 7001) • Traffic Grey A (RAL 7042)

Note: FS-PU70-4K is not colour fast and may yellow over time. The rate of change will depend on UV light and heat levels and cannot be predicted. This will be more pronounced with lighter shades and blue shades and does not compromise the product performance or chemical resistance characteristics.

PHYSICAL PROPERTIES @ 27 ± 1°C

Mixed Density	1.86 g/cc
Pot Life	15 – 20 minutes
Light Traffic	24 hours
Full Traffic	48 hours
Full Cure	7 days
Bond Strength	> 1.5 N/mm ² (ASTM D 7234:2022)
Compressive Strength	~ 48 N/mm ² (EN 13892-2:2002)
Flexural Strength	~ 20 N/mm ² (EN 13892-2:2002)
Tensile Strength	~ 7 N/mm ² (BS 6319 Part 7:1985)
Shore D Hardness	~ 85 (ASTM D 2240:2015)
Coeff. of Thermal Expansion	7.64 × 10 ⁻⁵ per°C (ASTM C531:2000)
Service Temp. at 2mm	-25°C to +60°C
Abrasion Resistance	Classified 'Special Duty' (BS 8204: Part 2: 2002)
Slip Resistance	Classified 'Satisfactory' wet & dry (BS 8204: Part 2: 2002)
Impact Resistance	Classified 'High Impact Resistance' (BS 8204: Part 1: 1999)
Fire Resistance	Bfl-s1 (BS EN 13501-1:2018)
VOC Content	~ 8 g/L (ASTM D3960)

COVERAGE & PACK SIZE

Coverage: Approx. 5.38 m² at 2 mm thickness.

Pack Size	20 kg
Part A (Resin)	2.45 kg
Part B (Hardener)	3.10 kg
Part C (Aggregate)	14.20 kg
Part D (Pigment)	250 g

CHEMICAL RESISTANCE

FloorSafe™ FS-PU70-4K is resistant to a wide range of liquids and chemicals including most dilute acids (acetic, oleic, citric, hydrochloric, nitric and sulphuric acid), milk, animal fats and vegetable oils, sugars and flavourings, essences, mineral oils, kerosene, petrol, mineral spirit, brake fluids, and detergents. Chemical spillages should always be wiped up as quickly as possible and not be allowed to concentrate by evaporation.

Ratings: R = Resistant (subject to reasonable housekeeping) L = Limited resistance (occasional spillage tolerated if washed immediately)
N = Not Resistant (rapid and severe attack)

Chemical	Conc. %	Result
2 Ethoxy Ethanol	100	N
Acetic acid	10	R
Acetic acid	50	L
Acetic acid	99	N
Acetone	100	N
Ammonia	30	R
Beer	100	R
Butan-2-one Extra pure	100	N
Citric acid	50	R
Coffee	100	R
Diesel	100	R
Ethyl Acetate Extra pure	100	N
Ethyl alcohol (Ethanol)	100	N
Formic Acid	98	N
Formic Acid	50	L
Guava Juice	100	R
Hydrochloric acid	35	L
Hydrochloric acid	25	R
Hydrogen peroxide	20	R
Kerosene	100	R

Chemical	Conc. %	Result
Sulphur Dioxide solution	100	N
Sulphuric acid	25	R
Tartaric Acid 80% solution	80	L
Tea	100	R
Toluene	100	N

Chemical	Conc. %	Result
Lactic Acid	25	R
Lemon solution	100	R
Mango Juice	100	R
Methanol	100	L
Milk	100	R
Nitric acid	30	L
Nitric acid	50	N
Oleic Acid	100	R
Orange juice	100	R
Papaya Juice	100	R
Petrol	100	R
Promogranate Juice	100	R
Red wine	100	R
Sabeena solution	100	R
Sambar	100	R
Saturated salt solution	100	R
Saturated sugar solution	100	R
Sodium Hydroxide	50	R
Sodium Hypochloride solution	100	R
Sodium Hypochlorite	15	R

Chemical	Conc. %	Result
Tomato Juice	100	R
Vegetable oil	100	R
Waste oil	100	R
Xylene	100	L

Note: Discoloration is not classified as chemical attack or resistance if hardness is unchanged

APPLICATION INSTRUCTIONS

Installation of FloorSafe™ FS-PU70-4K should be carried out only by a Jenga approved applicator. Ideal application temperature is between 12°C and 25°C. The working time of the mixed material is greatly reduced at higher temperatures.

Surface Preparation:

Note: The substrate should have a surface tensile strength of at least 1.5 N/mm². FS-PU70-4K can be applied on 7 days old concrete or 2 days old polymer screeds.

- The concrete substrate must be hard, sound, and free of dust and barrier materials such as paint, lime coatings, plaster, curing agents, laitance, oil, grease, wax, and polish that will inhibit adhesion.
- Contaminated concrete surfaces should be mechanically prepared by scabbling, grinding, or contained shot blasting, and vacuum cleaned prior to installation.

- Overwatered or weak concrete surfaces must be prepared down to sound, solid concrete by mechanical methods. Remove dust and debris using vacuum equipment.

Note: Any joints or cracks in the concrete base where differential movement is anticipated, such as movement joints, should be brought through to the finished surface and suitably sealed.

To ensure maximum bond, grooves must be cut into the perimeter of the sub-floor, typically 8 mm deep by 8 mm wide. These should be inset approximately 100 mm from and running parallel with the walls, columns, and adjacent to doorways, including any finishing edges and day joints. Joints are also required wherever movement is expected including adjacent to stainless steel channels and machine bases. The grooves must have clean, square edges and the product laid into the full depth of the groove forming a perimeter anchorage. Grooves should surround areas not exceeding 20 m².

Steel Plates:

Steel decking must be clean, sound, and properly supported to prevent flexing. Deck plate of less than 4 mm thick is not recommended. The surface should be shot blasted to SA 2.5 and primed using a suitable solvent-free epoxy primer.

Priming / Scratch Coat:

Priming: All areas to be treated with FS-PU70-4K must first be primed with a suitable epoxy primer. Selection of the primer must be made depending on the substrate condition and porosity. Refer to the individual primer data sheets for further details.

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 their rapid suction and absorption. Poorly primed surfaces may lead to blistering or pin holing in the cured resin.

Final coat of primer shall be broadcasted with fine aggregates at 1 kg/m². Allow to dry for 24 hours.

Or

Scratch Coat with FS-PU70-4K: A 1 mm scratch coat of FS-PU70-4K is applied to ensure the substrate is completely sealed. Mix FS-PU70-4K and pour onto the floor and spread thinly using a straight edge trowel. Scratch off the excess with the edge of the trowel and leave to cure for 16 hours or overnight.

Mixing:

- Before commencing, stir Part A and Part B individually.
- In a suitable mixing vessel, pour Part A and start mixing with a slow speed drilling machine fixed with a mixing paddle.
- Add Part D (pigment) and mix for a minimum of one minute, then add Part B and continue mixing.
- Finally add Part C and mix together for a minimum of 2 minutes until a homogeneous mix is obtained.
- One or more packs may be mixed simultaneously to maintain a quick rate of installation.

Application:

- Pour FS-PU70-4K onto the prepared and primed substrate and spread using a trowel to achieve the desired thickness.
- As soon as the product has been laid and as work progresses, gently roll the surface with a spiked roller to provide an even surface appearance and to release any trapped air. Do not re-roll later.
- Protect the work area during the installation process and during the initial curing time to ensure no airborne debris can contaminate the surface of the wet resin.
- All movement joints in the sub-floor must be carried through the topping and properly sealed.

Note: Apply only above 5°C and where atmospheric RH is 90% or below. For floors with RH more than 75%, treat the entire floor area with an effective suitable damp proof membrane. Once the mixed material has exceeded its pot life, discard any unused product.

CLEANING

FS-PU70-4K can be removed from tools and equipment using a suitable thinner immediately after use. Any hardened material must be removed mechanically.

STORAGE AND SHELF LIFE

Part A, B & C: Shelf life 6 months. Part D: Shelf life 24 months. Store between 5°C and 30°C in original unopened containers, protected from frost, direct sunlight, and sources of heat.

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. 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. In case of accidents seek medical advice. Refer to current MSDS for complete safety information.



DISPOSAL / SPILLAGE

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

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