

KingFloor® PUHD

Heavy-duty polyurethane floor screed.

DESCRIPTION

KingFloor PUHD is a three-pack water based polyurethane topping that provides floor surfaces with a seamless, hygienic, slip resistant and cosmetically attractive finish. It is designed for food and chemical processing areas and heavy-duty engineering areas, dairies, breweries etc.

KingFloor PUHD can be steam cleaned and is resistant to boiling water and process liquids up to 120°C when applied at 9 mm or above.

KingFloor PUHD is applied by trowel and can be laid to falls. It has very good durability towards pedestrian and vehicular traffic. It also has very good resistance to many of the chemicals commonly found in an industrial environment (consult our Technical Department for further details). KingFloor PUHD can be supplied in a variety of colours (consult our Sales Department for further details).

ADVANTAGES

- ☐ Hard wearing and excellent impact resistance.
- ☐ Resistant to thermal shock and to temperatures -40°C to 120°C at 9 mm thickness; -40°C to 70°C at 6 mm thickness.
- ☐ Provides hygienic floor.
- ☐ Easy to clean.
- ☐ Resistant to a wide range of chemicals (consult KINGKRETE Technical Department for more details).
- ☐ Slip resistant.

CHEMICAL RESISTANCE

KingFloor PUHD provides resistance to a wide range of chemicals commonly encountered in the food and pharmaceutical industries, these chemicals include:

- ☐ Acetic Acid (50%): found in spirit vinegar
- ☐ Lactic Acid (10%) @ 60°C: found in milk & dairy products
- ☐ Oleic Acid (100%) @ 60°C: used in food processing as an emulsifier
- ☐ Citric Acid (25%): found in fruits
- ☐ Methanol (100%): representative of alcohols & a range of solvents used in pharmaceuticals.

KingFloor PUHD is also resistant to a wide range of inorganic acids, mineral oils, fats, fuels and solvents. Please contact KINGKRETE Technical Department for advice.

TECHNICAL PROPERTIES @ 25°C:

Mixed density:	2.05 ± 0.05 g/cm ³
Pot life:	20 - 30 min
Compressive strength*: BS 6319-2	≥ 55 MPa @ 28 days
Flexural strength*: EN 13892-2	≥ 14 MPa @ 28 days
Tensile strength*: BS 6319-7	≥ 5 MPa @ 28 days
Bond strength on C25/30 concrete**: EN 1542	≥ 2 MPa @ 28 days (concrete failure)
Taber abrasion: ASTM D4060 (1000 g, 1000 cycle) H22 wheel	950 milligram
Shore D hardness: ASTM D2240	> 80
Temperature resistance:	-40°C up to 120°C @ 9 mm thickness -40°C up to 70°C @ 6 mm thickness

*tested at a density of 2.1 g/cm³

** primed concrete substrate.

Note: Some staining and discoloration may occur upon contact with certain chemicals, depending on the exposure time, nature and housekeeping regime employed. This will not adversely affect the performance of the product.

METHOD OF USE

Surface Preparation

The surface must be clean, dry (less than 75% RH measured by hygrometer) and free of laitance (see the KINGKRETE Guide to Surface Preparation for further details). To ensure a good bond to the substrate, a 20 mm deep x 8 mm wide rebate must be cut around the edges of the floor, 150 mm from the walls, doorways, finished edges, plinths, etc and running parallel to them.

For treatment of surfaces containing expansion joints, consult our Technical Department.

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PRIMING

Surfaces must be primed with KingFloor Primer on which 0.7 – 1.2 mm dry quartz aggregate has been scattered at approximately 0.5 kg/m².

Note: More than one coat of primer may be required for highly porous or textured surfaces.

For surfaces with RH between 75 and 85%, prime with 1 coat of KingFloor DPM and allow to cure before priming with KingFloor Primer.

For surfaces with RH greater than 86%, prime with 2 coats of KingFloor DPM and allow the second coat to cure before priming with KingFloor Primer.

Mixing

Taking care to ensure that the bottom and sides are thoroughly scraped, transfer the entire contents of the KingFloor PUHD Hardener container into the Resin container and, using a Jiffy-type mixer attached to a slow running electric drill, mix for approximately two minutes.

Once the KingFloor PUHD Hardener and Resin have been mixed, transfer all the mixed material into a Casco or Creteangle-type mixer, taking care to ensure that the bottom and sides are thoroughly scraped. Start the mixer and transfer to it the entire contents of the KingFloor PUHD Filler container, taking care to ensure that these are completely dry and lump-free. Continue mixing for approximately two minutes.

Note: Never mix KingFloor PUHD by hand as this could lead to areas of uncured material.

Application

Once mixing is complete, transfer the KingFloor PUHD to the primed surface and, using a straight-edged steel trowel, apply it evenly.

When applying each kit of KingFloor PUHD, leave approximately 200 mm of the closest working edge un-trowelled as this will help the blending in of the next kit. Take care not to excessively trowel the KingFloor PUHD as this will lead to burnish marks on its surface.

Note: KingFloor PUHD is not colour stable and may discolour on ageing and exposure to UV light, especially with light colours. This will not adversely affect the performance of the product.

Occasional Spillage.

Chemical Resistance after full cure (28 days @ 25°C), ASTM D1308 (Spot - test @ 1 hr)

Organic acids

Lactic Acid 10%	R
Oleic Acid sat.	R
Citric Acid 25%	R
Acetic Acid 10%	R
Tartaric Acid 10%	R

Inorganic bases

Sodium Hydroxide 40%	R
Ammonia Solution 10%	R
Potassium Hydroxide 50%	R

Aqueous solutions

Sodium Chloride sat.	R
Chlorinated water	R

Solvents

White spirit	R
Xylene	R

Oils & fuels

Brake oil	R
Engine oil	R
Diesel	R
Petrol	R
Hydraulic oil	R

Inorganic acids

Sulphuric Acid 25%	R
Phosphoric Acid 20%	R
Hydrochloric Acid 10%	R
Nitric Acid 10%	R

Sugar flavourings

Sugar Solution sat.	R
Glucose Syrup sat.	R

Carbonated beverages

Pepsi/Coca Cola	R
Miranda/Fanta	R
7UP	R

Electrochemical solutions

Copper Sulphate 1M	R
Zinc Sulphate 1M	R

Fruit juices

Orange juice	R
Apple juice	R
Lemon juice	R

Fats

Vegetable oil	R
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Cleaning aids

Dish washing liquid	R
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WORKING TIME

KingFloor PUHD has a working time of approximately 20 minutes at 25°C.

Note: Never leave the mixed KingFloor PUHD kit to stand for any length of time before application, as this will considerably shorten its working time.

Working Conditions

KingFloor PUHD should not be applied at temperatures less than 5°C.

Curing Time

At 25°C, KingFloor PUHD can be opened to pedestrian traffic after 12 hours and heavy wheeled traffic after 24 hours.

At the same temperature, it should be allowed to cure for seven days before exposing it to chemical contamination (consult our Technical Department for details of curing times at other temperatures).

CLEANING AND HYGIENE

In order to enhance and maintain life expectancy, slip resistance and aesthetic properties, regular cleaning should be done using industry standard cleaning chemicals and equipment. Please contact KINGKRETE technical department for advice. KingFloor PUHD can be steam cleaned at 9 mm.

CLEANING

Once mixing, application and finishing are complete, tools can be cleaned with KingKrete Solvent.

PACKAGING

KingFloor PUHD is available in 30 kg (14.3 litre).

THICKNESS RANGE

6 - 9 mm.

COVERAGE

Approximately 2.4 m²/kit at 6 mm thickness.

STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature.

Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative.

KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from KingKrete's manufacturing facilities are manufactured under a management system independently certified to conform to the requirements of the quality standard ISO 9001.

* Properties listed are based on laboratory-controlled tests.

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STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this KingKrete Inc. publication are based on the present state of our best scientific and practical knowledge. 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. The user is responsible for checking the suitability of products for their intended use.

NOTE

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