KingFloor ® EP75

Solvent free high build epoxy floor coating for thickness up to 200 microns in one coat.

DESCRIPTION

KingFloor EP75 is a high build, hard wearing, solvent free epoxy resin coating, designed to provide a hard, gloss coating to concrete floors. It is supplied as base (resin) and hardener in addition to a colour pack which contains reactive ingredients in preweighed quantities ready for on site mixing and use.

KingFloor EP75 permits the application of floor coatings of 200 microns per coat and can be coloured to suit site requirements.

With the addition of Anti-slip Aggregate (Slip resistant aggregate) between coats, slip resistant floor system can be achieved with a build-up thickness between 1 to 2 mm.

APPLICATIONS

KingFloor EP75 is used as protective, decorative, high chemical resistance and hard wearing floor coating system for a wide range of applications including:

- Aircraft hangars.
- Car parks.
- Soft drink and beverage production areas.
- Dairies production areas.
- Show rooms.
- Production, maintenance and assembly areas.
- Warehouses.
- General food processing and manufacturing plants.

ADVANTAGES

- High chemical and mechanical resistance.
- Available in a wide range of attractive colours.
- Cost effective.
- Easy application.
- High build.
- Can be applied in slip resistant finishes.

STANDARDS

KingFloor EP75 complies with BS 476, Part 7 : 1987, Class 1 Spread of Flame.

TECHNICAL PROPERTIES @ 25ºC:

Colour:	Available in different colours
Mixed density:	1.60 ± 0.05 g/cm³ @ 25°C
Solid contents:	100%
Pot life:	50 min @ 25°C 25 min @ 35°C
Minimum time between coats:	12 hr @ 25°C 6 hr @ 35°C
Maximum time between coats:	36 hr @ 25°C 18 hr @ 35°C
Full curing time:	7 days @ 25°C 5 days @ 35°C
Compressive strength: BS 6319, Part 2:1983	70 MPa @ 25°C
Flexural strength: BS 6319, Part 3:1990	> 45 MPa @ 25°C
Tensile strength: ASTM D638	> 20 MPa @ 25°C
Bond strength: ASTM D4541-85	2.5 MPa (concrete failure)
Impact resistance: ASTM D2794 (on primed substrate)	10 N.m
Shore D hardness @14 days: ASTM D2240	85
Water absorption: ASTM D570	< 0.1%
Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss, CS17 wheel	90 milligram
VOC: ASTM D2369	< 20 g/ltr (complies with LEED)

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METHOD OF USE

Substrate Preparation

The substrate must be clean, dry, even, dense and free from oil, grease, dust and other contaminants.

A clean surface will ensure maximum adhesion between the substrate and the coating. Concrete floors must have a minimum compressive strength of 25 N/mm² and a maximum concrete relative humidity of 80% (max. moisture content of 4%), relative humidity can be measured using a hygrometer.

Concrete relative humidity should be less than 80% for concrete 28 days old or more.

Surface Preparation

Unsound layers and contaminated concrete surfaces must be prepared using mechanical surface removing equipment. Acid etching can be used only in well ventilated areas. Areas deeply contaminated by oil or grease, such areas should be treated by hot compressed air.

Priming

KingFloor EP75 is designed to be used without a primer. However, for highly porous substrates, KingFloor EP75 Primer or KingFloor Primer S is recommended.

Mixing

To avoid inconsistent workability and pot life, make sure that the materials to be used are stored in shaded area and protected from extremes of temperatures, for at least 24 hours prior to application.

Prior to mixing, stir individual components of Resin, Hardener and colour pack. Add the entire contents of the colour pack into the base container and mix with heavy duty drill for 2 minutes till a uniform colour is achieved. Add the entire contents of the hardener container to the mixed colour pack and base and mix thoroughly for at least 3 minutes.

Occassional Spillage. Chemical Resistance after full cure (7 days @ 25°C), ASTM D1308 (spot test @ 1 hr)	
Organic acids	
Oleic Acid sat.	R
Citric Acid 25%	R
Acetic Acid 5%	R
Acetic Acid 10%	RS + SS
Yogurt	R
Lactic Acid 10%	R
Inorganic Bases	
Sodium Hydroxide 50%	R
Ammonia Solution 10%	R
Potassium Hydroxide 50%	R
Aqueous Solutions	
Sodium Chloride sat	R
Tap water	R
Chlorinated water	R
Dead sea water	R
Solvents	
White spirit	R
Xylene	R
Toluene	R
Acetone	R
Oils & Fuels	
Benzyl Alcohol	SS
Brake fluid	R
Engine oil	R
Diesel	R
Kerosene	R
Detergents & Soaps	R
Inorganic Acids	
Sulphuric Acid 25%	R
Sulphuric Acid 40%	R
Phosphoric Acid 20%	RS
Hydrochloric Acid 10%	R
Hydrochloric Acid 32%	RS
Nitric Acid 10%	R

R: Resistant
RS: Resistant with slight discoloration RD: Resistant with discoloration
SS: Slight softening S: Softening
NR: Not Resistant (Destroyed)

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COATING

Use brush or lambs wool roller, or airless spray machine to apply the mixed KingFloor EP75 onto the prepared surfaces. To get a film thickness of 400 microns, apply 2 coats of KingFloor EP75 at 3.1 m²/kg/coat, second coat should be applied at a right angle to the first coat. The second coat may be applied as soon as the first coat has initially dried.

When KingFloor Primer is used at a rate of 5 m²/kg, it will give a dry film thickness between 120 - 150 microns with a clear yellow glossy finish.

Anti-slip Application

The base coat should be applied at a minimum film thickness of 250 microns and then fully blinded with the chosen Anti-slip Aggregate. Once the base coat has reached initial cure, all excess aggregates should be removed before a further application of KingFloor EP75 top coat.

The top coat should be applied at a minimum film thickness of 400 - 750 microns depending on Antislip Aggregate size used.

REMARKS

- KingFloor EP75 should not be applied at temperatures below 10°C or where ambient relative humidity exceeds 85%.
- KingFloor EP75 should not be applied onto surfaces known to suffer from rising damp.
- In case of spray applications, airless spray machines should be used.
- A minimum thickness of 150 microns per coat should be applied to obtain a smooth finish.

CLEANING

Tools and equipment can be cleaned with KINGKRETE Solvent when it is wet. Dried KingFloor EP75 may be removed mechanically.

PACKAGING

KingFloor EP75 is available in 6 kg packs (3.75 litre) and in 18 kg packs (11.25 litre).

CHEMICAL RESISTANCE

Based on test method ASTM D1308, immersion in the below chemicals. After 7 days

Hydrochloric Acid 32%	RS
Sulphuric Acid 50%	R
Sodium Hydroxide 50%	R
Petrol	R
Kerosene	R
Skydrol	R
Engine oil	R
Brake fluid	R
Saturated Sugar Solution	R

R: Resistant
RS: Resistant with slight discoloration
RD: Resistant with discoloration

COVERAGE

Standard coverage:

KingFloor Primer S: 5 m²/kg.
KingFloor EP75(base coat): 0.32 kg/m². KingFloor EP75 (top coat): 0.32 kg/m². Approximate system thickness: 500 - 600 microns.

Anti-slip coverage When used with Anti-slip Aggregate #2 to achieve medium texture:

KingFloor Primer S: 5 m²/kg.
KingFloor EP75 (base coat): 0.39 kg/m². Anti-slip aggregate #2: 2.0 – 4.0 kg/m².
KingFloor EP75 (top coat): 0.64 kg/m². Approximate system thickness: 2.0 mm.

Anti-slip coverage When used with Anti-slip Aggregate #3 to achieve fine texture:

KingFloor Primer S: 5 m²/kg.
KingFloor EP75 (base coat): 0.37 kg/m². Anti-slip aggregate #3: 2.0 – 4.0 kg/m².
KingFloor EP75 (top coat): 0.53 kg/m². Approximate system thickness: 1.25 mm.

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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 Qatar facility 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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