

KingFloor[®] EP400

Solvent free high build epoxy floor coating for 200 to 400 microns thickness.

DESCRIPTION

KingFloor EP400 is a high build, hard wearing, solvent free epoxy resin coating, designed to provide a hard and glossy coating to concrete floors. It is supplied as a coloured base (resin) and hardener in pre-weighted quantities ready for onsite mixing and use.

KingFloor EP400 permits the application of floor coatings at 200 - 400 microns per coat and can be supplied in different colours to suit the 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 1.3 - 2.0 mm.

APPLICATIONS

KingFloor EP400 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 from 200 - 400 microns thickness per coat.
- ▣ Can be applied in slip resistant finishes.

STANDARDS

KingFloor EP400 complies with BS 476, Part 7:1987, Class 1 Spread of Flame.

TECHNICAL PROPERTIES @ 25°C:

Colour:	Available in different colours
Mixed density:	1.5 ± 0.1 g/cm ³
Solid contents:	100%
Pot life:	60 - 80 min @ 25°C 30 - 50 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 6319-2	≥ 70 MPa @ 7 days
Flexural strength: EN 13892-2	≥ 40 MPa @ 7 days
Tensile strength: BS 6319-7	≥ 14 MPa @ 7 days
Bond strength on C25/30 concrete: ASTM D4541 EN 1542	≥ 2.0 MPa @ 7 days (concrete failure)
Impact resistance: ISO 9272	≥ 9.8 N.m
Water absorption: ASTM D570	< 0.25%
Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss CS17 wheel	≤ 60 milligram
VOC: ASTM D2369	≤ 10 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 75% (max. moisture content of 4%), relative humidity can be measured using a hygrometer. Concrete relative humidity should be less than 75% 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 EP400 is designed to be used without a primer. However, for highly porous substrates, 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 well the individual components of the coloured base and hardener to eliminate any deposits. Add the entire contents of the hardener container to the base container and mix thoroughly using a slow speed drill mixer (i.e. 300 - 500 rpm) fitted with helix type paddle for approximately 3 minutes until uniform colour is achieved.

Take care to ensure that the bottom and sides of the hardener part are thoroughly scraped. Partial mixing is not allowed.

Occasional 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%	RS + SS
Acetic Acid 10%	RS + SS
Yogurt	R
Lactic Acid 10%	RS

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%	RS + SS
Sulphuric Acid 40%	RS + SS
Phosphoric Acid 20%	RS + SS
Hydrochloric Acid 10%	RS + SS
Hydrochloric Acid 32%	RS + SS
Nitric Acid 10%	R

R: Resistant

RS: Resistant with slight discoloration

SS: Slight softening



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COATING

Use brush or lamb wool roller to apply the mixed KingFloor EP400 onto the prepared surfaces. A minimum film thickness of 200 microns must be applied per one coat of KingFloor EP400 at 0.3 kg/m² per coat.

A second coat with a minimum film thickness of 200 microns 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 S is used at a rate of 5 m²/kg, it will give a dry film thickness between 150 - 175 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 EP400 top coat.

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

REMARKS

- Ⓜ KingFloor EP400 should not be applied when the ambient or substrate temperature is below 10°C or where ambient relative humidity exceeds 80%. At low application temperatures (i.e. below 15°C) it is recommended to store the unmixed materials at warm conditions (i.e. around 25°C) 24 hours prior to the application.
- Ⓜ KingFloor EP400 should not be applied on surfaces which are known to suffer from rising damp. If the concrete humidity exceeds 75%, KingFloor DPM should be used. Consult KINGKRETE's Technical Department for more information.
- Ⓜ A minimum thickness of 200 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 EP400 may be removed mechanically.

PACKAGING

KingFloor EP400 is available in 27 kg packs (18 litre).

COVERAGE

Standard coverage:

KingFloor Primer S: 5 m²/kg.

KingFloor EP400 (base coat): 0.30 kg/m². KingFloor

EP400 (top coat): 0.30 kg/m². Approximate system thickness: 400 - 600 microns.

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

KingFloor Primer S: 5 m²/kg.

KingFloor EP400 (base coat): 0.38 kg/m². Anti-slip aggregate #2: 2.0 – 4.0 kg/m².

KingFloor EP400 (top coat): 0.57 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 EP400 (base coat): 0.38 kg/m².

Anti-slip aggregate #3: 2.0 – 4.0 kg/m².

KingFloor EP400 (top coat): 0.47 kg/m². Approximate system thickness: 1.3 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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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

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