KingCoat ® EN100

High performance chemical resistant epoxy novolac lining.

DESCRIPTION

KingCoat EN100 is a two-component seamless epoxy novolac coating designed for areas where excellent wear and chemical resistance is required. KingCoat EN100 is suitable for use on concrete and steel surfaces. The material may be used with or without antislip aggregates and can also can be laminated with glass fibre cloth to achieve a high build, chemical resistant lining.

APPLICATIONS

KingCoat EN100 is designed for use in applications, such as:

- Chemical plants.
- Sewage treatment plants.
- Pharmaceutics industry.
- Petroleum refineries.
- Storage areas.
- Loading docks.
- Food processing areas.

ADVANTAGES

- Excellent chemical resistance.
- Superior adhesion to concrete and mild steel.
- High wear resistance.
- Able to withstand exposure to chemicals with pH ranging from 1 – 14 @ 25ºC.
- Solvent free, 100% solids.
- Easy and fast application.

METHOD OF USE

Substrate Preparation

Concrete surfaces

The Substrate should be sound, clean and free from contamination. Surface Laitance should be removed by grit blasting or water jetting. All exposed blow holes should be filled with epoxy paste using KingRep EP10

Steel surfaces

All surfaces should be grit blasted to reach a bright finish meeting the requirement of Swedish Standard SA 2 1/2.

Priming

KingCoat EN100 is designed to be used without a primer. However, for highly porous substrates, KingFloor Primer S is recommended.

TECHNICAL PROPERTIES

Finish:	Gloss
Colour:	Grey
Solid content:	100%
Specific gravity:	1.3 ± 0.05 g/cm³
Full cure:	7 days @ 25ºC
Tack free time	8 hr @ 25ºC
Pot life:	45 min @ 25ºC 20 min @ 35°C
Flexural strength: BS 6319, Part 3	> 20 MPa
Flexural strength: ASTM C580	> 27 MPa
Over-coating time:	< 18 hr @ 23ºC < 12 hr @ 35ºC
Tensile strength: ASTM C580	> 11 MPa
Tensile strength: ASTM D638	> 20 MPa
Compressive strength: BS 6319, Part 2	> 50 MPa
Compressive strength: ASTM C579	> 55 MPa
Bond strength: ASTM D4541	> 2 MPa (Concrete failure)
Hardness:	85 ± 5 shore D
Water absorption: ASTM D570	< 0.2%
Taber abrasion resistance: ASTM D4060, weight loss CS17 wheel, 1000 g, 1000 cycle CS10 wheel, 1000 g	 < 75 mg < 0.5 mg/cycle
VOC: ASTM D2369	< 10 g/ltr (complies with LEED)

MIXING

To ensure proper mixing, a mechanically powered mixer or drill fitted with a suitable paddle should be used. Stir the content of each component separately to disperse any settlement.

Add the entire content of the hardener to the base and mix for 3 minutes and until a uniform colour and consistency are achieved.

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APPLICATION

Coating Finish

KingCoat EN100 can be applied by stiff nylon brush; short nap roller and airless spray machine. The first coat should be applied to obtain a continuous uniform coating. The second coat should be applied within the over coating time to achieve the maximum adhesion between the two coats.

Antislip Finish

The base coat should be applied at a minimum film thickness of 250 microns and then fully blinded with the chosen Antislip Aggregate. Once the base coat has reached initial cure, all excess aggregates should be removed before a further application of KingCoat EN100 top coat.

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

Use with Glass fibre reinforcement

To increase the thickness of the system or where necessary to bridge fine cracks in the substrate, the glass fibre matt is recommended as reinforcement. Apply one coat at a wet film thickness of 250 microns and while still wet, lay the fibre glass matt directly onto the wet layer and press firmly into the first coat. Wet out mat with additional mixed KingCoat EN100 until mat is saturated. Use a ribbed roller to remove air from the mat allow reinforcement to cure.

PACKAGING

KingCoat EN100 is available in 5 kg packs.

COVERAGE

Standard Coverage

KingFloor Primer S: 5 m²/kg
KingCoat EN100 (base coat): 0.33 kg/m². KingCoat EN100 (top coat): 0.33 kg/m².

Antislip Coverage

KingFloor Primer S: 5 m²/kg.
KingCoat EN100 (base coat): 0.33 kg/m².
Antislip aggregate #2: 0.35 – 0.75 kg/m².
KingCoat EN100 (top coat): 0.50 kg/m². Approximate system thickness: 1.5 mm

CHEMICAL RESISTANCE

KingCoat EN100 is resistant to the spillage and splash of the following chemicals: ASTM D1308 @ 24 hours

Acetic Acid 10%	Boric Acid 1%
Citric Acid 50%	Fatty acids
Fumaric Acid 0.5%	Hydrofluoric Acid 25%
Nicotinic Acid 2%	Lactic Acid 20%*
Phosphoric Acid 10%	Nitric Acid 10%
Tartaric Acid 50% Phosphoric Acid 55%	Ammonium Hydroxide 30%
Potassium Hydroxide 50%	Sodium Hydroxide 50%
Gasoline (Car Fuel)	Jet fuel
Kerosene	Diesel fuel
Skydrol	Brake fluid
Car oil	Crude oil
Benzene	Carbon Tetrachloride
Hexane	Mineral Spirit
Toluene	Xylene
Methyl Isobutyl Ketone	Ethanol
Isopropanol	Benzoyl Chloride
Diethanolamine 88%	Ethylene Glycol
Formaldehyde 37%	Hexamine 25%
Hydrazine 35%	Propylene Glycol
Magnesium Sulphate	Potassium Sulphate
Ammonium Ferrous Sulphate	Ferrous Sulphate
Aluminum Ammonium Sulphate	Sodium Disulphate
Sodium Benzoate	Sodium Thiocyanate-an-hydrous
Ammonium Chloride	Ammonium Acetate
Ammonium Thiocyanate	Zinc Acetate
Potassium Chromate	Potassium Sodium Tartrate
Vegetable Oils	Sea water
Hydrogen Peroxide	Brine 10%

**Resists with slight discoloration.*

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.

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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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CHEMICAL RESISTANCE

Based on test method ASTM D1308 after 7 days immersion, KingCoat EN100 resists the following chemicals with some discoloration:

Acetic Acid 10%	Phosphoric Acid 10%
Lactic Acid 20%	Nitric Acids 10%
Sulphuric Acid 25%	Hydrochloric Acid 10%

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