KingCoat ® SF100

Two-component, solvent-free high build epoxy protective coating.

DESCRIPTION

KingCoat SF100 is a solvent free, high build, epoxy protective coating based on specially formulated, pigmented epoxy/ hardener system.

KingCoat SF100 is formulated to provide excellent impact, penetration and abrasion resistance along with excellent adhesion, flexural and tensile strength. The full compatibility with cathodic protection systems is a major advantage of the product.

KingCoat SF100 is sprayable with standard or plural component heavy-duty airless spray machines. It can also be supplied in other grades like brushing grade, or rapid curing grade sprayable with twin component hot airless spray machines.

KingCoat SF100 is supplied as a two-component product in pre-weighed base and hardener packs, ready for site mixing.

APPLICATIONS

- Self-priming for vessel interiors, tanks, and piping (buried or exposed).
- Lining of storage tanks and silos.
- Concrete and steel coating for chemical and pharmaceutical industries, sewage works, farms, agricultural firms, etc.
- Pigmented flooring material for car parks, roads, airfields, traffic activities, industrial plants, and commercial warehouses.
- Concrete topping for health care facilities, and food, beverage, and power plant industries.
- Highly recommended in chemical and food industries with severe corrosion and abrasion environments.

ADVANTAGES

- Solvent free
- Abrasion and wear resistant.
- Easy to clean.
- Full compatibility with cathodic protection systems.
- Excellent resistance to a wide range of chemicals and solvents.
- Excellent resistance to petroleum products such as gasoline, kerosene, naphtha, diesel, and fuel oil.
- Excellent resistance to immersion in both fresh and salt water.
- Excellent concrete protection.

the correct quantity of KingMix to the concrete mix.

TECHNICAL PROPERTIES @ 25°C:

Mixing ratio:	2:1 (by volume)
Volume of solids:	100%
Pot life:	40 min @ 5°C 25 min @ 23°C 10 min @ 35°C
Touch dry:	8 hr @ 5°C 2 hrs 15 min @ 23°C 1 hr @ 35°C
Over coating time:	48 hr @ 5°C 24 hr @ 23°C 24 hr @ 35°C
Foot traffic:	After 5 h
Service Temperature: Intermittently Continuously	 -15 to 100°C -10 to 90°C
Compressive strength: ISO 604	≥ 60 MPa @ 7 days
Flexural strength:	≥ 30 MPa @ 7 days
Tensile strength:	≥ 20 MPa @ 7 days
Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D968, weight loss H22 wheel	600 milligram
Shore D Hardness:	≈ 86
Adhesion strength on blasted steel: ASTM D4541-2	≥ 30 MPa
Bond strength over C25/30 concrete: ASTM D4541	Concrete failure
Izod impact, notched: ASTM D256	0.64 ft.lb./in
Carbamation test: (scale 1 -5, 5 being best)	5

METHOD OF USE

Substrate Preparation

All substrates should be free of any contaminants such as oil, salts, grease, coatings and surface treatments. For steel degrease according to SSPC-SP 1 solvent cleaning.

For steel and other metals, all weld spatters should be removed and weld seams and sharp edges should be grounded.

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CONCRETE SURFACES

Concrete surfaces should be at least 28 days old, unless water-reducing admixtures have been incorporated.

Concrete surfaces are to be mechanically using light abrasive blasting, to remove all previous coatings, chalk, and surface glaze, or laitance and achieve an open textured surface.

Surface defects such as voids and blowholes should be repaired before application. Consult KINGKRETE's Technical Department for the best repair material.

Surface must be free of standing water, it is recommended to blast clean substrates and clean from all debris, dust or loose particles before product application. Captive blasting or totally enclosed vacuum recovery shot blasting method is preferred.

If possible, apply the product on a small test area before actual application to check for any problems with the surface preparation.

Concrete Priming

- Apply “KingCoat SF100 Sealer”, to saturate and seal the concrete surface before application of following coats.
- Use “KingCoat SF100 Conditioner” if blasting / grinding cannot be used. The surface should be washed after use of the surface conditioner and then left to dry.
- Uneven concrete should be leveled to produce a roughened flat surface.
- Expansion, control, isolation, and moving joints must be carried through the coating.

STEEL SURFACES

Blast clean the dry surface to a minimum of Sa 2 ½ (ISO 8501- 1: 1988) or near White metal SSPC-SP 6 (SSPC- SP10 for optimum performance) with minimum surface profile height of 75 microns).

If oxidation / rust has occurred between blasting and application, the surface should be re-blasted to the specified visual standard. Surface defects revealed by the blast cleaning process, should be ground, filled, or treated in appropriate manner.

ELECTRICAL PROPERTIES

Cathodic disbonding, @1000 microns, 30 days : DIN 30671, 1200 mV H2	Pass
Dielectric constant, 106 MHz: ASTM D150	4.26
Volume resistivity:	1.4 x 10^{15}.ohm.cm

CHEMICAL RESISTANCE

Occassional Spillage after full cure (7 days @ 25°C)

Exposure chemical	Fumes and light splash	Weathering
Hydrochloric acid solution	Suitable	Suitable
Phosphoric acid solution	Suitable	Suitable
Sulfuric acid solution	Suitable	Suitable
Citric acid solution	Suitable	Suitable
Lactic acid	Suitable	Suitable
Alkalis	Suitable	Suitable
Detergents	Suitable	Suitable
Sugar syrups	Excellent	Excellent
Aliphatic solvent	Excellent	Excellent
Salts	Excellent	Excellent
Water	Excellent	Excellent
Sewage water	Excellent	Excellent

Some chemicals may change the colour of the product. This will not in any way detract from its other properties.

MIXING

KingCoat SF100 comprises of two components, a resin base, and hardener which are pre-weighed to the correct proportions. Under no circumstances should part mixing be carried out.

To ensure proper mixing, a mechanically powered mixer or drill fitted with a suitable paddle should be used. Stir the base and the hardener individually to disperse any settlement.

Entire contents of the base and hardener should be poured into a suitable size container and mixed mechanically for 2 minutes until a uniform colour and consistency are achieved.

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FOR PLURAL COMPONENT SPRAY APPLICATION

The individual components should be fully pre-mixed in its own container to ensure proper dispersion of contents prior to loading into the appropriate hoppers on the spray unit.

Notes:

- *Do not to mix quantities more than needed.*
- *It is recommended to pre-condition Part A to approximately 35 - 50°C, and Part B to approximately 30 - 40°C before application for quicker touch dry times.*

Application

Immediately after mixing, apply the mixed KingCoat SF100 using high-quality roller, brush, airless spray or plural spray machine. Two coats are recommended. Apply the second coat as soon as the first coat is tack-free and the traffic of application will not damage the first coat.

REMARKS

- Thin coats will always mirror the surface, i.e. the coat will never hide or correct large faults or unevenness in concrete or metal surfaces.
- Apply KingCoat SF100 as soon as possible to keep the steel from rusting.

CONSUMPTION

Approximately 0.5 – 2.0 ltr/m² to achieve thickness of 500– 2000 microns.

Note: KingCoat SF100 can be applied at higher or lower thickness if needed.

PACKAGING

KingCoat SF100 is available in:

- 56.7 litre set (three individual buckets of 18.9 litre), with a volume mixing ratio of 2:1
- 567 litre set (three individual buckets of 189 litre), with a volume mixing ratio of 2:1

Other mixing ratios are available upon request.

CLEANING

All tools should be cleaned immediately with water. Hardened material must be cleaned mechanically.

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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