

KingDeck[®] HPU System

UV resistant hard-wearing polyurethane traffic coating system.

DESCRIPTION

KingDeck HPU System is a UV resistant, hard-wearing, polyurethane coating system primarily designed for use in car parks. It has excellent resistance to abrasion and wear and excellent chemical resistance to petrol, diesel, engine oil, brake fluid and de-icing salts.

The KingDeck HPU System consists of the following components:

- ☐ **KingDeck Primecoat U:** a two component, solvent-free epoxy primer with excellent adhesion to concrete and cementitious substrates.
- ☐ **Antislip Aggregate #3:** a hard-wearing quartz aggregate for producing an anti-slip finish.
- ☐ **KingDeck Wearcoat TE:** a two component, solvent-free, pigmented wearing course with excellent resistance to abrasion and chemical attack.
- ☐ **KingDeck Wearcoat TP:** a two component, pigmented wearing course with excellent resistance to abrasion and chemical attack. It is applied as the final coat for areas of the car park that are exposed to UV light. It is specifically formulated for colour stability and will not discolor upon exposure to sunlight or other sources of UV light.

APPLICATIONS

KingDeck HPU System is designed for application in different areas of car parks, such as:

- ☐ Ramps and turning circles.
- ☐ Traffic aisles and parking bays.
- ☐ Pedestrian walkways.

ADVANTAGES

- ☐ Excellent resistance to petrol, diesel, engine oil and brake fluid.
- ☐ Resistant to de-icing salts.
- ☐ Available in both smooth and aggregate broadcast finishes for different slip resistance requirements.
- ☐ Available in a special UV resistant grade "KingDeck Wearcoat TP" for outdoor applications.

CHEMICAL RESISTANCE

KingDeck HPU provides resistance to a wide range of oils, fuels, solvents, acids and bases commonly encountered in car parks. For detailed information, contact KINGKRETE's Technical Department.

SYSTEM SPECIFICATION

The combination of products specified depends on the area within the car park to which KingDeck is being applied, as follows:

EXPOSED DECKS (OUTDOOR APPLICATION)

Ramps and turning circles

- ☐ One coat KingDeck Primecoat U + full blind of Antislip Aggregates #3.
- ☐ One coat KingDeck Wearcoat TE.
- ☐ Two coats KingDeck Wearcoat TP.

Traffic aisles and parking bays

- ☐ One coat KingDeck Primecoat U + full blind of Antislip Aggregate #3.
- ☐ One coat KingDeck Wearcoat TE.
- ☐ One coat KingDeck Wearcoat TP.

Smooth finish for traffic aisles and parking bays

- ☐ One coat KingDeck Primecoat U.
- ☐ One coat KingDeck Wearcoat TE.
- ☐ One coat KingDeck Wearcoat TP.

Notes:

- ☐ For indoor or outdoor decks, where a waterproofing surface is required, use KingDeck HPW system.
- ☐ Other grades of Anti-slip Aggregates can be used but finish should be checked and approved by end user.

METHOD OF USE

Substrate Preparation

A minimum compressive strength of 25 N/mm² and a minimum pull-off strength of 1.5 N/mm². The concrete substrate should be below 75% RH and have less than 4% moisture content. Alternatively, consult with KINGKRETE's Technical Department.



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SURFACE PREPARATION

Concrete surfaces must be degreased using degreasing products, torching or any other suitable method which assures the surface is free from any oil traces. Surfaces should be sound and with no irregularities as they can affect the finish of the applied product. Concrete surfaces are to be mechanically prepared to remove laitance and achieve a flat surface, grit blasting or surface profiling equipment are preferred. Acid etching can be used after consulting with KINGKRETE's Technical Department.

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

Surfaces must be free of any dust or loose particles before product application. Use suitable methods like vacuuming or sweeping. If possible, apply the product on a small test area before actual application to check for any problems with the surface preparation.

KINGDECK PRIMECOAT U

Mixing

KingDeck Primecoat U comprises two components; a resin and hardener which are supplied pre-weighted in the correct proportions. Under no circumstances should part mixing be carried out. Taking care to ensure that the bottom and sides are thoroughly drained, pour the contents of the hardener portion into the resin container.

Using a power whisk attached to a slow speed electric drill, mix for approximately 2 minutes, scrape down and re-mix for a further 1 minute, avoiding the entraining of excessive air, until a uniform consistency is obtained. Allow to stand for 1 minute.

Note: Never mix KingDeck Primecoat U by hand as this could lead to areas of uncured material.

Application

Once mixing is complete, spread the KingDeck Primecoat U onto the prepared surface by brush or lamb's wool roller.

To obtain an anti-slip finish, whilst KingDeck Primecoat U is still wet, broadcast with Antislip Aggregate #3 according to the table of the coverage rates and allow to dry. All excess aggregates shall be removed before applying the final top coats.

OVERCOATING

KingDeck Primecoat U may be over-coated as soon as it becomes tack free within 24 hours.

KINGDECK WEARCOAT TE

Mixing

KingDeck Wearcoat TE comprises two components, a resin and a hardener, which are supplied pre-weighted in the correct proportions. Under no circumstances should part mixing be carried out.

The contents of the resin pack should be thoroughly stirred to disperse any possible settlement. Taking care to ensure that the bottom and sides are thoroughly scraped, transfer the entire contents of both components into a separate mixing container.

Using a power whisk attached to a slow speed electric drill, mix for approximately 3-5 minutes and until uniform colour and consistency are achieved.

Note: Never mix KingDeck Wearcoat TE by hand as this could lead to areas of uncured material.

Application

Once mixed, the material should be immediately applied, ensuring that a continuous coating is obtained. Application can be done using a brush, roller or an airless spray machine.

Over-coating

KingDeck Wearcoat TE should become tack-free before it is over-coated with a coat of KingDeck Wearcoat TP. This can be achieved after a minimum 6 - 8 hours from application at 25°C.

KINGDECK WEARCOAT TP

Mixing

KingDeck Wearcoat TP comprises two components, a resin and a hardener, which are supplied pre-weighted in the correct proportions. Under no circumstances should part mixing be carried out. The contents of each component should be thoroughly stirred separately to disperse any possible settlement.

Taking care to ensure that the bottom and sides are thoroughly scraped, transfer the entire contents the hardener component into the base component. Using a power whisk attached to a slow speed electric drill, mix for approximately 3 minutes and until uniform colour and consistency are achieved.

Note: Never mix KingDeck Wearcoat TP by hand as this could lead to areas of uncured material.

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APPLICATION

Once mixed, the material should be immediately applied, ensuring that a continuous coating is obtained. Application can be done by brush, roller or airless spray machine.

Over-coating

KingDeck Wearcoat TP may be over-coated as soon as it becomes tack-free within 24 hours.

CLEANING

Tools should be cleaned with KINGKRETE Solvent immediately after use.

PACKAGING

KingDeck Primecoat U is available in 18 kg packs.
KingDeck Wearcoat TE is available in 18 kg packs.
KingDeck Wearcoat TP is available in 18 kg packs.
Anti-slip Aggregates is available in 25 kg bags.

TECHNICAL PROPERTIES	KingDeck Primecoat U	KingDeck Wearcoat TE	KingDeck Wearcoat TP
Colour:	Brownish clear	Variable	Variable
Mixed density:	1.5 ± 0.1 g/cm ³	1.4 ± 0.1 g/cm ³	1.3 ± 0.1 g/cm ³
Volume solids:	100%	100%	55 ± 5%
Pot life @25°C:	60 - 90 min	100 - 140 min	4 - 6 hr
Over-coating time @25°C:	24 hr	6 - 8 hr	24 hr
Full cure @ 25°C:	7 days	7 days	7 days
Bond strength on C25/30 concrete: ASTM D4541	≥ 2.0 MPa (concrete failure)	≥ 2.0 MPa (concrete failure)	≥ 2.0 MPa (concrete failure)
Shore D hardness: ASTM D2240	Not tested	≥ 80	≥ 50
Taber abrasion: (1000 g, 1000 cycles) ASTM D412 CS17 wheel	Not tested	≤ 80 milligram	≤ 75 milligram
Tensile strength @ 7 days: ASTM D412	Not tested	≥ 10 MPa	≥ 4.0 MPa

COVERAGE			
Application	Anti-slip finish		Smooth finish
	Ramps & turning circles	Traffic aisles & parking bays	Traffic aisles & parking bays
KingDeck Primecoat U	One coat 0.20 - 0.30 kg/m ² /coat, depending on surface texture and porosity		
Ant-slip Aggregate #3	1 - 2 kg/ m ²		
KingDeck Wear coat TE	1st coat 0.40 - 0.45 kg/m ² 2nd coat 0.20 - 0.25 kg/m ²	One coat 0.45 - 0.55 kg/m ²	One coat 0.25 - 0.30 kg/m ²
KingDeck Wear coat TP	One coat* 0.15 - 0.25 kg/m ²	One coat 0.15 - 0.25 kg/m ²	One coat 0.15 - 0.20 kg/m ²
Total system thickness	1.25 - 1.50 mm	1.15 - 1.40 mm	0.45 - 0.55 mm

* Another coat of KingDeck Wearcoat TP can be applied on ramps and turning circles for extra UV protection.

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LIMITATIONS

- KingDeck HPU System should be protected from contact with water for the first 24 hours after application as discoloration could occur.
- For cold weather working (down to 5°C), it is recommended that materials are stored in a heated building and only removed immediately before use. Accelerated heating methods are not to be utilized under any circumstances.
- Application to commence while temperature is 5°C and rising. In hot weather working conditions (35°C) and above, it is recommended to keep material in a cool shaded area to ensure ease of application.

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.

® = Registered trademark of the KingKrete-Group in many countries.

KingKrete-Qatar/KingDeck_HPU System_02/v2/07_18

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.