

KingDeck[®] EW System

Solvent free slip resistant flexible waterproofing polyurethane vehicle decking system.

DESCRIPTION

KingDeck EW System is a hard wearing, solvent free, flexible polyurethane coating system primarily designed for use in car parks. It has excellent resistance to petrol, battery acid, diesel, brake fluid, de-icing salts, etc. KingDeck EW System is formulated for easy application by squeegee, roller or brush.

The KingDeck EW System consists of three layers:

Primer

KingDeck Primecoat E or PU (depending on concrete/ substrate age), primers with excellent adhesion to concrete, screed and asphalt substrates.

Waterproofing Intermediate Coat + Anti-slip

- KingDeck Flexcoat, an elastomeric crack-bridging membrane.
- KingDeck Primecoat PU, PU primer to be applied directly on the KingDeck Flexcoat with full blind of Antislip Aggregate, a hard-wearing quartz for producing an anti-slip finish.

Topcoat

- KingDeck WC200 TG, for indoor application, a pigmented wearing course with excellent resistance to abrasion and chemical attack.
- KingDeck WC200 Plus, for outdoor application, specifically formulated for colour stability and will not discolour on exposure to sunlight or other sources of UV light. It is available in a wide range of colours.

APPLICATIONS

KingDeck EW System is designed for use in applications, such as:

- Car park decks.
- Car park ramps and turning circles.
- Traffic aisles and parking bays.

TECHNICAL PROPERTIES @ 25°C:

Crack Bridging: ASTM C957	Passes (full system test)
Abrasion resistance (1000 g, 1000 cycle) weight loss CS17: ASTM C957 (Primecoat E/Flexcoat/Primecoat PU/WC200 Plus)	Passes
Weight loss: ASTM C957 (Flexcoat)	Passes
Adhesion peel: ASTM C957 (Primecoat E/Flexcoat)	Passes
Slip resistance – typical figures: BS 7976, Part 2:2002	Coarse Quartz Aggregate blind TRL slider: 84 dry, 72 wet; 4-S slider: 61 dry, 53 wet
External fire exposure roof test: BS 476, Part 3:1958	EXT.F.AA (full system test)

ADVANTAGES

- Seamless and “watertight”
- Excellent resistant to petrol, battery acid, diesel and brake fluid.
- Resistant to de-icing.
- Available in a special grade “KingDeck WC200 Plus” for outdoor applications.
- Fire resistant system.
- Reduces noise.
- Up to 3.9 mm crack bridging ability for full system.
- Slip resistant.
- Suitable for asphalt and concrete substrates.

SYSTEM SPECIFICATION

The combination of products specified depends on the area within the car part to which the KingDeck is being applied.

KingDeck® EW System

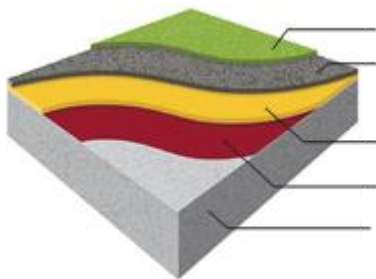
CAR PARKS DECKS

Ramps and turning circles

- ☐ KingDeck Prime-coat E or PU.
- ☐ KingDeck Flex-coat to achieve waterproofing properties.
- ☐ KingDeck Prime-coat PU + full blind of Anti-slip Aggregates #2.
- ☐ 2 coats KingDeck WC200 TG (indoor) or WC200 Plus (outdoor).
- ☐ Dry film thickness \approx 2.4 mm for both indoor and outdoor.

Traffic aisles and parking bays

- ☐ KingDeck Prime-coat E or PU.
- ☐ KingDeck Flex-coat to achieve waterproofing properties.
- ☐ KingDeck Prime-coat PU + full blind of Anti-slip Aggregates #3.
- ☐ 1 coat KingDeck WC200 TG (indoor) or WC200 Plus (outdoor).
- ☐ Dry film thickness \approx 1.9 mm for both indoor and outdoor.



KingDeck WC200 TG or Plus.
KingDeck Prime-coat PU + full blind of Anslip aggregates.
KingDeck Flex-coat.
KingDeck Prime-coat E or PU.
Concrete

STANDARDS

KingDeck Flex-coat complies with ASTM C957 (See technical properties).

METHOD OF USE

KingDeck Primcoat E or PU

Surface Preparation and Priming

To obtain a proper bond the substrate must be structurally sound clean, dry (less than 75% RH measured using a hygrometer, unless it is a suspended deck free to dry from below) and free from dust, laitance, oils, paints or other forms of contamination.

Grit blasting, grinding or scarification can be used to remove laitance and surface contamination. Areas known to have been subject to heavy contamination should be thoroughly inspected before applying KingDeck Primecoat. This is especially important where deposits of oil or grease have collected. Any irregularities within the substrate should be made good before the application of the KingDeck Primecoat E or PU. Small defects may be repaired using KingDeck Primecoat E or PU mixed with dry fine sand. KingDeck Primecoat E is less sensitive than KingDeck Primecoat PU for the concrete age. KingDeck Primecoat E or PU will give good adhesion with concrete substrates if the concrete is with longer age.

If the substrate has a relative humidity reading greater than 75%, 2 coats of Strongcoat DPM should be used, followed by Strongcoat Primer fully blinded with Medium Quartz Aggregate, before coating with KingDeck Primecoat E or PU.

Mixing

KingDeck Primecoat E or PU comprises two components; a resin and hardener which are supplied pre-weighed 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. If the filler is to be used, add this to the mixed material and mix for a further 1 minute.

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

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System component	Primecoat E	Primecoat PU	Flexcoat	WC200 TG	WC200 Plus
Working time:	180 min	40 min	25 min	60 min	20 min
Mixed density:	1.1 g/cm ³	1.25 g/cm ³	1.3 g/cm ³	1.6 g/cm ³	1.35 g/cm ³
Volume solids:	100%	100%	100%	100%	100%
Tack-free time:	12 hr	3 hr	5 hr	4 hr	8 hr
Maximum overcoat time:	36 hr	24 hr	24 hr	4 hr	30 hr
Full cure:	7 days	3 days	3 days	7 days	7 days
Adhesion to concrete:	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)
Adhesion to asphalt:	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)	> 1.0 MPa (substrate failure)
Tensile strength @ 7 days: ASTM D412	Not tested	Not tested	> 6 MPa	> 12 MPa	> 11 MPa
Elongation @ 7 days: ASTM D412	Not tested	Not tested	> 500%	> 65%	> 40%
Shore D hardness @ 7 days: ASTM D2240	Not tested	80	30	75	65
Taber abrasion resistance: (1000 g, 1000 cycle) ASTM D4060, weight loss CS17 wheel	Not tested	Not tested	Not tested	90 mg	70 mg
Application temperature range:	Do not apply if the ambient or floor temperature is to fall below 5°C during the first 24 hours or if rain or condensation is likely)				

COVERAGE				
Application	Indoor	Outdoor	Indoor	Outdoor
	Ramps & turning circles	Ramps & turning circles	Traffic aisles & parking bays	Traffic aisles & parking bays
KingDeck Primecoat E or PU	One coat 0.25 - 0.30 kg/m ² per coat		One coat 0.25 - 0.30 kg/m ² per coat	
KingDeck Flexcoat	One coat 1.00 kg/m ² per coat		One coat 0.70 kg/m ² per coat	
KingDeck Primecoat PU	One coat 0.30 - 0.40 kg/m ² per coat		One coat 0.30 - 0.40 kg/m ² per coat	
Antislip #2 or #3	#2 Aggregate (fully blinded) 2 - 3 kg/ m ²		#3 Aggregate (fully blinded) 2 - 3 kg/ m ²	
WC200 TG	Two coats 0.60 kg/m ² for 1st coat 0.40 kg/m ² for 2nd coat		One coat 0.60 kg/m ² per coat	
WC200 Plus		Two coats 0.50 kg/m ² for 1st coat 0.33 kg/m ² for 2nd coat		One coat 0.50 kg/m ² per coat
System thickness	2.4 mm	2.4 mm	1.9 mm	1.9 mm



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APPLICATION

Once mixing is complete, spread the KingDeck Prime-coat E or PU onto the floor using a squeegee and/or medium pile roller, ensuring it is worked well into the surface.

OVER COATING

KingDeck Prime-coat E or PU may be overcoated as soon as it becomes tack free. If overcoating of the KingDeck Prime-coat E or PU exceeds 30 hours, light scarification of the surface should be undertaken before further applications of any subsequent layer.

KINGDECK FLEXCOAT

Surface Preparation

All surfaces should be primed with KingDeck Prime-coat E or PU before applying KingDeck Flex-coat. Application of KingDeck Flex-coat should be carried out within 30 hours from applying KingDeck Prime-coat E or PU.

Mixing

KingDeck Flex-coat comprises two components, a resin and hardener which are supplied pre-weighed in the correct proportions. Under no circumstances should part mixing be carried out. Pre-mix the resin component with a power whisk attached to a slow speed electric drill for 1 minute before mixing both components. Taking care to ensure that the bottom and sides are thoroughly scraped, transfer the contents of the resin in to the hardener.

Using a power whisk attached to a slow speed electric drill, mix for approximately 3 minutes, ensuring the mixing head is pushed around the sides and bottom of the mixing container. Transfer the contents into another container, scraping down and re-mixing for a further 2 minutes avoiding the entraining of excessive air until a uniform consistency is obtained.

Note: Never mix KingDeck Flex-coat by hand as this could lead to areas of uncured material. Select an appropriate mixing container that will allow proper and efficient mixing.

APPLICATION

Immediately after mixing is complete, spread the KingDeck Flex-coat onto the primed floor using a squeegee and finish using a short or medium pile roller. KingDeck Flex-coat is not colour stable and changes may be seen following application and before overcoating. This will not affect the properties of the KingDeck Flex-coat in any way.

OVER COATING

KingDeck Flex-coat may be overcoated as soon as it becomes tack free with a maximum overcoat time of 30 hours. Then apply KingDeck Prime-coat PU and full blind with Antislip Aggregate.

KINGDECK WC200 TG OR WC200 PLUS

Surface Preparation

Before applying the final KingDeck WC200 TG or Plus, all surfaces coated with KingDeck Flex-coat should be primed with KingDeck Prime-coat PU and fully blinded with Anti-slip Aggregates at the rate of 2 - 3 kg/m² and allow to dry. All excess aggregates shall be removed before applying the topcoat.

Mixing

KingDeck WC200 TG or Plus comprises two components, a resin and hardener, which are supplied pre-weighed in the correct proportions. Under no circumstances should part mixing be carried out.

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 minutes ensuring the mixing head is pushed around the sides and bottom of the mixing container.

Note: Never mix KingDeck WC200 TG or Plus by hand as this could lead to areas of uncured material. Premixing of the resin component will aid mixing.

Application

On completion of mixing immediately apply the KingDeck WC200 TG or Plus at the required thickness to the blinded KingDeck Prime-coat PU.



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PACKAGING

KingDeck Prime-coat E and PU are available in 5 and 20 kg packs.
KingDeck Flex-coat, WC200 TG and WC200 Plus are available in 5 and 15 kg packs.
Anti-slip Aggregates #2 and #3 are available in 25 kg bags.

CLEANING

Tools should be cleaned with KINGKRETE Solvent immediately after use.

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.

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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

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.