

X-Shield DuraDeck

Rapid setting skid resistant epoxy overlay system

20390406

Product Description

X-Shield DuraDeck is a rapid setting, flexible, two component, 100% solids (zero VOC) epoxy based concrete overlay system. When mixed with aggregate it can also be used as an epoxy repair mortar.

Advantages

- Rapid cure
- Flexible
- Skid resistant
- Waterproof
- Low modulus
- Low odor VOC compliant
- 1:1 mix ratio
- Excellent impact resistance
- 90% lighter than typical concrete overlays

Uses

- Skid resistant overlay for bridges and elevated slabs
- Parking decks and ramps
- Lightweight alternative to concrete and asphalt Overlays
- Balconies & walkways
- As a skid resistant coating
- Patching concrete as epoxy mortar
- Rapid turnaround flooring
- Airport taxi and runways

Specification Compliance

Meets ASTM C-881 Type III, Grade 2, Classes B and C.

Laboratory Test Data

Property	Typical Results
Compressive strength (ASTM D579)	7000psi (48Mpa)
Tensile strength (ASTM D638)	2600psi (18MPa)
Elongation (ASTM D638)	49%
Adhesion to concrete (ASTM D4541)	350psi (2.4MPa)
Slant shear strength (ASTM C882)	3450psi (24MPa)

Application Properties

Mix ratio by volume	1:1
Thickness	10 to 100mils (0.25 to 2.5mm) per coat
Gel time	30 minutes at 75°F (24°C)
Cure time	2 hours at 75°F (24°C)
Application temperature	60 to 85°F (16 to 29°C)
Maximum recoat time	24 hours

Color

Amber.

Theoretical Coverage

Course 1: 40ft² per gallon (1.0m² per liter)

Course 2: 20ft² per gallon (0.5m² per liter)

Packaging

2 (7.6L), 10 (38L) and 110 (416L) gallon kits.

Shelf Life

18 months when stored between 41°F (5°C) and 86°F (30°C) under shade in a dry environment.

Installation Guidelines

X-Calibur provides detailed method statements for all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

Surface Preparation

X-Shield DuraDeck should be applied by experienced coating crews. Concrete must be fully cured and at least 28 days old. It must be structurally sound (200psi or greater ASTM D4541), clean (ASTM D4258), and dry (less than 5% ASTM D4263). It must have a moisture vapor transmission of less than 3lbs/24 hr/1,000ft², (RMA Test Method). The surface profile should be prepared in accordance with ICRI Guide 03732 to a minimum of CSP 3 by abrasive blasting or hydro blasting. Remove contaminants before blasting.

Mixing

This product has a limited pot life; complete all preparations before starting to mix. All containers must be scraped empty to ensure correct mixing ratios. Pour

the entire contents of 'Part B' into 'Part A', taking care not to spill any material. Mix with a 21" (0.5m) Jiffy Mixer and an electric drill at very low speed (350 rpm) for 3 to 4 minutes. Scrape the sides of the container several times to ensure complete mixing. Keep the mixer blades submerged to avoid introducing air bubbles. Do not create a large vortex while mixing.

Note: This product does not need any induction time and can be used immediately after mixing. Pot life is approximately 30 minutes at 75°F (24°C) and 10 minutes at 85°F (29°C). Do not mix more material than can be applied within this time period. X-Shield DuraDeck is designed for use without thinning. Do not add solvent.

Application

As an epoxy overlay

Floor and ambient temperature must be between 60 and 85°F (16 to 29°C) during application of the coating. Apply mixed X-Shield DuraDeck onto the substrate with a notched squeegee at a rate of 40ft² per gallon (1.0m² per liter). Place the epoxy in a continuous operation. Keep the wet edge moving forward and place the second mix immediately behind the first mix. Broadcast the specified aggregate immediately but stop to maintain wet edge. Typically, the aggregate should be angular grained quartz sand, basalt or aluminium oxide with less than 0.2% moisture and free of dirt and clay. The silica sand or basalt should have a minimum Mohs scale hardness of 7 unless otherwise approved. Broadcast the aggregate at a rate of 10lbs/yd² (5kg/m²). After initial cure of first course, remove excess aggregate. Do not open to traffic. Apply the second course in the same manner but at an epoxy rate of 20ft² per gallon (0.5m² per liter). Broadcast the aggregate at a rate of 14lbs/yd² (7kg/m²). The maximum recoat window between first and second course is 24 hours.

As an epoxy binder

Mix the two components of X-Shield DuraDeck using the recommended mixing procedures. Slowly add up to 5 parts by volume of oven dry sand to 1 part of the mixed resin. For larger applications, a paddle type (mortar) mixer may be used after the epoxy has been previously mixed with a drill and paddle. Prime areas to receive the epoxy mortar using neat resin. Place the epoxy onto the repair area and level with a trowel or float.

Curing Time

The second coat of epoxy can be applied as soon as the first coat is tack free, usually 2 to 3 hours under normal drying conditions (75°F/24°C at 50% RH). If recoating is done when temperatures are 80°F (27°C) or above, the recoat time will be reduced because of the accelerated cure. Clean up using acetone or MEK. Cured material must be mechanically removed.

Limitations

Do not hand mix.
Do not use neat (without aggregate).
Do not add solvent.
Avoid skin contact.
Do not discard into the water system.
Apply only on to slabs that have a waterproofing system installed in order to prevent blistering due to osmosis.

Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.x-calibur.net.

Authorized Technical Specialist

Please note that only X-Calibur Authorized Technical Specialists ('ATs') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.x-calibur.net for a full list of X-Calibur ATs.

Datasheet Validity

X-Calibur makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.x-calibur.net to ensure you have the latest version.

Warranties

X-Calibur supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price. X-Calibur does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to X-Calibur in writing within five working days of being detected. X-Calibur Construction Systems Inc. **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** X-Calibur Construction Systems Inc. shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

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