



EUCLID CHEMICAL

# FLEXDECK SYSTEM

## WATERPROOFING, HEAVY DUTY, URETHANE/EPOXY TRAFFIC MEMBRANE SYSTEM

### DESCRIPTION

**FLEXDECK SYSTEM** is a lightweight, multi-layer, fluid applied, urethane/epoxy system for protecting surfaces subjected to vehicle traffic wear. It is a flexible, waterproof, rugged system designed for concrete surfaces. It provides superior strength, high elasticity, along with abrasion resistance and resistance to thermal and mechanical movement. Aggregate is embedded into the FLEXDECK WEAR COAT during application to produce a textured, non-skid, wearing surface. There are three Flexdeck systems available; Light Traffic, Medium Traffic, and Heavy Traffic. The use of each system is based upon the type of exposure and the amount of traffic the parking deck receives. All three systems use the same primer; DURAL EPOXY PRIMER, a two-component epoxy resin compound, and the same membrane; FLEXDECK MEMBRANE, a two-component, 100% solids, elastomeric polyurethane compound. The FLEXDECK Light Traffic System then uses FLEXDECK URETHANE TIECOAT for the top coat. The Medium Traffic and Heavy Traffic Systems use the FLEXDECK WEAR COAT, a two-component epoxy resin compound as a wearing course; and a choice of two topcoats: FLEXDECK URETHANE TIECOAT, a one-part aliphatic urethane, or FLEXDECK EPOXY TOPCOAT, a two-part epoxy.

### PRIMARY APPLICATIONS

- Concrete parking decks and ramps
- Walkways
- Balconies
- Stadiums and arenas
- Interior/exterior
- Mechanical rooms

### FEATURES/BENEFITS

Excellent resistance to most solvents, oils, gasoline, detergents, salts, and animal refuse. FLEXDECK SYSTEM provides superior wear resistance and waterproofing capabilities.

### TECHNICAL INFORMATION

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

#### FLEXDECK MEMBRANE

Pot Life.....	20 to 30 minutes
Initial Cure .....	2 1/2 hours
VOC Content.....	128 g/L
Solids Content, by volume .....	98%
Tensile Strength, ASTM D412	
7 day min .....	1,200 psi (8.3 MPa)
Tensile Elongation, ASTM D412 .....	350%
Tear Resistance, ASTM D1004 .....	100 pli
Abrasion Resistance, ASTM D968	
Falling sand method .....	40 L/mil
Shrinkage.....	None

#### FLEXDECK WEAR COAT/FLEXDECK EPOXY TOPCOAT

Pot Life .....	20 minutes
Initial Cure .....	4 hours
VOC Content.....	≤5 g/L
Solids Content, by volume .....	100%
Tensile Strength, ASTM D638	
7 day min .....	2,000 psi (13.8 MPa)
Tensile Elongation, ASTM D638 .....	30%
Shrinkage.....	None

#### FLEXDECK URETHANE TIECOAT

Pot Life .....	3 to 4 hours
Tack Free.....	6 to 8 hours
Full Cure.....	18 hours
VOC Content.....	240 g/L
Solids Content, by volume .....	78%
Tensile Strength, ASTM D412, 7 days...2,500 psi (17.2 MPa)	
Tensile Elongation, ASTM D412 .....	100%
Abrasion Resistance, CS17 Wheel, 1000g.....	0.010g loss

### PACKAGING

DURAL EPOXY PRIMER: 4 gal (15.1 L) and 10 gal (37.8 L) kits. FLEXDECK WEAR COAT: 10 gal (37.8 L) and 100 gal (378.5 L) kits. FLEXDECK MEMBRANE: 5 gal (18.9 L) kit. FLEXDECK URETHANE TIECOAT: 5 gal (18.9 L) pail. FLEXDECK EPOXY TOPCOAT: 4 gal (15.1 L) and 10 gal (37.8 L) kits.

### SHELF LIFE

In original, unopened, properly stored containers; DURAL EPOXY PRIMER: 2 years. FLEXDECK WEAR COAT: 2 years. FLEXDECK EPOXY TOPCOAT: 2 years. FLEXDECK MEMBRANE: 6 months. FLEXDECK URETHANE TIECOAT: 6 months.

## COVERAGE

Parking Stalls/Light Traffic		ft <sup>2</sup> /gal (m <sup>2</sup> /L)	Heavy Duty/Heavy Traffic		ft <sup>2</sup> /gal (m <sup>2</sup> /L)
Dural Epoxy Primer		200 to 250 (4.9 to 6.1)	Dural Epoxy Primer		200 to 250 (4.9 to 6.1)
Flexdeck Membrane		40 to 60 (0.98 to 1.5)	Flexdeck Membrane		40 to 60 (0.98 to 1.5)
Flexdeck Urethane Tiecoat		100 to 150 (2.5 to 3.7)	Flexdeck Wear Coat*, 1st coat		60 to 80 (1.5 to 2.0)
Broadcast Aggregate	0.25 to 0.75 lbs/ft <sup>2</sup> (1.22 to 3.66 kg/m <sup>2</sup> )		Broadcast Aggregate to Refusal	0.75 to 1.00 lbs/ft <sup>2</sup> (3.81 to 4.88 kg/m <sup>2</sup> )	
Driving Lanes/Medium Traffic		ft <sup>2</sup> /gal (m <sup>2</sup> /L)	Flexdeck Wear Coat*, 2nd coat		40 to 60 (0.98 to 1.5)
Dural Epoxy Primer		200 to 250 (4.9 to 6.1)	Broadcast Aggregate to Refusal	1.00 to 1.33 lbs/ft <sup>2</sup> (4.88 to 6.49 kg/m <sup>2</sup> )	
Flexdeck Membrane		40 to 60 (0.98 to 1.5)	Flexdeck Urethane Tiecoat/Epoxy Topcoat		60 to 100 (1.5 to 2.5)
Flexdeck Wear Coat*		60 to 80 (1.5 to 2.0)	*Use #4 flint rock in FLEXDECK WEAR COAT applications for the best wear resistance.		
Broadcast Aggregate to Refusal	0.75 to 1.00 lbs/ft <sup>2</sup> (3.81 to 4.88 kg/m <sup>2</sup> )				
Flexdeck Urethane Tiecoat/Epoxy Topcoat		60 to 100 (1.5 to 2.5)			

**Note:** Coverage rates are approximate. Actual coverage depends on temperature, texture, and substrate porosity.

## DIRECTIONS FOR USE

**Surface Preparation:** The surface must be structurally sound, clean and free of grease, oil, curing compounds, soil, dust and other contaminants. See note in "Precautions/Limitations" section if coating is to be placed over old/existing epoxy or urethane coatings. New concrete and masonry must be at least 28 days old. Surface laitance must be removed. Concrete surfaces must be roughened and made absorptive, preferably by mechanical means, and then thoroughly cleaned of all dust and debris. If the surface was prepared by chemical means (acid etching), a water/baking soda or water/ammonia mixture, followed by a clean water rinse, must be used for cleaning, in order to neutralize the substrate. The Concrete Surface Profile (CSP) should be equal to CSP 3-6 in accordance with Guideline 310.2R-2013, published by the International Concrete Repair Institute (ICRI). Allow substrate to dry before coating application. Following surface preparation, the strength of the surface can be tested if quantitative results are required by project specifications. An elcometer or similar tensile pull tester may be used in accordance with ASTM C1583, and the tensile pull-off strength should be at least 250 psi (1.7 MPa).

Pre-treat non-structural cracks up to 1/16" (1.59 mm) wide by applying a 4" (102 mm) wide coating of DURAL EPOXY PRIMER, and then overcoat with FLEXDECK MEMBRANE. For cracks wider than 1/16" (1.59 mm), contact your local Euclid Chemical representative.

For quick, shallow patching of damaged concrete, use a suitable epoxy mortar. For larger, deeper concrete repairs, use cementitious patching materials compatible with the system. After patching, a light brush blast is recommended prior to coating.

Do not apply epoxy or urethane coatings if there is excessive moisture in the concrete or if the moisture vapor emission rate (MVER) is high. Before application of the coating, perform the "Visqueen test" (ASTM D4263, modified to 2 hours). Do not apply coatings when test indicates presence of moisture. After surface preparation, a test section application of the coating system is recommended to confirm good adhesion and compatibility of the coating with the surface, and also to confirm appearance and aesthetics.

When coating steel, all contamination should be removed and the steel surface prepared to a "near white" finish (SSPC SP10) using clean, dry blasting media.

**Mixing: For DURAL EPOXY PRIMER, FLEXDECK WEAR COAT, FLEXDECK EPOXY TOPCOAT:** Mix using a **low-speed** drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 1 to 2 minutes each. Combine Part A and Part B in a 1 to 1 ratio by volume, then mix thoroughly for 3 to 5 minutes. Scrape the bottom and sides of the containers at least once during mixing. Do not scrape bottom or sides of the container once mixing operations have ceased; doing so may result in unmixed resin or hardener being applied to the substrate. Unmixed resin or hardener will not cure properly. Do not aerate the material during mixing.

Mix FLEXDECK MEMBRANE using a low-speed drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 2 to 3 minutes each. Combine all of Part A with all of Part B, then mix thoroughly for 3 to 5 minutes. Scrape the bottom and sides of the containers at least once during mixing. Do not scrape bottom or sides of the container once mixing operations have ceased; doing so may result in unmixed resin or hardener being applied to the substrate. Unmixed resin or hardener will not cure properly. Do not aerate the material during mixing. To keep aeration to a minimum, the recommended mixing paddles are #P1 or #P2 as found in ICRI Guideline 320.5R-2014.

FLEXDECK URETHANE TIECOAT is a one-component product. Prior to application, mix FLEXDECK URETHANE TIECOAT for 3 to 5 minutes using a low-speed drill and a mixing paddle.

**Application:** First, apply DURAL EPOXY PRIMER (6-8 mils wet) to the prepared surface using a short nap roller, brush, or airless spray. Next, apply FLEXDECK MEMBRANE (32 mils wet) to the surface using a magic trowel, notched squeegee, or short nap roller. Use of a spiked roller to remove entrapped air before FLEXDECK MEMBRANE begins initial set is strongly recommended. FLEXDECK MEMBRANE application can take place as soon as the primer becomes tack free, but no longer than 24 hours after application of the primer. If more than 24 hours has elapsed, or if the primer fully cures, abrade the surface, wipe clean, then apply a fresh coat of primer. For the Light Traffic System, apply FLEXDECK URETHANE TIECOAT (14 mils wet), broadcast 20-40 mesh silica aggregate, and immediately back roll to complete the system. For the Medium Traffic and Heavy Traffic Systems, apply FLEXDECK WEAR COAT (23 mils wet) to the surface using a short nap roller, brush, or spray. FLEXDECK WEAR COAT application can take place as soon as the FLEXDECK MEMBRANE becomes tack free, but no longer than 24 hours after membrane application.

Immediately after applying the wear coat, broadcast clean, dry aggregate 16-30 mesh silica aggregate or #4 Fint Rock aggregate into the wet material to refusal. After the wear coat has hardened, sweep away the excess aggregate. If required, apply another layer of FLEXDECK WEAR COAT and aggregate as above. Lastly, apply a seal coat of FLEXDECK URETHANE TIECOAT or FLEXDECK EPOXY TOPCOAT (22 mils wet) using a short nap roller, brush, or spray. Application can take place as soon as the FLEXDECK WEAR COAT has properly cured.

## CLEAN-UP

Clean tools and application equipment immediately with acetone, xylene, or MEK. Clean spills or drips with the same solvents while still wet. Hardened FLEXDECK SYSTEM components will require mechanical abrasion for removal.

## PRECAUTIONS/LIMITATIONS

- Store FLEXDECK SYSTEM indoors, protected from moisture, at temperatures between 50°F and 90°F (10°C and 32°C). Pre-condition all materials to 75°F (24°C) prior to use.
- Ambient temperature during FLEXDECK SYSTEM COMPONENT applications should be between 50°F and 90°F (10°C and 32°C)
- Do not apply when relative humidity exceeds 85%. High humidity may cause pinholing and surface tackiness of FLEXDECK MEMBRANE
- To reduce the chance of outgassing and pinholes, apply system components while surface temperatures are decreasing
- Surface temperatures during FLEXDECK SYSTEM COMPONENT applications should be at least 50°F (10°C) and rising
- Do not apply FLEXDECK SYSTEM if surface temperature is within 5°F (3°C) of the dew point in the work area
- Working time and cure time will decrease as the temperature increases, and will increase as the temperature decreases
- Do not thin FLEXDECK SYSTEM
- Do not apply FLEXDECK SYSTEM to slabs on grade
- Do not apply FLEXDECK SYSTEM if the substrate is subject to excessive moisture vapor drive or hydrostatic pressure
- Although FLEXDECK SYSTEM is chemically resistant, surface staining of the coating may occur after contact with some chemicals
- Depending on the condition of the substrate, minor surface defects can appear in the coating when applied. Proper surface prep, patching of substrate imperfections, and priming will ensure a better overall finish.
- If coating over old/existing epoxy or urethane coatings, or if more than 24 hours elapses between coats: sand the previous coat, wipe clean, and proceed with coating operations. If old/existing coatings are peeling, flaking, etc., all unsound material must be removed prior to new coating applications.
- Application of a test area is recommended to confirm final appearance and texture of the system with the end user
- FLEXDECK URETHANE TIECOAT **cannot** be re-sealed and re-used after opening. All of the material in an original container should be used after opening.
- In all cases, consult the product Safety Data Sheet before use

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**WARRANTY:** The Euclid Chemical Company ("Euclid") solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Unless authorized in writing by an officer of Euclid, no other representations or statements made by Euclid or its representatives, in writing or orally, shall alter this warranty. EUCLID MAKES NO WARRANTIES, IMPLIED OR OTHERWISE, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Euclid product fails to conform with this warranty, Euclid will replace the product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Euclid does not authorize anyone on its behalf to make any written or oral statements which in any way alter Euclid's installation information or instructions in its product literature or on its packaging labels. Any installation of Euclid products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Euclid's products for the Buyer's intended purposes.