TECHNICAL DATA SHEET

For Duraldeck Construction Details CLICK Here

DURALDECK SYSTEM

Waterproofing, Wear Resistant Overlay System

TAMMS INDUSTRIES
MARCH 2002 (Replaces 1/00)

1. **DESCRIPTION:** The DURALDECK SYSTEM consists of an epoxy primer, an elastomeric urethane membrane and an aggregate-filled aliphatic urethane topcoat. These components produce a VOC compliant composite waterproofing system with high wear and abrasion resistance. The DURALDECK SYSTEM waterproofs and protects concrete, masonry, and steel, withstands pedestrian and rubber tire traffic, and offers good chemical resistance to mild acids/bases, oils, and gasoline.

2. **USES:** The DURALDECK SYSTEM provides a waterproofing and anti-skid wearing surface for parking decks, residential balconies, roof decks, stadium bleachers, pedestrian walkways, ramps, and mechanical rooms.

3. **COMPOSITION AND MATERIALS:** DURALDECK SYSTEM consists of a two part epoxy primer (DURAL EPOXY PRIMER), a two part urethane membrane (DURALDECK BASECOAT), and a one component aliphatic urethane topcoat (DURALDECK TOPCOAT).

MATERIAL PROPERTIES @ 75°F -50% RH

	D-Epoxy Primer	Basecoat	Topcoat
Mixing ratio (A:B by vol.)	1:1	Pre-proportioned	NA
Mixed viscosity, cps	300-400	4000-8000	1200-2000
Gel time (100 gms.), mins.	50-60	20-30	NA
Pot life, 2 gal., mins.	30-40	10-20	3-4 hrs
Mixed solids % by wt.	100	96	78
Tack free time, hrs.	3-4	2-3	
Cure time, hrs.	12	10	18
Tensile strength, psi (ASTM D412)	NA	1200-1400	2800
Tensile elongation, % (ASTM D412)	NA	400-500	100
Tear strength, pli (ASTM D1004)	NA	100-120	> 250
Abrasion resistance CS 17 wheel, 1000 gms.			0.010 loss

Values presented are typical and not necessarily referenced to create specifications.

4. **COLORS:** The topcoat (DURALDECK TOPCOAT) determines the color of the overlay system and is available in Light Gray or Dark Gray as standard colors. It is also available in custom colors, subject to special pricing and minimum quantity orders. DURALDECK BASECOAT is available only in Light Gray while DURAL EPOXY PRIMER is clear.

5. **SURFACE PREPARATION:** Concrete must be structurally sound, dry, free of grease, oils, coatings, dust, curing compounds and other contaminants. For oil contaminated surfaces, use steam cleaning in combination with a strong emulsifying detergent. Rinse thoroughly with potable water. After cleaning, remove defective concrete, honeycombs, cavities, joint cracks, voids and other defects by routing to sound material. The preferred method of surface preparation is abrasive blasting or shotblasting. Smooth precast and formed concrete surfaces must be cleaned, roughened and made absorptive by abrasive blasting or shotblasting. If it is not possible to sandblast or shotblast, acid etch with a 15% hydrochloric acid solution. After etching, pressure wash or flush the surface with copious amounts of water to clean and neutralize the surface. To ensure all acid has been removed, the pH of the surface should be checked, as per ASTM D4262. Following surface preparation, the cleaned surface should pull concrete when tested with an Elcometer or similar pull tester (ASTM D4541). Before application of the primer, use the "Visqueen test" (ASTM D4263) to ensure the concrete's moisture level is low. **New Concrete:** Allow to cure for a minimum of 28 days. (Consult TAMMS Technical Service if earlier times are required). Prepare surface as recommended above. **Old Concrete:** For quick repair of small areas, use a suitable epoxy mortar. For larger areas, use cementitious patching materials which are compatible with the system. After patching and curing, a light brush blast is recommended prior to coating. (Consult TAMMS Technical Service for appropriate patching materials).

6. **MIXING INSTRUCTIONS:** All individual components should be pre-mixed for approximately 2-3 minutes, using a low speed "Jiffy" type mixer. For the two component products, after pre-mixing, mix the A & B components together thoroughly for 3-5 minutes. Scrape the bottom and sides of mixing container at least once. Do not aerate the mix. Mix only enough material that can be used within the working life.

7. **APPLICATION TECHNIQUES:** Procedures are provided here for the standard four coat system – primer, membrane, aggregate filled topcoat, sealing topcoat. Variations on this system are possible depending on the specific requirements of the application. Consult your TAMMS representative for alternatives. **Primer (DURAL EPOXY PRIMER) application:** The ambient and surface temperature should be between 50-90°F.

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TRAFFIC COATINGS 07180
THERMAL MOISTURE PROTECTION

DURAL EPOXY PRIMER can be applied using a short nap roller, brush, or an airless spray. **Membrane (DURALDECK BASECOAT) application:** The DURALDECK BASECOAT can be applied as soon as the primer has become tack free, typically within 3-4 hours at 75°F. but no later than 24 hours after primer application. Ambient and surface conditions should ideally be between 60-80°F with relative humidity below 85%. DURALDECK BASECOAT is applied using a short nap roller, serrated squeegee, or brush. Use of a spiked roller to remove entrapped air before DURALDECK BASECOAT begins initial set is strongly recommended. **Topcoat (DURALDECK TOPCOAT) application:** The topcoat can be applied using short nap roller, squeegee, brush or spray after the DURALDECK BASECOAT has become tack free (2-3 hrs), but within 24 hours after basecoat application. Promptly after topcoat application and while the topcoat is still wet, broadcast specified aggregate at specified rate and allow the topcoat to harden. After the topcoat has hardened (12-18 hrs) sweep away any unbonded aggregate and apply a seal coat of the topcoat. Foot traffic can resume 24 hours after seal coat application at 75°F.

8. **COVERAGE:** For Typical Traffic Overlay

Product	sq. ft./gal.
Primer (Dural Epoxy Primer)	200-250
Membrane (Duraldeck Basecoat)	40-60
Topcoat	100-150
Aggregate	0.25-1.0 lbs/sq.ft.
2nd coat Topcoat(Seal Coat)	80-150

A dry film thickness (DFT) of 25-40 mils of DURALDECK BASECOAT is recommended depending on specific application requirements. DURALDECK BASECOAT at a coverage rate of 50 sq.ft./gal yields 30 mils DFT. Coverage rates can vary due to surface texture, porosity, aggregate selected for anti-slip surface and temperature.

9. **CLEAN-UP INSTRUCTIONS:** Clean tools and equipment immediately after use with Xylene, or Aromatic 100. Clean up spills or drips while still wet with the same solvents. Dried product will require mechanical abrasion for removal.

10. **PACKAGING:** DURAL EPOXY PRIMER is available in 4 gal. cases. DURALDECK BASECOAT is available in 5 gal. and 1 3/4 gallon pre-proportioned units. DURALDECK TOPCOAT is available in 5 gal. pails or drums.
Storage: 50-90°F; protect from moisture and freezing.
Shelf life: Two years for DURAL EPOXY PRIMER; six months for DURALDECK BASECOAT and DURALDECK TOPCOAT, properly stored in original containers.

11. **CAUTIONS:** DURALDECK SYSTEM should be applied to dry concrete and at ambient temperatures of at least 50°F and rising. High humidity may cause pinholing and surface tackiness of DURALDECK BASECOAT.

12. **ENVIRONMENTAL SAFETY:** DURAL EPOXY PRIMER **PART A** contains epoxy resins. Vapors can cause respiratory irritation. Skin and eye irritant. Can cause sensitization after prolonged or repeated exposure. Use with impermeable gloves, safety goggles and adequate ventilation. DURAL EPOXY PRIMER **PART B** contains amines and is **CORROSIVE.** Contact with eyes or skin may cause severe burns. Can cause sensitization after prolonged or repeated use. Use with safety goggles, impermeable gloves and adequate ventilation. DURALDECK BASECOAT **PARTS A and B** are irritants and contain solvents. Repeated exposure can cause skin/throat irritation or neurotoxic effects. Avoid inhalation and contact with skin or eyes. Can cause sensitization after prolonged or repeated use. Use of safety goggles, impermeable gloves and respirator is recommended. Use with adequate ventilation. **KEEP AWAY FROM CHILDREN AND ANIMALS.**
FIRST AID: In case of skin contact, wash immediately with water and soap, For eye contact, flush with copious amounts of water for at least 15 minutes and consult physician immediately. For respiratory problems, move person to fresh air and seek medical attention.
DISPOSAL: Collect with absorbent material. Dispose of in accordance with local, state and federal regulations.

13. **TECHNICAL SERVICE:** For application procedures or surface conditions not specified above, please contact:

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