



# DIATHANE SLURRY

## Water Based Urethane Cement Slurry

### 1. Product Description

**a. Basic Use:** Diathane Slurry is a four-component water based urethane cement slurry that has exceptional wear performance and resistance to heat. Diathane Slurry is intended for indoor applications subjected to heavy foot traffic and hand cart traffic. The Diathane Slurry flooring system produces a seamless, slip-resistant surface while offering protection from abrasion and chemical attack.

#### b. Features/Benefits:

- Withstands moderate thermal shock, impact, and abrasion.
- Stable in chemically aggressive environments.
- Excellent resistance to freeze-thaw cycles.
- Cures at temperatures as low as 45°F (7.2°C).
- Can be returned to service within 12 hours and will accommodate heavy foot traffic in 24 hours.
- Withstands heat exposure up to 200°F (93.3°C).
- Slightly textured finish provides slip resistance in areas subjected to washdowns.
- Typically gauge raked at thicknesses between 1/8" (3.2 mm) and 3/8" (9.5 mm).

**c. Typical Applications:** Food processing, chemical processing plants, water treatment plants, breweries, commercial kitchens, bottling plants, dairy processing, industrial bakeries, and penitentiaries.

**d. Limitations:** Do not apply this material outdoors or where direct sunlight is prevalent. Do not install over wet concrete. Base concrete must be cured for at least 15 days prior to Diathane Slurry application. Concrete substrate must be at least 5°F (-15°C) above dew point during application.

**e. Composition:** Diathane Slurry is a four-component water based urethane cement system.

**f. Color/Appearance:** Concrete gray, tile red, or natural tan color with a matte finished surface.

### 2. Packaging

Diathane Slurry is supplied in units, each containing proper proportions of liquid components, graded aggregate, and pigment. Shipping weight for one unit is 45-LBS. (20.4-KG).

### 3. Estimating/Yield

Diathane Slurry formulation with the following proportions and yields:

	<i>Standard Unit</i>
<i>Activator Liquid</i>	7.25-LBS. Packaged in a 1-GAL. (3.8-Liter) Can
<i>Binder Liquid</i>	7.25-LBS. Packaged in a 1-GAL. (3.8-Liter) Can
<i>Graded Aggregate</i>	1 x 29-LBS. (13.2-KG) Bag
<i>Powder Pigment</i>	1 x 1-LB. (454 Gram) Bag
<i>Volume Yield</i>	0.43 feet <sup>3</sup> (0.012 meter <sup>3</sup> )
<i>Area Yield</i>	42 feet <sup>2</sup> (3.9 meter <sup>2</sup> ) at 1/8" (3.2 mm)

Note: A standard unit will yield 42 feet<sup>2</sup> (3.9 meter<sup>2</sup>) when gauge rake is set to 1/8" (3.2 mm). If the optional seeding aggregate is broadcasted into the wet slurry and a top coat is applied, the standard unit finished thickness will be approximately 3/16" (4.8 mm) at 42 feet<sup>2</sup> (3.9 meter<sup>2</sup>).

### 4. Technical Data

**a. Compressive Strength:** ASTM C 579: 8,400 psi (58 MPa).

**b. Flexural Strength:** ASTM C 580: 2,900 psi (20 MPa).

**c. Tensile Strength:** ASTM C 307: 1,250 psi (8.6 MPa).

**d. Bond Strength:** ASTM D 4541: 100% Concrete Failure.

**e. Impact Resistance:** ASTM D 4226: 160 inch-pounds.

**f. Fungi Growth:** ASTM G 21: Passes rating 1.

**g. Hardness:** Shore D 80.

**h. Working Time:** 15 minutes after mixing at 77°F (25°C).

**i. Spot Testing:** ASTM D 1308: No physical damage on surface when exposed to mustard, ketchup, lactic acid, vinegar, and lemon juice.

#### j. Chemical Resistance:

<u>Chemical Name</u>	<u>24 Hour Immersion</u>
Acetic Acid 10%	Passed
Nitric Acid 30%	Passed
Sodium Hydroxide 50%	Passed
Sulfuric Acid 30%	Passed
Xylene	Passed

## 5. Directions for Use

**a. Preparation:** The surface to be treated must be physically sound, thoroughly clean, free of oil, wax, loose paint, rust, scale, and completely dry. New concrete must thoroughly cured for at least 15 days before starting surface preparation. Base concrete must be mechanically abraded by shotblasting or thoroughly etched with Bitesin. All acid-etched concrete surfaces must be rinsed and neutralized with potable water and allowed to completely dry. If the concrete substrate is saturated with fats, oils, or greases, applicator may consider utilizing an industrial degreasing agent prior to product application. Recommended surface profile should be CSP 3 to CSP 5.

**b. Bonding:** No separate bonding agent is needed. The base concrete substrate should be clean and dry when Diathane Slurry is applied. To help mitigate the risk of lifting or delamination, keyways (minimum 5/16" wide by 5/16" deep) should be cut at all terminations, joints, columns, doorways, and drains.

**c. Ambient Conditions:** For best results, ambient temperature should be between 45°F (7°C) and 85°F (30°C). Humidity must be below 85%. Concrete substrate must be at least 5°F (-15°C) above dew point during Diathane Slurry application.

**d. Mixing:** For best results, do not modify units. Use the entire pre-packaged kit as outlined on this technical data sheet. The Activator Liquid should be poured into a 5-gallon (18.9-liter) mixing pail. Add one bag of Powder Pigment. Using a mechanical drill and mixing paddle, mix until color is consistent throughout. Next, add the Binder Liquid into the pail and blend for 60 seconds at revolution speeds that will not entrap air bubbles into the freshly mixed Diathane Slurry liquids. Let stand for 60 seconds and blend again for one additional minute. Proper blending is critical to ensure good and complete curing. Gradually add the aggregate component into the liquid mixture and blend thoroughly until all particles are thoroughly coated. After mixing, transfer the mixed material to another pail and remix. The Diathane Slurry is now ready for placement. Metalcrete Industries does not recommend mixing more than three units at one time.

**e. Application:** Immediately after mixing, distribute the mixed material onto the floor. The material may be placed with a gauge rake or other suitable spreading equipment. Setting your gauge rake to 1/8" (3.2 mm) will yield a finished floor thickness of 3/16" (4.8 mm) after the seeding aggregate broadcast. Setting your gauge rake to 3/16" (4.8 mm) will yield a finished floor

thickness of 1/4" (6.4 mm) after the seeding aggregate broadcast. Care should be exercised to keep a wet edge and to leave the surface free of ridges and other imperfections. Backroll across the applied slurry with a spiked roller to help settle the aggregate and to blend gauge rake lines for a more uniform appearance

**f. Optional Seeding Aggregate Application:** After the Diathane Slurry levels into place, but before it hardens, broadcast seeding aggregate (sold separately) uniformly. Avoid heavy accumulations of aggregate in one spot. Broadcast it lightly, tossing it up rather than down so that it descends like rain. Continue until an excess of dry aggregate remains standing on the surface. The next day, vacuum unbonded aggregate and apply Diathane Slurry TC to seal the floor.

**g. Top Coat Application:** Applying a top coat to Diathane Slurry is optional dependent on desired results. Follow the application instructions outlined on the Diathane Slurry TC technical data sheet.

**h. Cure Time:** At 77°F (25°C), Diathane Slurry will accommodate light foot traffic in 12 hours and heavy foot traffic in 24 hours. Diathane Slurry is fully cured in 7 days. Until the floor is fully cured, only subject the floor to light foot traffic and non-harsh chemical exposure. Keep the floor dry for the full cure cycle.

**i. Clean-Up:** Either DL Solvent or Waterzall Concentrate and warm water may be used for cleaning tools and equipment.

**j. Maintenance:** Diathane Slurry surfaces should be cleaned with an industrial detergent. Test the cleaner prior to application as some cleaners can effect surface color.

## 6. Availability

Diathane Slurry is normally available immediately from your local distributor or it will be shipped within 7 to 10 working days upon receipt of order. Please contact your local Metalcrete representative or call Metalcrete Industries directly for more information.

## 7. Warranty

Diathane Slurry is manufactured in strict accordance with the quality control standards of Metalcrete Industries. It is guaranteed to perform as indicated on this data sheet when applied by competent applicators.

## 8. Technical Service

Metalcrete technical service representatives are available to provide on-site assistance with a minimum three day notice.



**Metalcrete Industries**

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