

TECHNICAL DATA SHEET

DESCRIPTION

Pro-Poxy™ Type III D.O.T. is a 100% solids, low modulus, moisture tolerant, low viscosity epoxy urethane binder and adhesive meeting the requirements of ASTM C-881, Type III, Grade I, Classes B & C.

USE

Pro-Poxy™ Type III D.O.T. Is used primary for bonding skid-resistant overlays and high friction surfaces to bridges and elevated slabs and as a low modulus binder for epoxy mortars where thermal change is a consideration. Material can also be used to seal interior and exterior above grade slabs and as low modulus crack filler

FEATURES

- Low modulus, high strength adhesive meeting ASTM C-881 Type III Requirements
- Moisture tolerant
- Can be used as a High Friction Surface Treatment
- V.O.C. compliant
- Shock absorbing ability
- Easy blending of aggregates for mortar repairs
- Can be use on parking garages and parking decks

PROPERTIES

Meets Specification:

ASTM C-881, Type III, Grade 1, Classes B & C

Mix ratio – 1:1, by volume

Gel time – ASTM C881

60 gm sample @ 73°F (23°C): minimum 15 min.

Viscosity minimum 1,500 cps
(1.5 Pascal-second) at 77° F (25° C)

Hardness ASTM 2240 (Shore -D)73

Tensile Strength - ASTM D-638:
>3,000 psi (20.7 MPa) 3 days

Compressive Strength - ASTM C109:
minimum 5,000 psi (34.4 MPa) in 24 hours

Bond Strength - ASTM C1583: >250 PSI, 100% failure in concrete

Elongation at Break – ASTM D-638: minimum 30.0%

Water Absorption – ASTM D-570: 0.20%

Thermal Compatibility – Passes Test

AASHTO T277 and ASTM C1202 0 coulombs (two coats)

Note:

Pro-Poxy D.O.T. is not intended to provide resistance to reflective cracking.

High temperatures will accelerate the setting time. As a general rule, the gel time of the epoxy will be cut in half for each 10° to 15° increase in temperature above 75°F (24°C).

VOC

Pro-Poxy™ Type III D.O.T. has a VOC content of 0 g/L and is compliant with all Canadian and U.S. VOC

regulations including Federal EPA, OTC, LADCO, SCAQMD & CARB.

Estimating Guide

Broadcast Overlays:

Course #1: Epoxy rate: 40 ft²/gal. (1 L/m²)

Aggregate rate: 1-1.5 lb/ft², (4.88-7.32 kg/m²).

Course #2: Epoxy rate: 20 ft²/gal. (2 L/m²)

Aggregate rate: 1-1.5 lb/ft², (4.88-7.32 kg/m²).

Epoxy Mortar: 2 gal/ (7.6 L) epoxy mixed with 10 gal (37.8 L) of dry sand yields approximately 0.94ft³

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		Gallons	Liters
140302	Unit	1	3.79
140304	Unit	2	7.57
140313	Unit	10	37.85
140324	Unit	110	416.40
140333	Unit	500	1892.71

Accelerator

Bridge Seal Accelerator

PRODUCT CODE	PACKAGE	SIZE	
		Gallons	Liters
144977	Pail	5	18.93

Note:

When faster turn around is required, the use of Bridge Seal Accelerator can reduce the set time of Pro-Poxy Type III DOT between 30-60% based on ambient conditions, material temperatures, and substrate conditions.

STORAGE

The material should be stored between 40°-95°F (5°-35°C). Shelf life of properly stored, unopened containers is 24 months

Surface Preparation:

Surface to be bonded must be clean and sound. Remove oil, dirt, grease, laitance, curing compounds and other foreign matter that may cause a problem with bond. Abrasive blast cleaning and mechanical removal methods are recommended. Remove all standing water and dust with clean, oil free, compressed air prior to installation.

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Surface should be a concrete surface profile (CSP) of 5-9 according to ICRI Technical Guideline no 310.2R-2013, "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and concrete Repair". Surface and ambient temperature must be a minimum of 50°F (10°C).

Mixing:

Condition material to 65°-85°F (18°-29°C) for ease of mixing and optimum flow prior to using. Premix each component then place 1 part by volume of Component A and 1 part by volume of component B into a clean pail and mix for three minutes with a low speed drill using a Jiffy mixer or paddle until uniformly blended. Mix only what can be used within the pot life

Test before placement:

There shall be no visible moisture present on the surface of the concrete at the time of application of the polymer concrete overlay. Concrete surface must be less than 5% moisture content when tested with a moisture pin meter.

When applying Pro Poxey Type III D.O.T. over cementitious patches less than 28 days contact Dayton Superior Technical service for recommendations.

Placement:

Epoxy/Urethane Overlays: Repair all delaminations, potholes and cracks using the Pro-Poxy™ Type III D.O.T. or the Pro-Poxy™ 2500. Mix the epoxy as previously directed and apply course #1, spreading the neat Pro-Poxy™ Type III D.O.T. at a coverage rate of 40 ft²/gal. (1 m²/L) using a 3/16 notched squeegee;

Immediately broadcast select aggregate to refusal (typically 1-1.5 lb/ft², 4.88-7.32 kg/m²). The aggregate should have a hardness of six or higher on the Mohs hardness scale (unless otherwise approved). Aggregate shall be angular, (free of dirt, clay and all impurities) shall consist of natural silica sand, basalt, or other nonfriable aggregate, and shall contain less than 0.2% moisture when tested in accordance with ASTM C566.

After the initial cure of the first course, remove all excess aggregate and apply course #2, spreading the neat Pro-Poxy™ Type III D.O.T. at a coverage rate of 20 ft²/gal. (0.5 m²/L), once again broadcasting the select aggregate to the point of rejection.

After allowing the system to cure and after all the aggregate has been removed it can be opened up to traffic. Colder temperatures will slow the setting time while warmer temperatures will accelerate the set time.

High Friction Surface Application

High Friction Surface Application:

Surface Preparation: Surfaces shall be clean, dry, and free of all dust, oil, debris and any other material that might interfere with the bond between the epoxy binder material and existing surfaces.

Pavement markings that conflict with the surface application shall be removed by grinding and the surface shall be swept clean prior to the application of the Pro-Poxy™ Type III D.O.T.

Surface and ambient temperature must be a minimum of 50°F (10°C). Utilize one of the following methods for the application of the Pro-Poxy™ Type III D.O.T. and aggregate wearing course, as applicable.

1) Hand mixing and application: The Pro-Poxy™ Type III D.O.T. components, Part A and Part B, shall be premixed and proportioned to the correct ratio, as stated on the TDS. Mix material using a low speed, high torque drill fitted with a helical stirrer. This method shall be used where truck mounted application machines are not applicable to the specified locations because of logistics and restrictions. The mixed components shall be hand applied onto a prepared pavement surface at an application coverage rate of 20-30 sf/gal. Hand applied base binder shall be uniformly spread onto the substrate surface by means of a (1/4) notched squeegee. Immediately, spread the high friction surfacing aggregate onto the epoxy at a minimum rate of 13 lbs/sy.

2) Mechanical mixing and application: The Pro-Poxy™ Type III D.O.T. shall be applied by a truck mounted application machine onto the pavement section to be treated in varying widths at a uniform application thickness. Operations shall proceed in such a manner that will not allow the Pro-Poxy™ Type III D.O.T. to separate in the mixing lines, cure, dry, or otherwise impair retention bonding of the high friction surfacing aggregate. The mixed components shall be applied mechanically onto the prepared pavement surface at a minimum coverage rate of 20-30 sf/gal. Immediately, spread the high friction surfacing aggregate onto the installed two part modified epoxy base binder, at a minimum rate of 1-1.5 lb/ft², (4.88-7.32 kg/m)

Cure Time

Temperature	Set Time
50-55°F (10-12.7°C)	5-6 hours
60°-65°F (16-18°C)	3-4 hours
70 - 74°F (22-23°C)	2-2 1/2 hours
75 - 79°F (24-26°C)	1 1/2-2 hours

The data shown is typical for controlled laboratory conditions. Reasonable variation from these results can be expected due to Inter-laboratory precision and bias. Material, surface and ambient temperatures will affect set times.

CLEAN UP

Tools and Equipment: Clean before the epoxy sets up using Xylene or Unitex Citrus Cleaner.

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LIMITATIONS

FOR PROFESSIONAL USE ONLY

Minimum age of concrete must be 21-28 days from date of placement depending on curing and drying conditions.

Concrete surface must be less than 5% moisture content when tested with a moisture pin meter. On wood and other surfaces contact Technical Service for more information.

Surface and ambient temperature must be a minimum of 50°F (10°C)

Do not thin with any solvents.

Do not place Pro-Poxy™ Type III D.O.T. on magnesium phosphate cement concrete

PRECAUTIONS

READ SDS PRIOR TO USING PRODUCT

- Component A – Irritant
- Component B – Corrosive Product is a strong sensitizer
- Use with adequate ventilation
- Wear protective clothing, gloves and eye protection (Goggles, Safety Glasses and/or Face Shield)
- Keep out of the reach of children
- Do not take internally
- In case of ingestion, seek medical help immediately
- May cause skin irritation upon contact, especially prolonged or repeated.
- If skin contact occurs, wash immediately with soap and water and seek medical help as needed
- If eye contact occurs, flush immediately with clean water and seek medical help as needed
- Dispose of waste material in accordance with federal, state and local requirements
- Cured Epoxy Resins are Innocuous

MANUFACTURER

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WARRANTY

Dayton Superior Corporation ("Dayton") warrants for 12 months from the date of manufacture or for the duration of the published product shelf life, whichever is less, that at the time of shipment by Dayton, the product is free of manufacturing defects and conforms to Dayton's product properties in force on the date of acceptance by Dayton of the order. Dayton shall only be liable under this warranty if the product has been applied, used, and stored in accordance with Dayton's instructions, especially surface preparation and installation, in force on the date of acceptance by Dayton of the order. The purchaser must examine the product when received and promptly notify Dayton in writing of any non-conformity before the product is used and no later than 30 days after such non-conformity is first discovered. If Dayton, in its sole discretion, determines that the product breached the above warranty, it will, in its sole discretion, replace the non-conforming product, refund the purchase price or issue a credit in the amount of the purchase price. This is the sole and exclusive remedy for breach of this warranty. Only a Dayton officer is authorized to modify this warranty. The information in this data sheet supersedes all other sales information received by the customer during the sales process. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM, TRADE OR OTHERWISE.

Dayton shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for loss of sales, revenues or profits; cost of capital or funds; business interruption or cost of downtime, loss of use, damage to or loss of use of other property (real or personal); failure to realize expected savings; frustration of economic or business expectations; claims by third parties (other than for bodily injury), or economic losses of any kind; or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform, its obligations under any contract for sale of product, even if Dayton could foresee or has been advised of the possibility of such damages. The Parties expressly agree that these limitations on damages are allocations of risk constituting, in part, the consideration for this contract, and also that such limitations shall survive the determination of any court of competent jurisdiction that any remedy provided in these terms or available at law fails of its essential purpose.