

TECHNICAL DATA SHEET

DESCRIPTION

Pro-Poxy™ Type III DOT LT 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. Pro-Poxy Type III DOT LT's breakthrough technology enables application in lower temperatures to extend the application season and allow for faster return to service than traditional overlay material.

USE

Pro-Poxy™ Type III DOT LT is used primarily for bonding skid-resistant overlays and high friction surfaces to bridges roadways and elevated slabs. It can be used 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
- Can be applied in temperatures down to 40°F (5°C)
- Cures one and a half times faster than normal type III
- 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 C881, Type III, Grade 1, Classes B & C

Mix ratio – 1:1 by volume

Gel time – ASTM C881

60 gm sample @ 45°F (7.2°C): 32 min

@ 73°F (23°C): 10 min

Viscosity - ASTM D2556: 1900 cps (1.9 Pascal-second) at 68° F (20° C)

Tensile Strength - ASTM D638:

>5200 psi at 73° F (23° C)

>5200psi at 40° F (4.4° C)

Compressive Strength - ASTM C109/C579:

>3000 psi (6.9 MPa) in 3 hours

>5000 psi (34.4 MPa) in 24 hours

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

Slant Shear Bond Strength- ASTM C882:

2 Day- 1450 psi (10.0 MPa)

14 Day- 1810 psi (12.4 MPa)

Elongation at Break – ASTM D638: >35% at 73° F (23° C), >20% at 40° F (4.4° C)

Load Bearing Capability - ASTM D638: >85% @ 20% strain

Water Absorption – ASTM D570: 0.19%

Thermal Compatibility – ASTM C884: Passes Test

Chloride Ion Permeability - ASTM C1202: 0.0 Coulombs

Shore D Hardness - ASTM D2240: 75

Abrasion Loss - ASTM D501: <85 mg.

Compressive Strength - ASTM D695: >5000 psi (34.4 MPa) in 24 hours, >9000 psi (62.0 MPa) in 7 days

Flexural Strength - ASTM D790: >5000 psi (34.4 MPa)

Cure Rate - ASTM D1640: 45 minutes

Note:

Pro-Poxy Type III DOT LT is not intended to provide resistance to reflective cracking.

Material, substrate and air temperatures will alter set times.

Cold temperatures will slow the setting time, high

temperatures will accelerate the setting time.

VOC

Pro-Poxy Type III DOT LT 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 m²/L)

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

Course #2: Epoxy rate: 20 ft²/gal. (0.5 m²/L).

Aggregate rate: 1-1.5 lb/ft (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
146300	Unit	1	3.79
146301	Unit	2	7.57
146302	Unit	10	37.85
146303	Unit	110	416.40
146304	Unit	500	1892.71

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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.

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".

Repair all delaminations, potholes and cracks using the Pro-Poxy Type III DOT LT or the Pro-Poxy AWP.

Mixing:

Condition material to 65°-85°F (18°-29°C) for ease of mixing and optimum flow prior to using. Pro-Poxy Type III DOT LT is recommended to be applied with high volume epoxy dispensing equipment.

For small amounts drill/paddle mixing is acceptable. The Pro-Poxy Type III DOT LT components, Part A and Part B, shall be premixed and proportioned to the correct ratio of 1 to 1 by volume. Mix material for a minimum of 3 minutes using a low speed, high torque drill fitted with a Jiffy mixer. Ensure mixing is complete including material at edges and bottom of the mixing container. Mix only the quantity which can be used within its gel time. The mixed components shall be immediately applied and spread onto the prepared pavement surface.

DO NOT ALLOW THE MIXED MATERIAL TO REMAIN IN THE MIXING CONTAINER AFTER MIXING.

Trowel Down Epoxy Mortar Topping:

Epoxy Mortar: Slowly add from 3.5 to 5 parts clean, dry silica sand to one part of mixed Pro-Poxy™ Type III DOT LT and then mix thoroughly to completely wet all of the sand. Prime the substrate with neat Pro-Poxy™ Type III DOT LT then apply the Pro-Poxy™ Type III DOT LT mortar by trowel or vibrating screed while the primer is still tacky. Also available is the Pro-Poxy 2500, a pre-packaged epoxy mortar repair kit.

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-Poxy Type III DOT LT over cementitious patches less than 28 days contact Dayton Superior Technical service for recommendations.

Placement:

Material must be conditioned to 65°- 85°F (18°- 29°C) before using. Due to its fast set time, Pro-Poxy Type III DOT LT is not recommended for use when substrate temperatures exceed 75°F (24°C).

Mix the epoxy as previously directed and apply course #1, spreading the neat Pro-Poxy Type III DOT LT 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 DOT LT 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.

Applications in temperatures below 50°F (10°C): Surface and ambient temperature must be a minimum of 40°F (5°C). Material must be conditioned to 65°- 85°F (18°- 29°C) before using.

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The material will thicken once applied to concrete surfaces below 50°F (10°C) due to the cold surface. Do not puddle the material in one area, wide ribbons are best.

Once the material is applied to the concrete surface immediately spread with a 3/16" notched squeegee do not overwork, only make one pass with the squeegee if possible.

When applying at terminations and/or edges a small amount of material should be dispensed in a bucket or container, pour out a small amount and then immediately spread with a roller or brushed.

High Friction Surface Application

Pro-Poxy Type III LT shall be applied mechanically onto the prepared pavement surface and spread with a (1/4) notched squeegee at a minimum coverage rate of 20-30 sf/gal (0.5-0.74 m²/L). 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
45°F (7.2°C)	4 hour
50°F (10°C)	3 1/2 hours
55°F (12.7°C)	3 hours
70°F (21°C)	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 effect set times.

CLEAN UP

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

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 40°F (5°C).

Not recommended for use when substrate temperatures exceed 75°F (24°C).

Do not thin with any solvents.

Do not place Pro-Poxy Type III DOT LT on magnesium phosphate cement concrete.

Not intended to provide resistance to reflective cracking.

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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 Technical Services: 877-266-7732
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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.