

TECHNICAL DATA SHEET

DESCRIPTION

Pro-Poxy 50 is a 100% solids, high modulus, moisture tolerant, very low viscosity epoxy adhesive for gravity feed or pressure injection of cracks in concrete. The Pro-Poxy 50 meets the requirements of ASTM C881 and AASHTO M-235.

USE

The Pro-Poxy 50 primary use is for pressure injection and gravity-feed of fine to very fine width horizontal cracks in concrete and masonry. Pro-Poxy 50 can also be used to seal interior slabs and exterior above-grade slabs.

FEATURES

- High modulus, high strength adhesive meeting
- Super low viscosity, for deep penetration
- Moisture tolerant
- V.O.C. Compliant
- Packaged in cartridges and gallon units
- Good chemical resistance
- Application range between 50°F - 100°F (10°C-38°C)

PROPERTIES

Meets ASTM C881 / AASHTO M235 Type I, II, IV & V Grade 1 Class B* & C

*Class B at temperatures above 50°F (10°C)

See Appendix A for Properties & testing

VOC

Pro-Poxy 50 has a VOC content of 0 g/L . Compliant with all Canadian and U.S. VOC regulations including Federal EPA, OTC, LADCO, SCAQMD & CARB

Packaging

PRODUCT CODE	PACKAGE	SIZE	
		Gallons/OZ	Liters
140013	Cartridge	15.9 oz	470 ml
140007	Unit	3	11.4

ACCESSORIES		
101227	50/ Box	Static Mixing Nozzle
101225	Each	Injection Extension Tube Assembly
101224	Each	Surface Port w/ Cap- Backflow Arrestor
140948	Each	Surface Port w/ Cap- Standard

STORAGE

The material should be stored at 55° -80°F (13°-27°C). Shelf life of properly stored, unopened containers is 24 months.

Surface Preparation:

Cracks to be bonded must be clean and sound. Remove all dirt, grease, oil, and other foreign material that may prevent a good bond. The crack may be damp or dry, but free of standing water. Use clean, oil free, compressed air to blow out any remaining dust or debris prior to installation. Air, material, and surface temperature must be 50°F (10°C) and rising prior to mixing or installation.

Mixing

1. Check the expiration date on the cartridge to ensure it is not expired. Do not use expired product. Locate the nozzle and required flow restrictor.
2. Insert cartridge into the dispenser. Make sure it is properly positioned with the shoulder of the cartridge flush with the front/top bracket of the dispenser. Point upward at about a 45° angle. Remove the plastic cap and plug from the top of the cartridge.
3. Continue to point the upward away from yourself and others while slowly applying pressure to dispenser moving any bubbles and product up through the nozzle until it reaches the tip. Dispense this first full stroke of material into disposable container. The cartridge is now purged and ready for flow restrictor installation.
4. Find the flow control inside the threaded end of the mixing nozzle attached to a tape strip. Insert flow control into the two holes at the top of the cartridge where the product comes out. Make sure it is securely seated in place. Install mixing nozzle onto cartridge. Holding the dispenser straight up, slowly apply pressure to the dispenser moving any bubbles and product up through the nozzle until it reaches the tip. Tilting only slightly, dispense this first full stroke of material into a disposable container.
5. Schedule dispensing to consume an entire cartridge at one time with no interruption of flow to prevent material from hardening in mixing nozzle. If problems arise during dispensing product, replace the nozzle; the product may have begun to cure in the nozzle which will affect the mix ratio. Never transfer a used nozzle to a new cartridge. Repeat the cartridge balancing steps listed above after replacing the nozzle.

TECHNICAL DATA SHEET

MIX INSTRUCTIONS FOR BULK PACKAGING

Thoroughly stir each component separately before mixing them together. Mix only the amount of material that can be used before the working time expires. Proportions parts into a clean container using 2:1 mix ratio of 2 Parts A to 1 Part B by volume.

Mix thoroughly with a low speed drill (400 – 600 rpm) with a mix paddle attachment (i.e. Jiffy Mixer). Carefully scrape the sides and the bottom of the container while mixing. Keep the paddle below the surface of the material. Mix at least 3 minutes.

Placement:

GRAVITY FEED CRACK REPAIR FOR HORIZONTAL APPLICATIONS

Pro-Poxy is formulated for fine to medium cracks. 0.0025 in. to 0.125 in. (0.06 mm to 3.2 mm). For best results, cut a groove to open up the crack using an abrasive or diamond blade to a width of 1/8 in. (3.2 mm) and minimum depth of 3/8 in. (9.5 mm). Use wire brush to abrade and then blow out the crack to remove all dust, dirt, grease, wax, oil or any other contaminants. Pour or inject Pro-Poxy 50 into the crack and its self-leveling ability will fill the entire area. Repeat application if necessary to completely fill crack.

LOW PRESSURE CRACK INJECTION FOR VERTICAL, HORIZONTAL AND OVERHEAD STRUCTURAL REPAIR

Before repairs are attempted, examine the crack to determine the type of repair that is required. Cracks in concrete and wood members are classified as either dynamic (moving) or static (dormant). Static cracks may occur from a one-time overload event such as an earthquake or flood. For static cracks in a structure that is to be rehabilitated, structural crack injection is recommended. By contrast, dynamic cracks are those which are caused by inadequate design, seasonal heaving, temperature swings or repeated over-loading. Dynamic cracks CANNOT effectively be repaired using crack injection.

CAPPING PASTE CARTRIDGE PREPARATION

1. Pro-Poxy 300 Fast or Pro-Poxy 300 Paste are recommended products to be used as a capping paste for crack injection. The non-sag/fast-set properties are ideal for rapid installations (horizontal, vertical and overhead).

2. Place and secure injection ports, or port bases, with the Pro-Poxy 300 Fast or Pro-Poxy 300 Paste. Port spacing should be approximately 6 - 12 in. (152 - 305 mm) apart (typically the width of the concrete member). Do not allow the epoxy to block the passage between the port and the crack face.

3. Place additional Pro-Poxy 300 Fast or Pro-Poxy 300 Paste between the ports making sure the entire face of the crack is sealed off and ports are securely fastened to the concrete. If the crack is evident and accessible on the back side of the concrete member, seal with capping paste.

General Application Procedure:

Pump and Pneumatic Dispensing:
DO NOT EXCEED 40 psi (0.28 MPa) PRESSURE TO THE PNEUMATIC DISPENSING TOOL OR INJECTION PUMP.

An air pressure regulator must be used with a pneumatic dispenser. Start at a low setting and gradually increase pressure as needed until desired epoxy flow is achieved. Use maximum 40 psi (0.28 MPa) air pressure. Excessive pressure may result in cartridge plunger leakage. Begin the injection process from the lowest port on a vertical surface moving up the wall. On horizontal surfaces, begin at the widest part of the crack (as marked prior to capping) and move outward. Inject epoxy into port until you either get flow from adjacent port or until epoxy stops flowing. Allow injection resin to cure for at least 24 hours. Ports and capping material can be removed with a chisel and/or grinder.

Note: Some cracks may take more time to inject, especially hair-line cracks. Cracks may be smaller in width (or larger) than they appear from the surface

Cure Time

Working times are approximate. Working time will increase (colder) or decrease (warmer) depending on the temperature

Base Material Temperature °F (°C)	Working Time
75°F (24°C)	27 min

TECHNICAL DATA SHEET

CLEAN UP

Tools and Equipment: Clean before the epoxy sets up. Use Xylene or the 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.

Always test a small amount to insure that the product is mixed properly and thoroughly and that the material will harden properly before proceeding with the installation.

Do not inject cracks wider than ¼ in. (6.4 mm) without contacting Dayton Superior.

After completion of project, it is recommended to take core samples to verify the satisfactory penetration of the Pro-Poxy 50 into the crack.

Do not thin with any solvents.

Surface, ambient air, and material temperatures must be 50°F (10°C) or above.

Note: 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).

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

Dayton Superior Corporation
1125 Byers Road
Miamisburg, OH 45342
Customer Service: 888-977-9600
Technical Services: 877-266-7732
Website: www.daytonsuperior.com

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.

TECHNICAL DATA SHEET
Appendix A
TABLE 1: Pro-Poxy 50 Performance to ASTM C881-15^{1,2,3}

Property	Cure Time	ASTM Standard	Units	Sample Conditioning Temperature	
				50°F (10°C)	75°F (24°C)
				Class B ⁴	Class C
Gel Time – 60 Gram Mass	----	C881	Min	55	49
Viscosity ⁵			cP	750	280
Pot Life ^{6,7} (1 gallon)		----	Min	----	27
Compressive Yield Strength	7 day	D695	psi (MPa)	11,700 (80.7)	11,800 (81.4)
Compressive Modulus			psi (MPa)	457,600 (3,155)	404,800 (2,791)
Tensile Strength		D638	PSI (MPa)	7,020 (48.4)	8,010 (55.2)
Tensile Elongation			%	2.9	8.2
Bond Strength Hardened to Hardened Concrete	2 day	C882	psi (MPa)	2,850 (19.7)	1,870 (12.9)
	14 day		psi (MPa)	3,340 (23.0)	3,160 (21.8)
Bond Strength Fresh to Hardened Concrete	14 day		psi (MPa)	1,600 (11.0)	
Heat Deflection Temperature	7 day	D648	°F (°C)	122 (50.0)	
Water Absorption	14 day	D570	%	0.29	
Linear Coefficient of Shrinkage	48 hr	D2566		0.0008	

1. Results based on testing conducted on a representative lot(s) of product. Average results will vary according to the tolerances of the given property.
2. Full cure time is listed above to obtain the given properties for each product characteristic.
3. Results may vary due to environmental factors such as temperature, moisture and type of substrate.
4. CLASS B approved for use at temperatures equal to or greater than 50°F (10°C).
5. Viscosity at 95°F (35°C) drops to approximately 150 cP.
6. Property not referenced in ASTM C881.
7. Pot life is measured as the workable and applicable time of 102 fl. oz. (3.0 L), when mixed at 75°F (24°C).