

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
SEALING LOCALIZED CRACKS

STM:JDC

1 of 2

APPR:MTH:JAB:03-24-25

FHWA:APPR:03-24-25

a. Description. This work consists of sealing visible surface cracks in newly constructed bridge decks, overlay surfaces, deck patches, joint headers, the perimeter of deck patches and the perimeter of joint replacements with an epoxy-based healer sealer. Ensure all work is in accordance with the standard specifications, except as modified herein.

b. Materials. Use a two-component epoxy-based healer sealer. Ensure the containers are marked clearly "Part A" or "Part B". The epoxies that are approved for sealing localized cracks are in Table 1.

Table 1: Approved Two Component 100 Percent Solids Epoxy Based Healer Sealers

Supplier	Product	Telephone
Advanced Chemical Technologies	SIL-ACT EP 1000 HM	(405) 843-2585
E-Chem	EP100	(505) 217-2121
Euclid Chemical	Dural 335, Dural 50 LM	(800) 321-7628
Poly-Carb	Mark 127	(817) 797-1113
Sika	Sikadur 55 SLV	(248) 866-8956
Unitex	Pro-Poxy 40 LV LM	(800) 745-3700

c. Construction. Apply the localized crack epoxy-based healer sealer at locations determined by the Engineer. Ensure surface preparation and application is in accordance with manufacturer's recommendations, except as modified by this special provision. Ensure the concrete substrate is thoroughly dry with no sign of moisture emissions in the cracks.

1. **Surface Preparation.** The Engineer will inspect deck construction and cleaning operations. The Engineer's approval is required prior to sealing of localized cracks. Protect utilities, drainage structures, bridge expansion joint devices, and any other structure within or adjacent to the healer sealer location from surface preparation activities and application of the surface treatment materials.

Do not perform surface preparation or installation of epoxy-based healer sealer on concrete patches less than 28 days of age. Clean the crack or joint to be sealed by abrasive blasting to remove all materials that may interfere with the bonding or curing of the binder. Water blasting or wire brushing is prohibited. The cleaned concrete surface must meet the *International Concrete Repair Institute Guideline 310.2R, Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair*, concrete surface profile CSP 3. Ensure mortar is sound and sufficiently bonded to the coarse

aggregate and presents a uniform CSP necessary for adequate bond. Use a vacuum truck or oil-free moisture-free air blasting to remove all dust and other loose material. Brooms are prohibited. Remove any oil or other contamination after initial cleaning.

The Engineer's approval is required prior to placement of the localized crack healer sealer.

Ensure localized crack healer sealer is applied within 24 hours of the final cleaning, and prior to opening the area to traffic.

No visible moisture can be present on the surface of the concrete at the time of localized crack healer sealer application. Oil-free moisture-free compressed air may be used to dry the concrete surface. Use a plastic sheet left taped in place in accordance with *ASTM D4263* to identify moisture in the healer sealer area except as modified herein. Tape an 18 inch by 18 inch transparent polyethylene sheet (4 mil) to the concrete surface at a representative location approved by the Engineer. Ensure all edges are sealed with tape that will stick to the concrete substrate. Leave the plastic sheet in place for a minimum of 3 hours or as directed by the manufacturer's recommendations for cure time for the conditions, whichever is longer. Ensure there is no moisture visible on the polyethylene sheet. Ensure alternate methods to detect moisture are approved by the Engineer.

2. Application. Ensure handling and mixing of the epoxy resin and hardening agent is performed in a safe manner to achieve the desired results in accordance with the manufacturer's recommendations or as directed by the Engineer. Do not place the epoxy-based healer sealer materials when the concrete surface is less than 50 °F or ambient air temperature is forecast to fall below 50 °F within 8 hours of application. Do not place the epoxy-based healer sealer materials if weather or surface conditions are such that the material cannot be properly handled, placed, and cured in accordance with the manufacturer's requirements and the specified requirements for traffic control.

Proportion and mix the localized crack healer sealer materials in accordance with the manufacturer's recommendations. Apply the localized crack healer sealer using a squeeze bottle with a tip opening configuration sufficient to continually apply the healer sealer to the crack, thus resulting in no greater than a 1-inch overband onto the deck surface. Visually demonstrate, to the satisfaction of the Engineer, that the healer sealer is being applied with sufficient quantity to ensure penetration of the material into the crack by gravity feed. Allow material to pond over the cracks. Let the material penetrate into the cracks. Apply a second treatment if crack reopens after 15 minutes. Immediately remove any spillage or application over the 1-inch overband width, prior to set, to the satisfaction of the Engineer. Do not allow traffic or equipment on the epoxy surface(s) during the curing period.

d. Measurement and Payment. The completed work, as described, will be measured as a lump sum and paid for at the contract price using the following pay item:

Pay Item

Pay Unit

Sealing Localized Cracks (Structure Identification)Lump Sum

Sealing Localized Cracks (Structure Identification) includes cleaning, preparing and applying an epoxy-based healer sealer at cracks and perimeters at locations specified herein. Also includes miscellaneous clean-up. No compensation will be made to the Contractor for surplus materials.