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CONCRETE DECK REPAIR USING ELASTOMERIC CONCRETE:

(4-23-09) SPI

Description

This work consists of concrete deck repair as designated by the Engineer. The Contractor shall begin work within 60 days of notification.

Materials

Elastomeric concrete is a mixture of a two-part polymer consisting of polyurethane and/or epoxy, and kiln-dried aggregate. Have the manufacturer supply it as a unit.

Use one of the following products:

Ceva Crete by Chase Construction Products, 401 New Karner Road, Albany, NY 12205.

E-Crete #57 by Chase Construction Products, 401 New Karner Road, Albany, NY 12205

Ply-Krete HS by Polyset, Company, P.O. Box 111, Mechanicville, NY 12118

Wabocrete Elastomeric Concrete by Watson Bowman Acme Corporation, 95 Pineview Drive, Amherst, NY 14120 716-691-7566

Or approved equal.

Construction Methods

All areas of concrete deck repairs shall be made with elastomeric concrete. The Engineer will determine the areas where Class I, Class II and Class III deck repair shall be performed. These areas shall be saw cut and material shall be applied according to the material specifications.

Do not place elastomeric concrete if the ambient air temperature is below 45°F (7°C). Prepare and apply a primer, as per manufacturer's recommendations, to all vertical concrete faces, all steel components to be in contact with elastomeric concrete, and to areas specified by the manufacturer. Align the angles with the joint opening.

Prepare, batch, and place the elastomeric concrete in accordance with the manufacturer's instructions. Place the elastomeric concrete while the primer is still tacky and within 2 hours after applying the primer. Properly consolidate the elastomeric concrete around the steel and anchors.

Tarps shall be utilized under the mixing areas, and the bridge deck joint shall be taped off to protect the bridge deck from spills during elastomeric concrete installation.

Class I Deck Repair: Remove all loose, unsound deck concrete to a depth of 1/2 inch (13 mm), remove and dispose concrete, and thoroughly clean the surface. In areas where reinforcing steel

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is located in the 1/2 inch (13 mm) depth to be scarified, use another method with the Engineer's approval.

Class II Deck Repair (Partial Depth): Remove by chipping with hand tools all loose, unsound and contaminated deck concrete and in areas where reinforcing steel is exposed, by scarifying to an average depth of approximately one-half the deck thickness, but no less than 3/4 inch (19 mm) below the top mat of steel. Dispose of the removed concrete, clean, repair or replace rusted or loose reinforcing steel, and thoroughly clean the newly exposed surface.

When chipping, be careful not to cut, stretch, or damage any exposed reinforcing steel.

In overhangs, removing concrete areas of less than 0.60 ft^2/ft (0.2 m^2/m) length of bridge without overhang support is permitted unless the Engineer directs otherwise. For concrete areas greater than 0.60 ft^2/ft (0.2 m^2/m) length of bridge, approval of the overhang support is required.

Refill areas where concrete was removed with elastomeric concrete.

Class III Deck Repair (Full Depth): Remove full depth all loose, unsound and contaminated deck concrete. Thoroughly clean the routed out area and dispose of concrete removed. Clean, repair, or replace reinforcing bars and fill the areas from which unsound concrete has been removed with elastomeric concrete up to the bottom of the proposed concrete overlay.

Clean or replace reinforcing bars and place elastomeric concrete.

For areas of less than 3 ft^2 (0.3 m^2), suspending forms from existing reinforcing steel using wire ties is permitted. For larger areas, support forms by blocking from the beam flanges.

Submit for approval detailed plans for Class III deck repair. Detail how waste and debris is kept from falling below. When Class III repairs adjacent to the rail are necessary, support the rail in a manner approved by the Engineer.

Measurement and Payment

Class I, Class II and Class III deck repair will be measured in square yards for the appropriate areas so prepared. The entire cost for concrete deck repair using elastomeric concrete including, but not limited to, materials, labor, maintenance, equipment, tools, and incidentals will be included in the unit price per square yard for *Concrete Deck Repair (Class ____) using Elastomeric Concrete.* Also the Contractor shall clean up built up material out from under the guardrail for 100' on the approach and trailing end of the bridge, as directed by the Engineer as part of the work of Concrete Deck Repair using Elastomeric Concrete.

Payments will be made under:

Pay Item	**Pay Unit**
Concrete Deck Repair (Class ____) using Elastomeric Concrete	Square Yard