

1 **(January 7, 2019)**

2 **Elastomeric Concrete**

3 Elastomeric concrete shall be composed of the following three components – two-
4 component polyurethane resin binder, and aggregate, in accordance with Section 6-
5 02.2 as supplemented in these Special Provisions.

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7 **Manufacturer's Technical Representative**

8 The Contractor shall have the services of a qualified elastomeric concrete
9 manufacturer's technical representative physically present at the job site. The
10 manufacturer's technical representative shall assist the Contractor in training the
11 Contractor's personnel and providing technical assistance in preparing the header
12 blackout surface, applying primer, and mixing, placing, and curing the elastomeric
13 concrete.

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15 **Delivery and Storage of Materials**

16 All materials shall be delivered in their original containers bearing the
17 manufacturer's label, specifying date of manufacturing, batch number, trade name
18 brand, and quantity. Each shipment of polyurethane resin binder shall be
19 accompanied by a Materials Safety Data Sheet (MSDS).

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21 The materials shall be stored in accordance with the manufacturer's
22 recommendations.

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24 Sufficient material to perform the entire elastomeric concrete application shall be in
25 storage at the site prior to any field preparation.

26
27 **Equipment and Containment**

28 The Contractor shall submit a Type 1 Working Drawing consisting of all equipment
29 for cleaning the concrete and steel surfaces, and mixing and applying the
30 elastomeric concrete.

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32 The abrasive blasting materials, shall be contained and restricted to the surface
33 receiving the elastomeric concrete only, and shall not escape to the surrounding
34 environment. The Contractor shall submit a Type 1 Working Drawing consisting of
35 the method and materials used to collect and contain the abrasive blasting
36 materials.

37
38 **Surface Preparation**

39 The concrete and steel surfaces shall be prepared by removing all material which
40 may act as a bond breaker between the surface and the elastomeric concrete,
41 including the removal of all loose, deteriorated, or otherwise unsound concrete.
42 Steel surfaces shall be cleaned and prepared to an SSPC SP-10 surface condition.
43 Surface cleaning shall be by abrasive blasting.

44
45 Precautions shall be taken to ensure that no dust or debris leaves the bridge deck
46 and that all traffic is protected from rebound and dust.

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48 If the concrete or steel surfaces become contaminated, the contaminated areas
49 shall be recleaned by abrasive blasting.

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51 Freshly placed concrete shall be cured for a minimum of 14 calendar days before
52 application of primer and elastomeric concrete.

Application of Prime Coat

Application of the prime coat and the elastomeric concrete shall not begin if rain is forecast within 12-hours of completion of the Work. The area receiving the prime coat shall be dry and had no rain within the past 12 hours. Immediately prior to applying the prime coat, the surfaces shall be cleaned to remove accumulated dust and any other loose material.

The concrete bridge deck surface shall be between 50F and 85F when applying the prime coat.

The Contractor shall apply primer in accordance with the elastomeric concrete manufacturer's recommendations, and shall limit the extent of primer application to that surface area that can be covered by a layer of elastomeric concrete before primer cure.

If the primed surface becomes contaminated, the contaminated area shall be cleaned by abrasive blasting and reprimed.

Mixing Components

The Contractor shall mix the elastomeric concrete components and the resultant mixture in accordance with the equipment and procedure recommended by the elastomeric concrete manufacturer.

Elastomeric Concrete Placement

The elastomeric concrete shall be placed on the liquid prime coat within the time limits specified by the manufacturer. Elastomeric concrete shall be placed in layers not to exceed the maximum depth recommended by the elastomeric concrete manufacturer. At locations deep enough to require placement of multiple layers of elastomeric concrete, each layer shall be cured, and the top of the previous layer roughened, as recommended by the elastomeric concrete manufacturer before placement of the next layer.

Elastomeric concrete shall be placed within five minutes of initiation.

The surface temperature of the area receiving the elastomeric concrete shall be the same as specified above for the prime coat.

Finished Elastomeric Concrete Surface

The finished surface of the elastomeric concrete shall be smooth and uniform as to crown and grade in accordance with Section 6-02.3(10)D3.

Finishing tools or equipment used shall strike off the elastomeric concrete to the established grade and cross section.

The finished surface of elastomeric concrete shall receive an abrasive sand finish. The sand finish shall be applied by hand immediately after strike-off and before gelling occurs. Sand shall be broadcast onto the surface to affect a uniform coverage of a minimum of 0.8 pounds per square yard.

1 **Curing**

2 The elastomeric concrete shall be cured in accordance with the manufacturer's
3 recommendations. The Contractor shall measure the compressive strength of the
4 cured elastomeric concrete with a rebound hammer in accordance with ASTM C
5 805. The readings of the rebound hammer used shall be correlated to the
6 compressive strength of the elastomeric concrete product in accordance with
7 ASTM C 805 Section 5.4, and the Contractor shall submit a Type 1 Working
8 Drawing of this correlation.
9

10 Traffic and equipment shall not be permitted on the elastomeric concrete until it
11 achieves a compressive strength of 2500 psi based on the rebound hammer
12 readings and the correlation chart for the rebound hammer used.