

## 1. General

The work shall consist of furnishing and installing a flexible, durable, high-impact elastomeric concrete material in accordance with the details shown on the plans and the requirements of the specifications.

## 2. Basis of Design

### 2.1. Product

Provide a field-mixed elastomeric concrete header material. The elastomeric concrete material shall be field-mixed and consist of a two-component polyurethane resin mixed with a pregraded aggregate and chopped fibreglass. Product shall meet the specified performance criteria of the project as manufactured by:

(USA & International) **EMSEAL JOINT SYSTEMS, LTD** 25 BRIDLE LANE, WESTBOROUGH, MA 01581-2603, Toll Free: 800-526-8365. (Canada) EMSEAL, LLC 111 ROYAL GROUP CRESCENT WOODBRIDGE, ON L4H 1X9 CANADA, Toll Free: 800-526-8365. [www.emseal.com/bridge](http://www.emseal.com/bridge)

**EMCRETE: NON-HAZARDOUS HIGH-IMPACT ELASTOMERIC CONCRETE NOSING MATERIAL**

Submit the following according to the elastomeric concrete specification for new or repair of existing expansion joint nosing material:

- a. Standard Submittal Package
  - i. EMCRETE Product Data Sheet
  - ii. Typical drawing(s) indicating pertinent dimensions, general construction, and product information.
  - iii. Certification by independent laboratory test reports validating the product meets the values and data listed in the product data sheet.
  - iv. EMCRETE Safety Data Sheet
- b. Alternates
  - i. Alternate manufacturers must demonstrate that their products meet or exceed the design criteria and must submit certified performance test reports performed by recognized independent laboratories as called for in the submittals section. Submittal of alternates must be made three weeks prior to bid opening to allow proper evaluation time.

### 2.2. Quality Assurance

The General Contractor shall conduct a pre-construction meeting with all parties and trades responsible for areas where this product is being used such as in the treatment of work at and around expansion joints, or as a repair or patching material. The General Contractor is responsible to coordinate and schedule all trades and ensure that all subcontractors understand their responsibilities in relation to the use of this material.

### 2.3. Warranty

Manufacturer's standard warranty shall apply.

### 2.4. Delivery & Storage

Deliver products to site in Manufacturer's original, intact, pre-measured and labeled containers for each individual component. Handle and protect as necessary to prevent damage or deterioration during shipment, handling and storage. Store in accordance with manufacturer's installation instructions.

## 3. Component Materials

The Contractor shall furnish a manufacturer's certification that the materials proposed have been pre-tested (to be verified and tested by independent third party lab/testing facility) and will meet the requirements as set forth in the specification.

### 1. Elastomeric Concrete

Material shall be an ambient cure, 100% solids, two component polyurethane resin mixed with a pregraded aggregate mix of sand and chopped fiberglass. When properly mixed and poured, the elastomeric concrete cures rapidly, flows and fills any voids, spalls or irregularities forming a monolithic unit. The elastomeric concrete mix shall conform to the physical properties listed in the tables below.

Elastomeric cured binder and aggregate shall meet the following physical properties:

<u>Physical Properties</u>	<u>Test Method</u>	<u>Requirement</u>
Compressive Strength	ASTM D695	4000 psi min.
Compressive Stress @ 5% Deflection	ASTM D695	800 psi min.
Resilience @ 5% Deflection	ASTM D695	70% min.
Abrasion Resistance	ASTM C501	<1% (1,000 Cycles)
Adhesion (Primed Concrete)	ASTM D7234	400 psi min.
Impact Resistance	ASTM D5628	No Cracking at height of 19 in.
Hardness (Shore D)	ASTM D2240	60 min.
Tensile Strength	ASTM D638	450 psi min.

- a. Ratio of aggregate and resin not to exceed 2:1 (two parts aggregate to one part resin)
- b. Aggregate must include no less than 11% chopped fiberglass (calculated by weight).

### 2. Bonding Agent

Provide manufacturers recommended bonding agent/adhesive (EMPRIME). The product shall be a single component bonding agent. Apply bonding agent to the sides and base of the preformed concrete blockout prior to placement of the elastomeric concrete. Store, mix and apply in accordance with the manufacturer's product data sheet.

## 4. Construction Requirements

The Contractor shall submit product data and information after the award of the contract. At the discretion of the Engineer, the manufacturer may be required to furnish a representative sample of material to be supplied in accordance with the project specifications.

The manufacturer shall provide instructions for the proper installation of the elastomeric concrete. Any patching materials must be approved prior to use from the manufacturer. Elastomeric concrete shall be installed at locations shown on the contract plans and in strict accordance with the manufacturer's written instructions along with the advice of their qualified representative.

### Manufacturer's Field Representative

The Contractor shall arrange with the manufacturer or distributor to have the services of a competent field representative (employed by the manufacturer) at the work site prior to installation to instruct the work crews in the proper installation procedures. The field representative shall remain at the job site after work commences and continue to instruct until the representative and the Contractor, Inspector and/or Engineer are satisfied that the crew has mastered the technique of installing the system successfully.

The Contractor may furnish a "Certified Installer" certificate from the manufacturer indicating that a Project Manager with the Contractor has been trained and certified to install this product without the supervision of a manufacturer's representative on site.

### Installation

Preparation of the work area – Substrates must be thoroughly dry and the temperature must be at least 45°F and rising to install EMCRETE. The bonding surface should be in sound and good condition before prepping. The entire bonding surface is to be wire brushed or sandblasted and fully cleaned leaving no contaminants such as dirt, dust, oils, or other residue on any surface. The area where the EMCRETE will be poured shall be fully prepped and formed and the substrate shall be primed with the appropriate bonding agent (EMPRIME by EMSEAL or Sikadur 32 by Sika Corporation). Refer to the manufacturer's installation instructions for detailed step-by-step instructions.

## 5. Payment

The accepted quantity of elastomeric concrete will be paid for at the contract unit price per cubic foot. Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
Elastomeric Concrete	Cubic Foot

Payment will be full compensation for all work necessary to complete the items including furnishing and installing the elastomeric concrete, and any miscellaneous patching required.