



A SIKA COMPANY

PRODUCT DATA Emcrete

Non-Hazardous High-Impact Elastomeric Concrete Material



Emcrete expansion joint
patching and nosing material

Product Description

Emcrete is a flexible, durable, high-impact elastomeric concrete material. It is a bio-based, non-hazardous, extremely-low VOC product primarily used as a component of an expansion joint assembly either to fill blockouts on each side of an expansion joint gap, to repair a damaged expansion joint gap edge, as an impact-absorbing backfill nosing, or as a fastcuring patching material for potholes, or spalls on bridges, concrete roadways, sidewalks, parking surfaces, runways, etc.

Emcrete is comprised of a two-component polyurethane resin mixed with silica-free sand and chopped fiberglass aggregates. The sand imparts compressive strength. The fiber provides cross-linked reinforcement while, in combination with the sand, adds body to the polyurethane resin.

Typical Uses

Some of the typical uses of Emcrete within EMSEAL expansion joint systems are:

Repair – To repair spalled gap edges in high load-bearing applications. The spalled concrete must be cut out using industry standards for concrete repair. Once the gap edge has been cut and cleaned, the self-leveling Emcrete can be poured to form a horizontal elastomeric gap edge that is more resistant to spalling and gap edge deterioration.

Elastomeric Concrete – To act as an elastomeric concrete where the possibility of spalling or cracking is a concern for standard concrete or where existing spalls or potholes in concrete roadways, bridges, etc. is required.

Leveling and Dampening – As a leveling bed and sound dampening support of the coverplates of EMSEAL SJS Seismic Joint Systems systems. The SJS family of products from EMSEAL are coverplate systems secured to a precompressed foam and spline assembly. The coverplates ride on the deck surface. It is typical to form, cut or grind a shallow blockout on each side of the joint gap and fill this with Emcrete. This provides a surface that can be grinded to ensure that the coverplates do not rock and are fully supported over their entire contact area. Ensuring the plates are properly supported while absorbing the shocks of vehicular impact both contribute in attenuating sound.

Impact Absorbing – As an impact-absorbing header material behind the rails of EMSEAL FP systems. Migutan, DSM-FP, and SJS-FP are systems are all designed for installation in split-slab conditions. These systems install onto the structural slab and feature watertight integration with the split-slab waterproofing membrane through integral side flashing sheets supplied with the expansion joint system.

Installation Summary

The following is a summary. Installation must follow the complete Installation Instructions shipped with the material and available at www.emseal.com.

Substrates must be thoroughly dry and the temperature must be at least 45°F (8°C) 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 and fully cleaned leaving no contaminants such as dirt, dust, oils, or other residue on any surface. Next, the area where Emcrete will be poured should be fully prepped and formed. The substrate is then primed with the (non-HAP) Emprime primer that is included with units of Emcrete and allowed to dry for 30 minutes. The Emcrete is then mixed in accordance with the complete Installation Instructions in the pre-measured amounts provided. The Emcrete is then poured into the forms where it will self-level and cure exothermically. It can be trowelled to ensure a consistent surface. The working time of Emcrete is less than 10-minutes after mixing. Working time, and cure time, is longer in cool weather and shorter in hot weather. Emcrete reaches a hardness which allows for pedestrian or vehicular traffic within 1-hour after application under standard conditions.

Supply

Packaging – Emcrete Elastomeric Concrete is sold by the unit.

Each unit holds of premeasured amounts of the liquids (Parts A & B, and Emprime) as well as silica-free aggregate.

Yield*– 1 Unit: 9,766 cubic cm (596 cubic inches)

*account for a 5% waste factor



Performance Properties

IMPORTANT: When comparing elastomeric concrete materials it is vital to compare the data of the fully mixed material. Resin-only data is irrelevant as the material is not used without aggregate. Aggregate increases compressive strength at the expense of flexibility and brittleness. Heavy aggregate loading, while it reduces cost, is detrimental to performance of the material as an impact-absorbing nosing and patching material. The following are properties of Emcrete (resins and silica-free aggregate) at as-supplied ratios. (See page 2)

Physical Property	Value	Test Method
Adhesion (primed concrete)	400 psi min.	ASTM D7234
Adhesion (primed steel)	460 psi min.	ASTM D7234
Adhesion (primed galvanized steel)	400 psi min.	ASTM D7234
Tensile Strength	651 psi	ASTM D412
Elongation	20%	ASTM D412
Compressive Strength	>4000 psi	ASTM D695
Compressive Modulus	11.27 ksi	ASTM D695
Hardness (Shore D)	57	ASTM D2240
Viscosity @ 50 rpm (mixed resin)	1560 cP	ASTM D4847
Impact Resistance —Ball Drop**	No Cracking at a height of 19 inches	ASTM D5628

** Drop a free-falling dart (top) with a mass of 32 lb.(14.5 kg) with a head diameter of .5-inches in a conical configuration from a height of 19 inches.

** Testing based on the following Aggregate/Resin Ratios:
 - 18 lbs. of Silica Free Sand - 4.5 lbs. (Part A Resin)
 - 4 lbs. of Chopped Fiberglass - 8.2 lbs. (Part B Resin)
 (No less than 11% Fiberglass by Weight)

CAD & Guide Specs

Guide specifications and CAD details are available online at emseal.com or by contacting EMSEAL.

Warranty

Standard or project-specific warranties are available from EMSEAL on request.

Availability & Price

Emcrete is available for shipment internationally. Prices are available from local representatives and/or directly from the manufacturer. EMSEAL reserves the right to modify or withdraw any product without prior notice.

Emcrete Applications

Figure 1: Emcrete Used as Expansion Joint Nosing Material

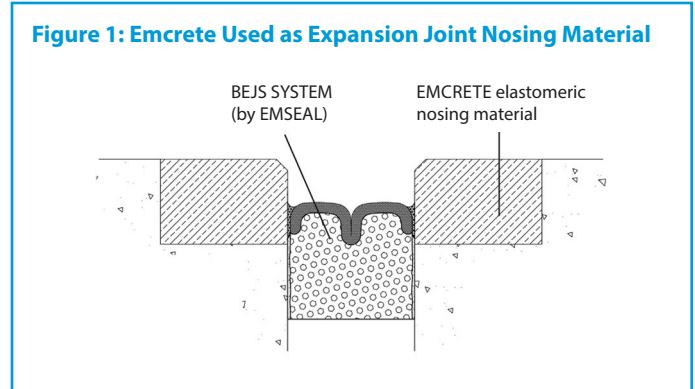


Figure 2: Emcrete Used as Concrete Patching Material

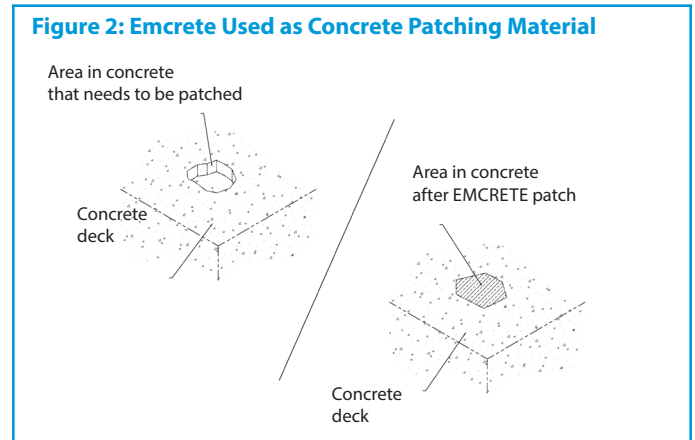


Figure 3: Emcrete Used with SJS System as a Plate-Leveler and Sound Dampener

