



## EMCRETE

High-Impact Elastomeric Concrete Material

# TECH DATA



### Product Description

EMCRETE is a flexible, durable, high-impact elastomeric concrete material. EMCRETE is 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 fast-curing patching material for potholes, or spalls on concrete roadways, parking surfaces, bridges, runways, etc.

EMCRETE is comprised of a two-component polyurethane resin mixed with 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 an 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, runways, bridges etc. is required.

#### Encapsulate and Embed

To encapsulate and embed the punched flanges (wings) of the THERMAFLEX joint systems. In this role, EMCRETE acts to mechanically lock the flanges of the expansion joint to the deck while adhering to the concrete and creating a watertight seal. The cured nosing material acts to protect the joint edge and absorb suddenly-applied vehicle loads.

#### 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 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](http://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 the EMCRETE will be poured should be fully prepped and formed. The substrate is then primed with the 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.

### Supply

#### Packaging

EMCRETE Elastomeric Concrete is sold by the unit. Each unit is comprised of pre-measured containers which hold the liquids (Parts A & B) and Sand and Fiber.



#### Yield\*

1 Unit: 10,375 cubic cm (633 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, sand, and chopped fiberglass) at as-supplied ratios .

#### AGGREGATE RATIO:

Ratio of Resin to Aggregate by Weight

does not exceed 1:2

#### ADHESION: Pull Off Strength

Concrete (abraded, wiped, primed)

exceeds 425 psi

Steel (abraded, wiped, primed)

exceeds 247 psi

Galvanized Steel (wiped, primed)

exceeds 261 psi

#### IMPACT: Ball Drop Test

1-pound steel ball dropped onto 3/8" thick (8mm) x 2.75" diameter (70mm) disk from 17 feet:

At room temperature (69°F; 20°C)

no cracks

At -4°F; -20°C

no cracks

**HARDNESS:** ASTM D 2240 at 77°F (25°C)

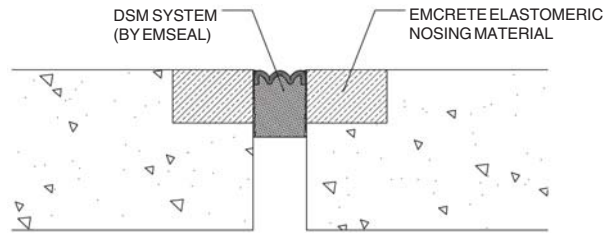
98 Shore A

57 Shore D

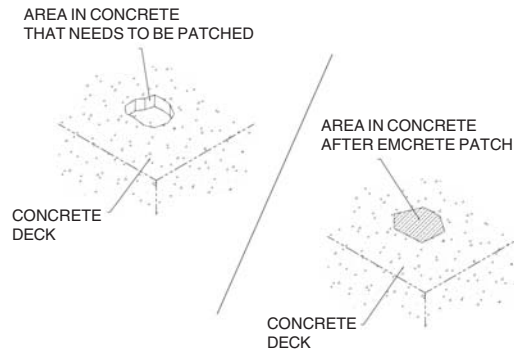
For more information contact EMSEAL Joint Systems, Ltd.

## EMCRETE Applications

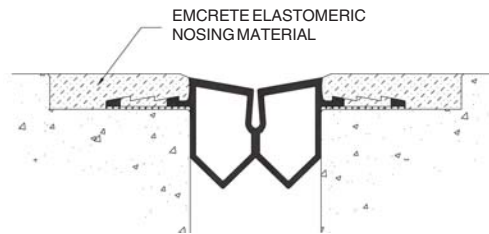
**Fig. 1: EMCRETE Used as Expansion Joint Nosing Material**



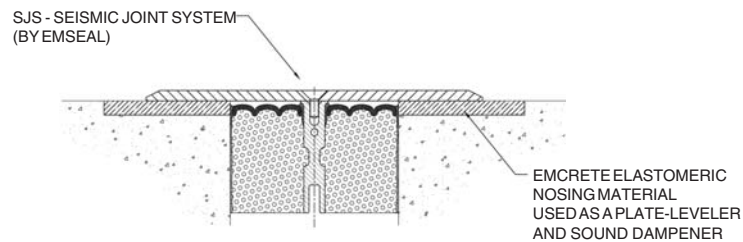
**Fig. 2: EMCRETE Used as Concrete Patching Material**



**Fig. 3: EMCRETE as Part of THERMAFLEX System**



**Fig. 4: EMCRETE Used with SJS System as a Plate-Leveler and Sound Dampener**



**Fig. 5: EMCRETE Used with MIGUTAN System and Embedded Rebar**

