



## Using ENECRETE® DuraFill®

**PLEASE READ THESE INSTRUCTIONS AND MATERIAL SAFETY DATA SHEET (MSDS) CAREFULLY PRIOR TO USE**

ENECRETE® DuraFill® is a two-component, 100% solids, high performance polymer system specifically designed for broadcast flooring applications as well as for filling deeper holes and cavities in concrete. In both cases, the DuraFill® is combined with locally sourced aggregates to provide unrivaled performance in some of the most demanding floor repair and protection applications.

ENECRETE® DuraFill® is very versatile. It exhibits extraordinary adhesion to virtually any type of mineral substrate as well as most metals. It has excellent compressive strength, impact resistance, as well as thermal shock resistance. DuraFill® is not only for concrete; it will also bond to marble, slate, stone, brick, terrazzo, tiles, most metals, wood...even rigid plastics and glass!

ENECRETE® DuraFill® can be used with colored aggregates to create aesthetically pleasing broadcast floor systems.

### SURFACE PREPARATION

ENECRETE® DuraFill® should only be applied to clean, dry, firm and well roughened surfaces.

1. Remove all loose material and surface contamination, such as grease, oil, mold, algae and other coatings.
2. Depending on the surface, remove contamination by detergent and / or solvent washing, abrasive blasting, steam cleaning, pressure washing or other suitable methods.
3. After removing all surface and sub-surface contamination, flush the surface with clean water and allow surface water to dry thoroughly.

### MIXING AND APPLICATION

The ENECRETE® DuraFill® Base and Activator have been supplied in precisely measured quantities. However, because of the volume of material supplied, only the amount of material that can be used within its Working Life should be mixed at a time. A partial mix can be accomplished by mixing 2 parts Base to 1 part Activator by volume (2:1, v/v).

While hand mixing is possible, the use of a suitable mechanical mixing device is recommended to facilitate the mixing process. Pour the desired amounts of Base and Activator into a suitable container and mix together thoroughly.

#### ...for "bulk fill" applications

The surface should be primed with unfilled DuraFill® when troweling aggregate filled DuraFill®. Add the selected aggregate to the mixed Base and Activator liquids a little at a time and continue mixing until the desired consistency is achieved. As a guide, when using fine sand as the filler, a volume equal to approximately 5 times the volume of mixed liquids has been found to yield a good, workable mix.

It may be necessary to adjust this volume to suit the aggregate being used and the application conditions.

Once mixed, dump the mixed material into the void(s), press / tamp in well to insure complete and thorough contact with the substrate and eliminate air pockets and finish as necessary.

#### ...for "broadcast floor" applications

Apply the mixed Base and Activator liquids to the area to be treated using brushes and / or rollers. For large floor areas, long handled roller sets should be used to ease the application. Regardless of the application device / method, press the material in well to eliminate entrapped air and insure thorough contact with the surface.

While DuraFill® is still wet, broadcast the amount of selected aggregate necessary (normally about 1 pound per square foot) to completely cover the area with excess material. Allow to harden sufficiently (generally overnight) before proceeding. After curing, sweep up / vacuum the excess loose aggregate (which can usually be re-used) and inspect the surface. Any imperfections should be sanded and / or ground down as necessary.

Mix and apply a second coat of the DuraFill® liquids over the area and repeat the broadcast process and curing schedule as described above. Once sufficiently cured, again sweep up / vacuum the excess aggregate and thoroughly inspect the surface. After "touching up" any imperfections by sanding and / or grinding, mix and apply another layer of the DuraFill® liquids and allow to cure completely before returning the area to service.

Note: additional "layers" of DuraFill® liquids and aggregate may be applied as detailed above to achieve the desired build-up / thickness for the system.

### Technical Data

Volume capacity per kg.	56 in <sup>3</sup> / 910 cc	
Mixed density	0.040 lbs per in <sup>3</sup> / 1.1 gm per cc	
Coverage rate per kg. @ 15 mils / 375 microns	25 ft <sup>2</sup> / 2.3 m <sup>2</sup>	
Shelf life	Indefinite	
Volume solids	100%	
Mixing ratio	Base	Activator
By volume	2	1
By weight	2.4	1

### Cure Times

Ambient Temperature		Working Life	Touch Dry	Full Cure
50°F	10°C	135 min	15hrs	10 days
59°F	15°C	90 min	10 hrs	7 days
77°F	25°C	45 min	5 hrs	4 days
86°F	30°C	30 min	3 hrs	3 days

Physical Properties	Typical Values		Test Method
Compressive strength	10,000 psi	700 kg/cm <sup>2</sup>	ASTM D-695
Flexural strength	9,000 psi	630 kg/cm <sup>2</sup>	ASTMD-790
Hardness-Shore D	80		ASTM D-2240
Tensile shear adhesion			
Steel	3,000 psi	210 kg/cm <sup>2</sup>	ASTM D-1002

Adhesion - to prepared cementitious surfaces is greater than the cohesive strength of the substrate.

Chemical Resistance			
Gasoline . . . . .	EX	Trisodium phosphate . . . . .	EX
Kerosene . . . . .	EX	20% Salt solution . . . . .	EX
50% Anti-freeze . . . . .	EX	20% Calcium chloride . . . . .	EX
Transmission fluid . . . . .	EX	10% Hydrochloric acid . . . . .	EX
Power steering fluid . . . . .	EX	10% Sulfuric acid . . . . .	EX
Motor oil . . . . .	EX	10% Sodium hydroxide . . . . .	EX
Detergent solution . . . . .	EX		

EX - Suitable for most applications including immersion.  
G - Suitable for intermittent contact, splashes, etc.

**HEALTH & SAFETY**

Every effort is made to insure that ENECON® products are as simple and safe to use as possible. Normal industry standards and practices for housekeeping, cleanliness and personal protection should be observed. For further information and guidance, please refer to the detailed MATERIAL SAFETY DATA SHEETS (MSDS) supplied with the material and also available on request.

**CLEANING EQUIPMENT**

Clean tools, equipment and overspray, while wet, with warm soapy water. Dried residue can be cleaned with solvents such as mineral spirits or alcohol.

**TECHNICAL SUPPORT**

The ENECON® engineering team is always available to provide technical support and assistance. For guidance on difficult application procedures or for answers to simple questions, call your local ENECON® Fluid Flow Systems Specialist or the ENECON® Engineering Center.

All information contained herein is based on long term testing in our laboratories as well as practical field experience and is believed to be reliable and accurate. No condition or warranty is given covering the results from use of our products in any particular case, whether the purpose is disclosed or not, and we cannot accept liability if the desired results are not obtained.

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