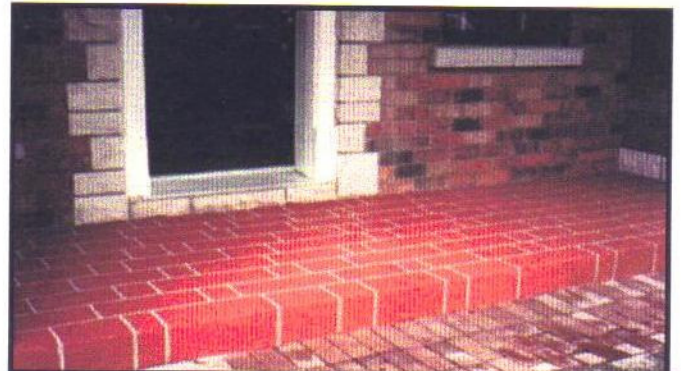
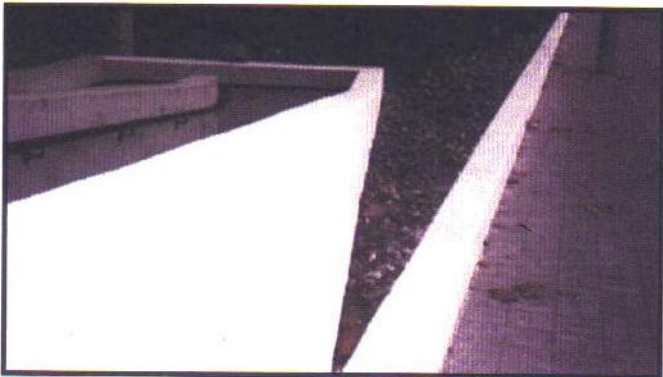
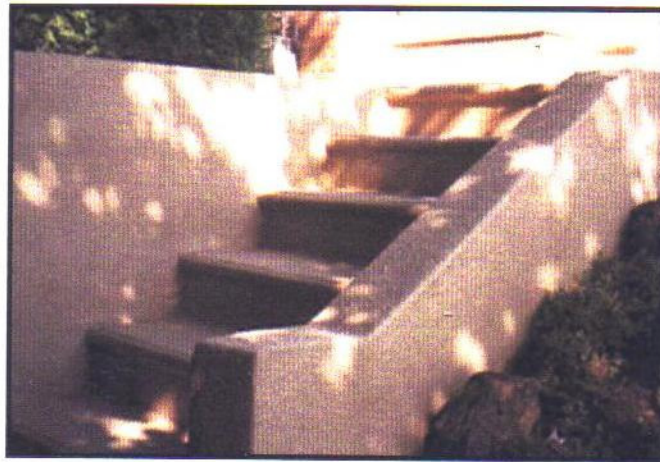


# CLEM-CRETE™

Concrete Solutions for Pools, Floors, Sidewalks, Bridges, Walkways, Entrances, Etc.



Attractive, High Strength, & Sealed Concrete.  
Withstands Freeze-Thaw, Chemicals, and UV for  
Residential, Commercial, & Industrial Applications

**CCC** **CLEMONS**  
CONCRETE COATINGS  
505 Cave Rd. • Nashville, TN 37210

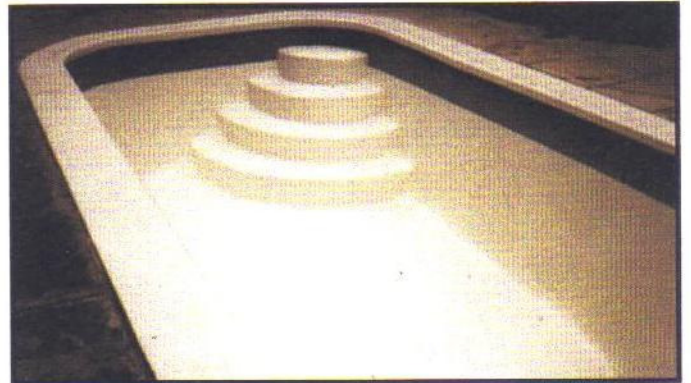
# CLEM-CRETE™

## Concrete Solutions

### Typical Design and Application



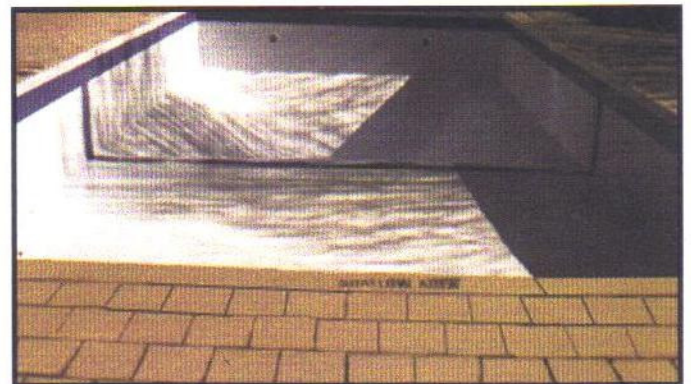
BEFORE



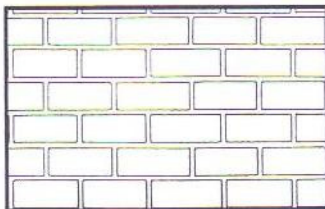
AFTER



BEFORE

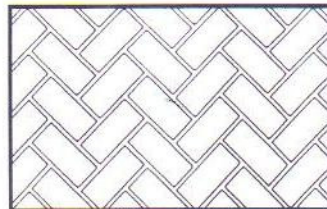


AFTER



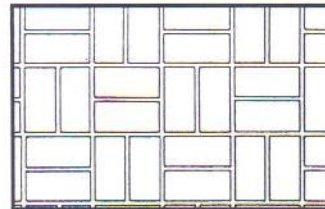
**Running Board**

Brick = 3½" x 8"  
Grout Joint = ½"



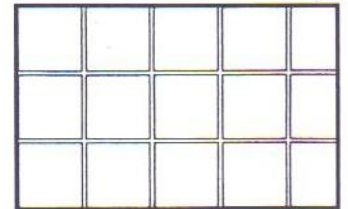
**Large Herringbone**

Brick = 3½" x 8"  
Grout Joint = ½"



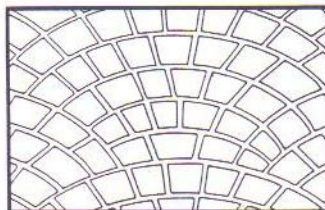
**Basketweave**

Brick = 3¼" x 8"  
Grout Joint = ½"



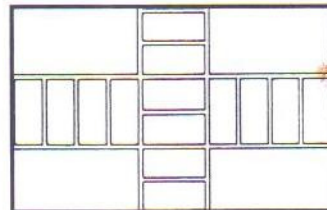
**8" x 8" Tile**

Tile = 8" x 8"  
Grout Joint = ½"



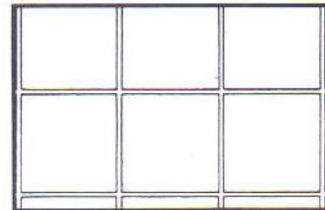
**European Fanstone**

Stones = Approx. 6" x 7"  
Grout Joint = Irregular



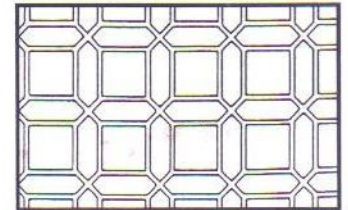
**Soldier Course**

Brick = 3½" x 8"  
Grout Joint = ½"



**12" by 12" Tile**

Tile = 12" x 12"  
Grout Joint = ½"



**Mediterranean Tile**

Square Tile = 6" x 6"  
Border Tile = 3" x 9½"  
Grout Joint = ½"

# CLEM-CRETE™

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## Concrete Solutions

### CLEM-CRETE™ General Description

CLEM-CRETE™ is a versatile, architectural, load-bearing surfacing and resurfacing system. CLEM-CRETE™'s unique chemistry, a rich combination of acrylic polymers and Portland cement, creates an advanced, high performance product that can be applied to old or new concrete and other surfaces. The CLEM-CRETE™ System combines a texture application and a clear or colored sealing finish coat.

The CLEM-CRETE™ System can surface new concrete and foam construction or resurface and restore patios, sidewalks, driveways, pool interiors and pool decks, floors, bridges, entrances and building exteriors. The system can create distinct textures and can replicate the look of brick, tile or stone. The CLEM-CRETE™ System is the high quality, high performance and competitively priced alternative for your surfacing, resurfacing and restoration needs.

### The CLEM-CRETE™ Advantage

CLEM-CRETE™ is a non-porous product, stronger and more durable than concrete and suitable for underwater, interior and exterior applications. An attractive, high-strength, sealed CLEM-CRETE™ surface is fire, chemical, impact and UV resistant and withstands freeze-thaw cycles as well as hot and cold climate conditions.

The CLEM-CRETE™ System can be decoratively installed in an array of patterns, colors and finishes. Its diverse creative possibilities make it the ideal choice for architectural claddings, where it creates an appealing coating without losing the design integrity or the detail of the materials to be coated. New construction and retrofit projects equally benefit from CLEM-CRETE™. Worn, cracked deteriorated or uneven surface problems are readily solved.

CLEM-CRETE™ is a user friendly modified concrete system and can be easily and quickly applied by spray, squeegee or trowel. To alter the application from vertical or horizontal to underwater or flagstone patterns requires only the addition of an admixture. The CLEM-CRETE™ allows on-site adjustments to facilitate client satisfaction and is environmentally safe. The product's advanced concrete chemistry ensures superior adhesion to the substrate without primers.

### Product

The Clem-Crete System includes three parts: SUPER MIX, a Dry Bag Mix, SUPER BOND, a resin, and SUPER SEALER STAIN, a colored sealer or SUPER SEAL-30, a clear sealer. SUPER MIX and color (if specified) is thoroughly incorporated with liquid SUPER BOND and applied with a trowel, squeegee or spray. Clear or colored Sealer completes the application. CLEM-CRETE™ is easily mixed and can be installed quickly. It is packaged in 60 pound (27.3kg) bags and 5 gallon (18.9 liter) cans to reduce waste.

### Preparation and Application

Cracks are repaired according to industry standards using an epoxy crack filler. The surface to be covered with the CLEM-CRETE™ System is then cleaned of all grease, oil, paint, dirt, and other materials. Spalled, defective and uneven substrates are repaired as required using a skim application. CLEM-CRETE™ texture coat is evenly placed using appropriate installation system. Finally, CLEM-CRETE™ finish coat, in clear or color stain seal, is applied to protect the dried surface. (More than one coat of Sealer may be necessary to completely hide substrate.)

Depending upon the weather, you can walk on a new CLEM-CRETE™ surface within 24 hours. Vehicles, equipment or furniture can use the surface after three days. As CLEM-CRETE™ is a polymer modified cement product, its curing process is similar to other cement products. CLEM-CRETE™ will achieve its maximum strength of 5715 p.s.i. in 28 days.

One skim coat applied with a squeegee will yield 100-150 square feet per bag. A second coat of squeegeed, sprayed, or troweled is required after first coat of squeegee. Alternately, one troweled coat may be applied. At 1/8" thickness, a bag, troweled coat will yield 65 square feet. Plan to use 1.5 gallons of SUPER BOND for each bag of SUPER MIX. For squeezed coat, a cup of water may be added for increased liquidity. Sealer will yield about 200 square feet per gallon.

# CLEM-CRETE™

## The High Performance Concrete Surfacing System

CLEM-CRETE™ is an exceptional concrete surfacing system with so many high performance properties that you may never need any other. This system is so versatile it can be used as a structural surface or as a highly decorative finish; as a waterproof liner, or as fire protection. In every case, Clem-Crete™ will provide a top-of-the-line product.

### CLEM-CRETE™ Structural Surfaces

The many high performance structural characteristics of CLEM-CRETE™ include high compressive strength, flexural strength, impact strength and shear bond adhesion. These properties make CLEM-CRETE™ an ideal solution to the repair of heavy duty concrete surfaces including **bridge decks, loading docks, parking garage ramps and industrial floors**. It can be applied over newly installed or old, cracked, or spalled surfaces; including concrete, masonry, or steel and can be feather coated or applied up to two inches thick. It produces a hard-wearing, long lasting surface that is a permanent improvement to both the function and appearance of the property.

#### Physical Strength Properties of CLEM-CRETE™ Polymer Modified Cement Surfaces

	Unmodified Cement	CLEM-CRETE™
Ratio of Polymer Solids to Cement Weight	0	0.17
Ratio of Water to Cement	0.45	0.37
Compressive Strength	2390 p.s.i.	5715 psi
Tensile Strength	235 p.s.i.	855 psi
Flexural Strength	610 p.s.i.	1835 psi
Shear Bond Adhesion	45 p.s.i.	550 psi
Impact Strength	6 In./Lbs.	22 In./Lbs.
Abrasion Resistance (Weight Lost)	23.80%	1.57%

# CLEM-CRETE™

## CLEM-CRETE™ Decorative Paving

In addition to its structural strength properties, CLEM-CRETE™ has characteristics that make it a high performance decorative surface. These characteristics include high slip resistance, low water absorption, resistance to freeze-thaw damage, stain resistance, high quality pigments and exceptional workability. These properties make CLEM-CRETE™ a highly attractive paving material for any kind of outdoor or indoor paving including **courtyards, entrances, sidewalks, patios, and pool decks.**

Pigments are blended throughout the CLEM-CRETE™ and include 30 standard colors and up to 2000 available colors. With integral color, the mix can be textured by spraying, troweling, floating or any other concrete finishing method with consistent results. Brick, stone or tile patterns can be easily created by taping, scoring, stamping and stenciling techniques to create unlimited pattern effects.

### Properties of CLEM-CRETE™ As A Decorative Paving Material

TEST	METHOD	RESULTS
Slip Resistance	ASTM D-2047	0.78 Dry
Slip Resistance	ASTM D-2047	0.74 Wet
Water Absorption	ASTM C-642	6.5% at 72 Hours
Freeze-Thaw	ASTM C-666	<0.5% Weight Loss
Accelerated Weathering	ASTM G-23	Unaffected at 4000 hours
Chemical Resistance	ASTM D-2299	Unaffected
Mildew Resistance	ASTM G-21	Class A
Mildew Resistance	Mil 810-B	No Growth at 6 Weeks

# CLEM-CRETE™

## CLEM-CRETE™ Swimming Pools Interiors

The physical strength properties of CLEM-CRETE™ together with its decorative paving capabilities make it an ideal surface for the interior of concrete swimming pools. CLEM-CRETE™ is unaffected by pool chemicals and won't fade, stain or peel. It provides a watertight, non-porous surface that will look great year after year.

### Chemical Resistance of CLEM-CRETE™

COMMON NAME	CHEMICAL AGENT	WATER BASED SEALER		SOLVENT BASED SEALER	
		SPLASH EXP.	24 HR. EXP.	SPLASH EXP.	24 HR. EXP.
<b>ACIDS</b>					
Acetic	CH <sub>3</sub> COOH	8	3	10	6
Hydrochloric	HCL	9	5	10	6
Nitric	HNO <sub>3</sub>	7	2	10	4
Sulphuric	H <sub>2</sub> SO <sub>4</sub>	10	8	10	8
<b>ALKALI</b>					
Potassium Hyd.	KOH	10	10	10	9
Sodium Hyd.	NaOH	10	10	10	9
<b>SOLVENTS</b>					
Diesel Fuel	Hydrocarbons	10	9	10	10
Gasoline	Hydrocarbons	10	4	10	8
Mek	CH <sub>3</sub> CH <sub>2</sub> COCH <sub>2</sub>	6	2	10	4
Oils	Hydrocarbons	10	10	10	10
Toluene	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub>	8	2	10	5
Xylene	C <sub>6</sub>				
<b>STAINS</b>					
Coffee	Mixture	10	10	10	10
Cola	Mixture	10	10	10	10
Grape Juice	Mixture	10	10	10	10
Mustard	Mixture	10	10	10	10
Red Ink	Mixture	10	10	10	10

Chemical Resistance Values 0=Sealer Removed      3-4=Sealer Lt. Soft      8-9=Sealer Low Gloss  
 1-2=Sealer Mod. Soft      5-7=Sealer Lt. Stain      10=Sealer Unaffected

# CLEM-CRETE™

## CLEM-CRETE™ As An Exterior Building Finish

Today, many architects enjoy the design freedom of stucco-like building finishes. The high performance properties of CLEM-CRETE™ make it the high performance finishing system. These properties include the strength and impact resistance of concrete, exceptionally low moisture absorption, total resistance to wind driven rain, high flexural strength and low shrinkage.

Unlike many competitive products, CLEM-CRETE™ can be used above or below grade. It can provide a continuous, protective finish over both exterior foundation insulation and exterior wall insulation and can be used with confidence on horizontal as well as vertical systems.

### Properties of CLEM-CRETE™ As An Exterior Building Finish

TEST	METHOD	RESULTS
Compressive Strength	ASTM C-109	5,715 p.s.i.
Flexural Strength	ASTM C-348	1,835 p.s.i.
Tensile Strength	ASTM C-190	855 p.s.i.
Impact Strength	Lab Method	22 In./Lbs.
Moisture Resistance	ASTM D-2247	Unaffected at 6 Weeks
Wind Uplift	FM 1-52	Exceeds Standard
Wind Driven Rain	TTC-555B	No Penetration
Shrinkage	ASTM C-596	Exceeds Standard

## CLEM-CRETE™ Fire Protection

Cementitious based Clem-Crete has many advantages over other fire protection materials. It can be spray, squeegee or trowel applied to provide a thin, hard coating that maintains the character of the structural elements to be protected. With a smooth trowel finish, a CLEM-CRETE™ surface can be easily cleaned and kept looking fresh and sanitary. The integral color of CLEM-CRETE™ can be coordinated with interior color schemes and never needs painting.

### CLEM-CRETE™ As Fire Protection

TEST	METHOD	RESULTS
Fire Resistance	ASTM E-108	Class A
Fire Resistance	UBC 32-7	Class A
Fire Resistance	ASTM E-119	Passed at 1 Hour
Flame Spread	ASTM E-84	Exceeds Standard

# CLEM-CRETE™

## Decorative Paving System

### Suggested Specification For Renewing A Concrete Courtyard (Cont:)

Division 3-Concrete

Section 03350

#### 1. GENERAL

##### 1.1 RELATED WORK

- |                           |               |
|---------------------------|---------------|
| A. Demolition             | Section 02500 |
| B. Cast-In-Place Concrete | Section 03300 |

##### 1.2 PERFORMANCE OF SYSTEM

- |                           |             |                                       |
|---------------------------|-------------|---------------------------------------|
| A. Water Absorption       | ASTM C-642  | 6.5%                                  |
| B. Freeze-Thaw            | ASTM C-666  | <0.5% Weight Loss                     |
| C. Accelerated Weathering | ASTM G-23   | Unaffected at 4000 Hours              |
| D. Slip Resistance        | ASTM D-2047 | 0.78 Dry 0.74 Wet                     |
| E. Compressive Strength   | ASTM C-109  | 5715 psi After Application of Sealers |
| F. Chemical Resistance    | ASTM D-2299 | Unaffected                            |

#### 2. PRODUCTS

##### 2.1 MATERIALS

- A. CLEM-CRETE™ is a three part polymer modified Cementitious surfacing system manufactured by Clemons Concrete Coatings-PO Box 829, LaVergne, Tennessee 37086.

It consists of:

- SUPER MIX Dry Bag Mix: High early-strength concrete compounds and additives mixed with water-based pigments.
- SUPER BOND: A high solids, water soluble acrylic resin.
- SUPER SEAL: An acrylic coating formulated with acrylic and silicone resins and is available in Water Base and Solvent Base. (Use is dependant upon application needs.)

- B. Old South Cleaner & Degreaser: A high concentrate liquid cleaning compound.

# CLEM-CRETE™

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## Decorative Paving System

### Suggested Specification For Renewing A Concrete Courtyard (Cont:)

Division 3 – Concrete

Section 03350

#### 3. EXECUTION

##### 3.1 QUALIFICATIONS

- A. The Clem-Crete surface shall be installed only by a recognized, established contractor having proven and satisfactory experience and who is trained in the most recent installation procedures and approved by Clem-Crete.

##### 3.2 PREPARATION

- A. Follow manufacturer's printed specifications.
- B. Under no circumstances shall material be applied to a frozen base containing frost. Surface and ambient temperature shall be a minimum of 40°F at all times while coatings cure. All newly applied surfaces shall be protected from wind exceeding 30 mph, rain, hail and snow until materials have fully set and cured. All coatings shall be protected from excessive drying or rapid evaporation during dry and warm weather.
- C. Saw out all cracks (except faint hairline cracks). Provide additional control joints if necessary.
- D. Clean surface area of existing paving using Old South Cleaner & Degreaser as necessary. Pressure wash at 3000 p.s.i. For heavy grease or oil, use Old South Cleaner & Degreaser and allow to penetrate for 5-10 minutes before washing. Clean surface area of any remaining paint or glue with solvent remover.
- E. Repair all hairline cracks and cracks up to 1/8" wide with an epoxy crack filler. Repair wider cracks with CLEM-CRETE or non-shrink concrete.
- F. Tape off expansion joints and any areas not to be resurfaced.

##### 3.3 INSTALLATION

- A. Apply a skim coat of SUPER MIX as necessary to create a uniform subsurface.
- B. If tile, brick or stone pattern is required, perform the following steps, if not, proceed with Step C.
  1. Apply a color sealer coat with airless sprayer to create grout line color.
  2. Tape off pattern design.
- C. Apply a coat of CLEM-CRETE using a spray gun and use a trowel or paint roller to create the desired texture. (if a tile, brick or stone pattern is desired, pull up the tape when texture coat is 70% dry and allow texture coat to finish drying. Sweep away loose texture material and re-tape pattern.) Allow to cure for 12 hours.
- D. Apply 1 coat of SUPER SEALER STAIN with airless paint sprayer. Allow to cure for 4 hours. Pull Tape applicable and touch up grout lines and tile or brick pattern with Color Sealer.
- E. Caulk all expansion joints with sealant.
- F. Apply a second coat of Color Sealer and allow to cure for 4 hours.

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# CLEM-CRETE™

# Exterior Insulation and Finish System

## Suggested Specification For New Construction

Division 7 – Thermal and Moisture Protection

Section 07240

### 1. GENERAL

#### 1.1 RELATED WORK

- A. Sealants Section 07900
- B. Painting Section 09900

#### 1.2 PERFORMANCE OF SYSTEM

- A. Moisture Resistance ASTM D-2247 Unaffected at 6 weeks
- B. Water Absorption ASTM C-642 6.5%
- C. Freeze-Thaw ASTM C-666 <0.5% Weight Loss
- D. Accelerated Weathering ASTM G-23 Unaffected at 4000 hours
- E. Fire Resistance ASTM E-108 Class A  
ASTM E-119 1 Hour
- F. Compressive Strength ASTM C-109 5715 psi

### 2. PRODUCTS

#### 2.1 MATERIALS

- A. CLEM-CRETE™ is a three part acrylic, polymer Cementitious surfacing system with a compressive strength of 5715 psi. It is made by: Clemons Concrete Coatings P.O. Box 829, LaVergne, TN 37086 [www.ccc-usa.com](http://www.ccc-usa.com).

It consists of:

- SUPER MIX: High early strength concrete compounds and additives mixed with water based pigments.
  - SUPER BOND: A high solids, water soluble acrylic polymer resin.
  - SUPER SEALER STAIN: Formulated with acrylic in a solvent base.
- B. Old South Cleaner: A high concentrate liquid cleaning compound.
  - C. Epoxy crack filler
  - D. Standard #0040 fiberglass reinforcing mesh.
  - E. Insulation board shall be aged, expanded polystyrene with a minimum density of 16 kg/m<sup>3</sup>
  - F. Fasteners for insulation board shall be Hilti IDP plugs for application on masonry or self-tapping, corrosion resistant screws conforming to ASTM C1002-83 for application on steel studs.
  - G. All trim and plaster stops shall be vinyl, extruded aluminum or pre-finished galvanized metal of #29 gauge minimum. Pre-finished galvanized metal drip edge shall be #24 gauge.