# Shock-Crete® MD

PRODUCT DATA SHEET

## SELECTION & SPECIFICATION DATA

| | |
|---|---|
| **Generic Type** | Cementitious urethane flooring mortar |
| **Description** | An aggregate filled system that develops a cure strength approximately 2 times that of the concrete base to which it is applied. The monolithic topping exhibits excellent physical and mechanical strength and chemical resistance. |
| **Features** | • **Contributes toward satisfying credit for low emitting material under LEED 4.1**<br>• Meets California Department of Public Health CDPH/EHLB Standard Method Version 1.2 2017. Compliance Certificates Available Upon Request<br>• Meets SCAQMD Rule 1113 for VOC content<br>• Thermal Shock Resistant<br>• Excellent Chemical Resistance<br>• Low Odor<br>• Fast Setting<br>• Low Temperature Cure<br>• FDA and USDA Compliant<br>• Resistant to Steam Cleaning<br>• Anti-Microbial Agents are available as an option<br>• Anti-Skid Version Available<br>• Coefficient of Thermal Expansion similar to concrete<br>• VOC Compliant |
| **Typical Uses** | • General Concrete Restoration<br>• Breweries and Beverage Plants<br>• Automotive Aisleways<br>• Food Processing Plants<br>• Meat Packaging Plants<br>• Loading Ramps<br>• Packing Plants<br>• Machine Shops<br>• Laboratories<br>• Wet Wells |
| **Color** | Industrial standard colors<br>Color Chart available upon request. |
| **Finish** | Matte |
| **Primer** | Self priming |
| **Recommended Thickness** | 3/16" - 3/8" (5-10 mm) |
| **Coverage Rate** | 42 $ft^2$ per unit at 3/16" (3.9 $m^2$ @ 5 mm)<br>28 $ft^2$ per unit at 1/4" (2.6 $m^2$ @ 6 mm)<br>18-19 $ft^2$ per unit at 3/8" (1.7-1.8 $m^2$ @ 10 mm) |
| **VOC Values** | **As Supplied** : 35 g/L |
| **Dry Temp. Resistance** | -120ºF to 200ºF (-84ºC to 93ºC) |

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Dudick
A Division of Carboline

## SELECTION & SPECIFICATION DATA

**Chemical Resistance**

- Organic Acids
- Dilute Inorganic Acids
- Alkali Solutions
- Salts
- Oils
- Aliphatic Solvents

**Topcoats**

Topcoats are optional and selection will depend on exposure

Contact Dudick for recommendations.

## SUBSTRATES & SURFACE PREPARATION

**Concrete**

Concrete must be prepared mechanically to remove surface laitance. Oils, grease or other contaminant must be removed prior to surface preparation. Concrete must free of curing compounds and form release agents. Surface texture should be similar to 40-60-grit sandpaper or the visual standard, CSP-5 from the International Concrete Repair Institute **with exposed pea gravel**. The prepared surface should have a nominal tensile strength of 250 PSI per ASTM D-4541. All concrete substrates must be checked for moisture prior to product application using the Plastic Sheet Test, ASTM D-4263. If moisture is found to be present in the concrete slab, contact Dudick for further recommendations on product and thicknesses.
Additional surface preparation will be required if a 40-60 grit texture with exposed pea gravel is not achieved and the surface laitance not completely removed with the first mechanical preparation procedure.

## PERFORMANCE DATA (TYPICAL VALUES)

| Test Method | Results |
|---|---|
| Coefficient of Thermal Expansion ASTM C531 | $1.7 \times 10^{-5}$ |
| Compressive Strength ASTM C579 | 8,000 PSI (55 MPa) |
| Density | 127 lb/cu.ft (2034 $kg/m^3$ |
| Flexural Strength ASTM C580 | 2,200 PSI (15 MPa) |
| Modulus of Elasticity ASTM C580 | $2.2 \times 10^8$ PSI |
| Taber Abrasion ASTM D4060 | 70 mg |
| Tensile Bond Strength ASTM D7234 | Cohesive Failure of Concrete |
| Tensile Strength ASTM C307 | 1,000 PSI (6.9 MPa) |

## MIXING & THINNING

**Mixer**

When deciding on mixing equipment, keep in mind that Shock-Crete MD has a 15 minute working time at 70ºF (21ºC).
A 10-15 gallon rotating drum container is recommended. It is portable and easy to clean. The stationary mixing paddle provides both radial and axial action, scraping both the side and bottom of the container a mortar mixer can be used as long as it contains blades for uniform mixing.

**Mixing**

Add Color Pack to Component A and thoroughly mix to redisperse pigments or fillers that may have settled. Add the pre-measured Component A to the mixer followed by the addition of the premeasured Component B and mix for one minute. Slowly add the aggregate and continue mixing until all the aggregate has been totally wetted. **DO NOT REDUCE AGGREGATE. DO NOT MIX PARTIAL KITS.**

## MIXING & THINNING

**Pot Life**

20 minutes @ 50ºF (10ºC)
15 minutes @ 70ºF (21ºC)
8-9 minutes @ 90ºF (32ºC)

Do not attempt to store mixed material. Residual material should be properly disposed of at the end of each work period.

## APPLICATION PROCEDURES

**General**

Can only be applied to concrete or a previous layer of Shock-Crete or ShockCrete MD. It will not bond to epoxy or other polymer systems.

**Application**

**Bodycoat:** Set the gauge rake to the desired thickness, then pour the mixed material and spread to the recommended thickness. After spreading the material, trowel to remove rake marks then roll with a spike roller to level and de-aerate. **Timing of batches is important so as to avoid cold joints in the floor.**

**For Broadcast Application:**Use the same mixing sequence, bodycoat application as for Shock-Crete MD and broadcast either 20-40 mesh sand or aluminum oxide into the wet bodycoat to complete saturation and allow to cure overnight. Once cured, remove excess sand or aluminum oxide with a broom or vacuuming.

## APPLICATION CONDITIONS

| Condition | Material | Surface | Humidity |
|---|---|---|---|
| Minimum | 50°F (10°C) | 41°F (5°C) | 0% |
| Maximum | 90°F (32°C) | 90°F (32°C) | 90% |

Substrate temperature must be 5ºF (3ºC) above the Dew Point.
Application in direct sunlight may lead to blistering, pinholes, or wrinkling due to outgassing of air in the concrete and high substrate temperatures. Shading or evening application may be required. Consult a Dudick representative.

## CURING SCHEDULE

| Surface Temp. | Foot Traffic |
|---|---|
| 50°F (10°C) | 14 Hours |
| 70°F (21°C) | 7 Hours |
| 90°F (32°C) | 3.5 Hours |

Recoat Time: Must be cured for 16-24 hours @ 70°F (21°C) before coated.
If the material is applied neat, then it must be abraded prior to recoating if it has set longer than 48 hours.

## CLEANUP & SAFETY

**Cleanup**

Use S-10 Cleaning Solvent, MEK or Acetone to clean tools and equipment.

**Safety**

Read and follow all caution statements on this product data sheet and on the SDS. Employ normal safety precautions. Keep container closed when not in use.

## PACKAGING, HANDLING & STORAGE

| | |
|---|---|
| **Packaging** | Component A: 1 gal, 8.35 lbs. (3.8 kg, 3.8 kg)<br>Component B: 0.8 gal, 8 lbs. (3 kg, 3.6 kg)<br>Aggregate: 61 lbs (28 kg)<br>Color Pack Pre-measured Amount<br><br>Pre-measured units – Do Not Breakdown |
| **Shelf Life** | 12 months at 50°F-75°F (10°C-24°C)<br><br>When stored in their original, unopened containers. |
| **Storage** | Store indoors, avoiding direct sunlight. **DO NOT FREEZE.**<br><br>***Warning:*** All Dudick products classified by DOT with either white, yellow or red labels must not be mixed or stored together as an explosive reaction may occur. |

## WARRANTY

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