

SELECTION & SPECIFICATION DATA

Generic Type	Cementitious urethane flooring mortar
Description	Liquid nitrogen resistant for splash and spill, trowel applied cementitious urethane mortar (1/4"-1/2" / 6-13 mm). Contains antimicrobial additives that protect it from degradation caused by microorganisms. Demonstrates excellent resistance to thermal shock, mechanical damage, and chemical attack.
Features	<ul style="list-style-type: none"> • Unaffected by MVT (moisture vapor transmission) • Excellent chemical resistance • High abrasion resistance • Industry leading range for thermal shock (-350 to 400°F) • Withstands mechanical stress • Easy to clean and sterilize surface • Resistant to steam cleaning • Positive slip resistance • May be applied to "green" concrete • Ultra low VOC/odor • Suitable for use in USDA inspected facilities • Resistant to liquid nitrogen (Contact Dudick for recommendations when dealing with liquid nitrogen exposure)
Typical Uses	<ul style="list-style-type: none"> • General Concrete Restoration • Breweries and Beverage Plants • Automotive Aisleways • Food Processing Plants • Meat Packaging Plants • Loading Ramps • Packing Plants • Machine Shops • Wet Wells • Cryogenic Areas
Color	Stocked Colors: Red (Q501), Mid Gray (Q703), Cream (Q202), Dark Gray (Q704), Tan (Q204), Khaki (Q205), Green (Q302), and Safety Yellow (Q603), and Black (Q900).
Finish	Matte
Primer	Self-priming
Recommended Thickness	1/4-1/2"(6-13 mm) Environments with more aggressive chemical or thermal conditions will require higher thicknesses. Contact a Dudick representative for a recommendation.

Shock-Crete HD

PRODUCT DATA SHEET



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Coverage Rate	Small Kit 20 ft ² (1.9 m ²) at 1/4" (6 mm) 15 ft ² (1.4 m ²) at 3/8" (10 mm) 10 ft ² (.9 m ²) at 1/2" (13 mm)
	Tote Kit 12,000 ft ² (1,115 m ²) at 1/4" (6 mm) 8,250 ft ² (766.5 m ²) at 3/8" (10 mm) 5,500 ft ² (511 m ²) at 1/2" (13 mm) For thicknesses greater than 1" (25 mm) extend using pea gravel. Add 16 lbs. (7.3 kg) of pea gravel per unit to yield 0.57 cubic feet (0.02 cubic meters).
VOC Values	As Supplied : 35 g/L
Dry Temp. Resistance	-350°F to 400°F (-212°C to 204°C)
Limitations	While this product is resistant to liquid nitrogen exposure with sustained or frequent cyclic exposure, minimal discoloration and visible hairline cracks are possible. This does not effect the ability for it to protect the concrete substrate.
Chemical Resistance	<ul style="list-style-type: none">• Organic Acids• Dilute Inorganic Acids• Alkali Solutions• Salts• Oils• Aliphatic Solvents
Topcoats	Shock-Crete Topcoat, Shock-Crete TCUV, Sealer 985 or as recommended by your Dudick representative.

SUBSTRATES & SURFACE PREPARATION

Concrete	<p>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-7234. All control joints must be honored. Anchor grooves must be cut on both sides of such joints. Welded joints and cracks in the concrete may be coated, but if movement occurs the coating will crack with the movement of the concrete</p> <p>All concrete substrates must be checked for moisture prior to product application using the Plastic Sheet Test, ASTM D-4263.</p> <p>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.</p>
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PERFORMANCE DATA (TYPICAL VALUES)

Test Method	Results
Coefficient of Thermal Expansion (ASTM C531)	1.1 x 10 ⁻⁵
Compressive Strength (ASTM C579)	7,300 PSI (50 MPa)
Density	130lb/cu ft (2082.4 kg/cu meter)
Flexural Strength (ASTM C580)	1,800 PSI (12.4 MPa)
Modulus of Elasticity (ASTM C580)	1.7 x 10 ⁵ PSI
Taber Abrasion (ASTM D4060)	70 mg.
Tensile Bond Strength (ASTM C7234)	Cohesive Failure of Concrete
Tensile Strength (ASTM C307)	825 PSI (5.7 MPa)

MIXING & THINNING

- Mixer** | When deciding on mixing equipment, keep in mind that **Shock-Crete has a 15-minute working time at 70°F (21°C)**. 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 pre-measured **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.**
The mixed material shall be placed **immediately** after mixing.
- Thinning** | For improved flow and leveling or when working in hot weather, a maximum of 4 fl.oz. of Thinner 45 (Mineral Spirits) can be added.
- Pot Life** | 30 minutes @ 50°F (10°C)
15 minutes @ 70°F (21°C)
8-9 minutes @ 90°F (32°C)

APPLICATION PROCEDURES

- General** | **The Shock-Crete HD system can only be applied to properly prepared bare concrete or a previous layer of Shock-Crete. It will not bond to epoxy or other polymer systems. All Shock-Crete systems cure with pinholes in the surface. Contact Dudick for a pinhole free finish.**

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APPLICATION PROCEDURES

Trowel | A unit of mixed material shall be poured out and then troweled to the approximate thickness required. This should be done before finishing. Then finish using large sweeping motions and keeping the trowel as flat as possible. At this point it will be easy to see any defects in the surface. A final sweep provides a uniform finish and brings a little more liquid to the surface which fills any voids in the aggregate. The next mix should be laid as above. Extra care should be taken in the transition between mixes. Final sweeps should take in the previous mix to keep the finish uniform. Do not over trowel.

Immediately after final trowel sweep, dampen a 3/8" nap roller with acetone. The roller should be just wet enough so that no Shock-Crete is "pulled off" the surface. Lightly roll over surface. One cross hatch application should be sufficient to create a uniform appearance to the surface. The roller will get contaminated and should be changed out frequently.

Dampen, do not flood the surface with acetone. Exercise caution when using acetone. Acetone has a low flashpoint of -4°F (-20°C). Keep away from open flames.

The surface of Shock-Crete HD may need to be ground or abraded and the finish texture of Shock-Crete can be customized. Contact a Dudick representative for options and application techniques.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	50°F (10°C)	50°F (10°C)	40°F (4°C)	0%
Maximum	90°F (32°C)	90°F (32°C)		90%

Consult Dudick for temperatures below 50°F (10°C).

Application of Shock-Crete HD 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 Hours

At lower temperatures the hardening time is longer. It is important there are no dry patches. Complete hardening takes 5-7 days. Shock-Crete HD should not be applied in thicker than specified because the rate of cure can be affected.

Unless applied wet on wet, a minimum of 14 hours dry time is required before recoating.

If recoat window of 24 hours maximum recoat is exceeded on neat (un-broadcasted) system installations is exceeded, the surface must be abraded before applying additional coats

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	<p>Small Kit Shock-Crete HD Part A - 1 x 0.55 gal (2.1 liters) Shock-Crete HD Part B - 1 x 0.45 gal (1.7 liters) Shock-Crete HD Filler - 1 x 48 lbs. (21.8 kg) bag Pigment Pack - 1 x 1 lb (.45 kg) bag Yields approximately 3.4 mixed gallons</p> <p>Tote Kit Shock-Crete HD Part A - 1 x 316 gal (2.1 liters) Shock-Crete HD Part B - 1 x 250 gal (1.7 liters) Shock-Crete HD Filler - 550 x 48 lbs. (21.8 kg) Pigment Pack - 550 x 1 lb (.45 kg) bags Yields approximately 1,870 mixed gallons</p>
Shelf Life	12 months at 50°F-75°F (10°C-24°C)
Storage	<p>Store indoors, avoiding direct sunlight. DO NOT FREEZE.</p> <p>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.</p>
Shipping Weight (Approximate)	<p>Small Kit - Approx. 59.1 lbs (27 kg) Tote Kit - Approx. 31,921 lbs (14,479 kg)</p>

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated.