

TD.702 – TECHNICAL DATA: HERMETIC™ 4.8S Urethane Cement Slurry

Revised: 11/7/2023 Version: 2.5

Product Description:

HERMETIC™ 4.8S Urethane Cement Slurry is a specialty three-component protective floor coating that is applied by gauge/screed rake to properly prepared concrete floors and optional broadcast to excess with 40 to 50 mesh dry silica sand, color quartz sand, or aluminum oxide, to create a non-slip floor for wet areas. Unaffected by forced hot steam up to 230°F / 110°C and will cure in cooler conditions depending on environments and other factors. Fast setting and resistant to a variety of chemicals (see chemical resistance chart on this data sheet). Urethane slurry is seamless, replacing the need for costly tiles with failed joints where bacteria can grow. Bonds to slightly damp concrete. Slurry broadcast coat and one topcoat will yield a 1/4"-5/16" (6.35mm-7.9mm) thickness. For heavy thermal shock attack areas, a 5/16" thickness is recommended as a minimum. For freezer flooring applications an accelerator is available to assist in curing speed at 0°F / -18°C temperatures void of frozen water in the substrate.

Typical Uses:

- All food manufacturing & processing facilities
- Dairies, breweries, wineries, meat and poultry plants
- Commercial kitchens
- Bottling, sanitizing, and wash areas
- Meets USDA, FDA, and CFIA standards
- Loading docks
- Chemical processing plants
- Beverage plants
- Warehouse and storage facilities
- Cold rooms and freezers
- Pharmaceutical plants

Key Features:

- Excellent chemical resistance
- Water based, VOC compliant, zero VOC
- Passes ADA recommendations with options
- Fast curing, one step installation
- Will not support bacterial growth
- Resistant to forced hot steam over 230°F / 110°C
- Can be applied down to 0°F / -18°C (no moisture/ice in or on substrate)
- Does not contain phthalates
- RH resistant to 97% relative humidity unless odd factors
- No odor
- Easy Clean up with EXIT™
- CA 01350 indoor air quality compliant

Physical Properties

Mix ratio		Pre-engineered 3 component unit
Application temperatures		0°F / -18°C to maximum of 85°F / 29°C
Gel time 1 GALLON @ 70°F / 21°C		14 minutes
Colors		5 colors available
Water absorption	ASTM D570	0.03%
Compressive strength	ASTM C579	12,800 psi
Shore D hardness	ASTM D2240	80-85
Adhesion	ASTM D4541	>400 (100% concrete failure)
Tensile strength	ASTM C307	1,376 psi
Flexural strength	ASTM C580	2,840 psi
Impact resistance	ASTM D2794	PASS
Abrasion resistance	ASTM D4060	2 mg loss
Thermal shock resistance	MIL F52505	No cracking or loss of adhesion
Service temperature		-10°F to 230°F / -23°C to 110°C (Forced hot steam)
VOC content		0 g/l
Coefficient of friction		>0.6 (Passes ADA recommendations)
Standard slip-resistant	ASTM D2047	Compliant
Indoor air quality	CA 01350	Class 1
Flammability	ASTM E648	BFL – s1
Reaction to fire	EN 13501-1	

Colors: Light gray, medium gray, dark gray, tan, and tile red.

Cure Schedule: (@ 70°F / 21°C)

- Working Time: 14 minutes @ 70°F / 21°C (less at higher temperatures)
- Recoat, Foot Traffic: 4-12 hours (depending upon substrate temperature)
- Wheeled Traffic: 24 hours
- Thermal shock resistance: 48 hours
- Full Cure: 72 hours
- Working time at (0°F / -18°C) with accelerator added to the mix
- Working time: 11 minutes (In 0°F / -18°C ambient temperature)
- Top coat: 24 hours
- Full traffic: 48 hours

Chemical Resistance

1 = no effect with clean up and wash down within 48 hours,
 2 = clean up and wash down within 24 hours,
 3 = clean up and wash down within 1 hour
 4 = Not recommended

Acetone	3
Acetic Acid 1-10%	2
Acetic Acid 11-25%	3
Alcohol: (beer, wine, whisky, white spirits)	2
Ammonium Chloride 1-40%	2
Ammonium Hydroxide 1-10%	1
Ammonium Hydroxide 11-50%	2
Ammonium Sulphate 1-10%	1
Ammonium Hydroxide 11-50%	2
Brine (saturated)	1
Citric Acid 35%	1
Citric Acid 50%	2
Diesel Fuel	1
Diesel Oil	1
Ethylene Glycol	1
Fats, Oils Sugars	1
Formic Acid 1-20%	1
Formic Acid 21-50%	2
Gasoline, Jet Fuels (JP-4, 6), kerosene	1
Grape Juice	1
Hydraulic Oils	1
Hydrochloric Acid 1-10%	1
Hydrochloric Acid 11-20%	2
Hydrochloric Acid 21-37%	3
Hydrogen Peroxide 1-20%	1
Isopropyl Alcohol	1
Lactic Acid 1-10% (milk)	1
Lactic Acid 11-20%	2
Methyl ethyl ketone	3
Mineral Oil	1
Motor Oil	1
Nitric Acid 1-5%	3
Nitric Acid 6% -70%	4
Potassium Hydroxide 50%	1
Sulfuric Acid 1-5%	2
Turpentine	1
Toluene	3
Xylene	3

Some chemicals may cause discoloration in the flooring without affecting the performance or physical properties of the system. Test for suitability before use.

Coverages: 1 Unit coverage

- 22 square feet at 1/4" thickness / 2.04m² at 6.5mm
- 12.5 square feet at 3/8" thickness / 1.16m² at 9.5mm

Packaging and Storage: HERMETIC™4.8S Urethane Cement Slurry is supplied in pre-measured units:

Part A 1.10 gallon / 4.21 Ltr. in 1-gallon pail
 Part B 0.692 gallon / 2.63 Ltr. in a 1-gallon pail
 Part C 40 lb. / 18.1kg plastic lined bag of cement slurry aggregate

- This product has been engineered to meet demanding standards.
- Only mix whole complete units to assure the performance criteria in this data sheet.
- Do not use partial units or try to break down the unit as the performance will be compromised.
- Do not allow this product to freeze.
- Store in a dry environment between 50-85°F / 10-29°C.

- Shelf Life: 6 months from the day of manufacture.

Preparation:

- Remove all contaminants and weak laitance in the concrete with appropriate degreasers and shot blasting for the final profile or use other mechanical means, washing the surface or sanding is not acceptable. Key all termination points and around all drains. Honor all joints in the concrete slab. Concrete must be at least 14 days old. A working vapor barrier on all on grade substrates is recommended before application of Elite Crete Systems 3/16" or 4.76mm urethane slurry.

Mixing & Application:

- Application temperatures 0°F / -18°C to maximum of 85°F / 29°C. In temperatures lower or higher than recommended, cure speed and blistering may occur in the coating.
- Condition Part A and Part B to (70-73°F / 21-23°C) condition part C to (0°F / -18°C). Using a mud paddle and variable speed ½ HP electric drill in a suitable size container pour in Part A and 8 oz. / 240 ml of Water Borne Pigment dispersion and mix for 1 minute. Immediately add Part B and begin to mix while adding Part C aggregate. Mix a minimum of two minutes, or until completely blended. Failure to mix for the full two minutes may cause blisters in the slurry mix if the cement and lime are not completely disbursed in the liquid. Thorough mixing is mandatory to ensure the product flows and levels easily. If there are lumps in the slurry, the product will not squeegee out uniformly.
- **Immediately** pour the mixed slurry onto the prepared substrate and spread with a gage rake or drop box to desired thickness (3/16" or 4.8mm) is the minimum thickness the slurry can be applied. After spreading, fill in any low spots or holidays, and back roll with a porcupine roller in two different directions. As soon as the slurry is back rolled, broadcast the desired aggregate to excess and allow to cure, @70°F / 21°C. The open time to broadcast the aggregate is 12-14 minutes. Do not delay, as soon as the Part B is added to the mixing pail the working time begins. If this product is exposed to direct sunlight discoloration could occur, but will not affect performance.
- Depending upon the ambient and substrate temperature in 8-12 hours check to see if the slurry has set up enough to sweep up excess silica sand and vacuum loose sand.

Topcoat:

- HERMETIC™ 2.2T Urethane Cement Topcoat
- E100-PT4™ fast set topcoat in the same color as the slurry base color.
- E100-NV4™ or E100-NV5™
- If this product is exposed to direct sunlight, apply AUS-V™ topcoat in the same color as the base slurry color.

Clean up:

- Clean tools with EXIT™, which is nonhazardous. Xylene may also be used on tools to clean them, however which ever cleaner is selected, clean the tools before the mortar has hardened. EXIT™ may be used to clean the mortar mixer as well by pouring in EXIT™ and running the mixer for 1 minute, then stop the mixer and wipe with a clean rag. After cleaning, drain the cleaner fluid and wipe the mixer down so not residue is present in the mixer. Clean the mixing blades often during the project.

Limitations:

- Exposure to ultraviolet light will change the color of the urethane slurry. Sunlight and metal halide lighting will cause yellowing without affecting the performance. As an option a coat of AUS-V™ top coat can be applied to prevent ambering. Contact your local Elite Crete Systems technical support office for consultation.

NOTE: Do not apply this product in the presence of frozen water in the substrate.