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Seal-Krete Vapor-Shell

GUIDE SPECIFICATION

SECTION 09725

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provisions of general, supplementary conditions and Division 1 as defined by Construction Specifications institute (CSI) apply to all work in this Section.
- B. Furnish labor, materials, equipment, and supervision to install chemical resistant coatings as specified and shown in drawings.

1.02 Related Sections

- A. Section 0330000 Cast-In Place Concrete
- B. Section 0900000 Finishes

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):

Color:	Gray
1. ASTM C 307 Tensile Strength	1500 psi
2. ASTM D 2240 Hardness, 24 hours @ Shore D	85
3. ASTM C 580 Flexural Strength	6500 psi
4. ASTM D 412 Elongation	25%

5. Adhesion (ACI 503R)	750 psi
6. Flammability:	Self-Extinguishing over concrete
7. ASTM C 884 Thermal Cycling	No Cracking (24 hours @ -21°C to 25 °C)

1.04 SUBMITTALS

- A. Comply with Bidding Requirements Section 00600 Bonds and Certificates, and 00650 Certificates of Insurance.
- B. Manufacturer's Technical Data Guides, and application instructions.
- C. Submit laboratory tests or data that validate product compliance with compliance criteria specified.

1.05 QUALITY ASSURANCE

- A. Manufacturer qualifications: Company regularly engaged in manufacturing and marketing of products specified in this section.
- B. Contractor qualifications: Qualified to perform work specified by reason of experience or training provided by product manufacturer.
- C. Notify manufacturer's authorized representative at least 2 weeks before start of work. Schedule a minimum of 3 job site inspections by Manufacturer's authorized representative, first to be scheduled before application of product. Application of floor coating without prior notice will not constitute acceptance by manufacturer of two-year warranty inspection procedure.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in original factory packaging bearing identification of product, manufacturer, batch number, and expiration date as applicable. Provide Material Safety Data Sheets for each product.
- B. Store product in location protected from freezing, damage, construction activity, precipitation and direct sunlight in strict accordance with manufacturer's recommendations. Provide adequate ventilation.
- C. When properly stored (unmixed), shelf life is one (2) years.
- D. Handle all products with appropriate precautions and care as stated on Material Safety Data Sheet.
- E. Do not breathe mixed product vapors or dust. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Individuals with lung or breathing problems or prior allergic reactions must not be exposed to vapors or dusts
- F. Irritating to eyes, skin and mucus membranes.

1.07 PROJECT CONDITIONS

- A. Do not use products under conditions of precipitation or freezing conditions. Use appropriate measures for protection and supplementary heating or cooling to ensure proper drying and curing conditions in accordance with manufacturer's recommendations if application during inclement weather occurs.
- B. Protect all adjacent work from contamination due to mixing, handling, and application of sealants.
- C. New concrete must cure for a minimum of 28 days. All concrete must be structurally sound, dry, and free of grease, oils, coatings, dust, curing compounds and/or other contaminants. **Surface laitance must be removed.**
- D. Substrate temperature during application should be between 50° and 90° F

Rising moisture vapor emission rate must not exceed 28 lbs per 1000 sqft per gallon over 24 hr. period as measured by Calcium Chloride Test Method ASTM F-1869

1.08 MOCKUP

- A. Provide mockup to include surface cleaning and preparation techniques, aesthetics, color, and slip resistance characteristics when applicable.
- B. Apply mockup with specified floor coating and with other components noted.
- C. Locate where directed by Architect.
- D. Mockup may remain as part of Work if acceptable to Architect.

1.09 WARRANTY

- A. Provide manufacturer's limited material warranty, with completion of warranty forms, on a per-job basis.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. For purpose of defining quality of materials in this Section SEAL-KRETE, DIV. COVENIENCE PRODUCTS, ST. LOUIS, MO. conforms to requirements of this specification.
- B. Substitutions
 - 1. Alternates to acceptable manufacturer will be considered only on basis of written requests. Include substantiation of product compliance as listed in section 2.02 below.

2.02 PERFORMANCE CRITERIA

A. Seal-Krete Vapor-Shell

Epoxy Material Properties at 75°F

Mix Ratio (by volume)	1.5:1
Pot Life	17 Minutes
Working Time	10 – 15 Minutes
Mixed VOC Content	<10g/L*

Recoat Time:	
Minimum	8 hours
Maximum	24 hours

1.	Vertical/Horizontal:	Vapor-Shell	
2.	Solids by weight:		100 percent
3.	Solids by volume:		100 percent
4.	Permeance:	ASTM E-96	<0.05 perms (grains/h/sq.ft./in. Hg)
5.	Flammability:	ASTM D635	Self-Extinguishing
6.	Compressive Strength:	ASTM D695	15,225 psi
7.	Flexural Strength	ASTM D790	16,100 (2 hours)
8.	Shore D Hardness:	ASTM D2240	85
	Tensile Strength:	ASTM D638	10,000 psi
9.	Monolithic Surfacing	ASTM C722	Pass
10.	Impact Resistance	ASTM D2794	Pass
11.	Abrasion Resistance	ASTM D4060	36 mg
12.	Konig Hardness	ASTM D4366	120
13.	Adhesion Strength	ASTM D4541	> 600 psi

***EPA Method 24 – Floor Category**

2.03 MATERIAL

- A. Use SEAL-KRETE PRODUCTS in all other instances and applications as recommended by manufacturer pertaining to this work to provide Owner with single source system and warranty.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Inspect all areas involved in work to establish extent of work, access and need for protection of surrounding construction, equipment, windows and shrubbery.
- B. Protect all surroundings from etching and floor coating to include, but not be limited to, windows, walkways, drives, and landscaping.

3.02 SITE VERIFICATIONS OF CONDITIONS

- A. Conduct pre-application inspection of site verification with authorized SEAL-KRETE Representative.
- B. Ensure floors are structurally sound and fully cured 28 days minimum.
- C. Test floors for vapor drive in accordance with ASTM D4263.
- D. Evaluate atmospheric, floor, and material temperatures. Do not apply materials if temperatures are below 50 or above 90 degrees F. Evaluate relative humidity. Do not apply materials if relative humidity is below 35 or above 80 percent. Do not apply if water or ice is present.
- E. Repair concrete and install joint sealants and fillers as directed by Engineer. Make all repairs in accordance with manufacturer's written instructions.

SHOT BLAST IS THE PREFERRED FLOOR PREPARATION METHOD.

3.03 PREPARATION

A. The preferred method of surface preparation is shot blasting (Ref: Profile CSP-3 ICRI Technical Guideline.

If patching is required, use SEAL-KRETE Fast Cure High Strength Concrete Repair.

- B. Clean floors of fat, grease, and oil not removed by mechanical means with Seal-Krete Clean-N-Etch in accordance with Manufacturer's instructions and ASTM D4258.
- C. Rising moisture vapor emission rate must not exceed 28 lbs per sq. ft. over a 24 hr. period as measured by calcium chloride test method ASTM F-1869 or 100 RH.
- D. Conduct inspection of surface preparation with authorized Seal-Krete Representative

3.04 APPLICATION

Seal-Krete Vapor-Shell to be installed only by qualified contractors.

Mixing Instructions

- 1) Primer Coat Vapor Shell (Mix Ratio 1.5:1) Coverage Rate 100 sq. ft./gal. @ 16 mils

Do not alter mixing ratios in any way. Part A and Part B are supplied in the correct mixing ratios. Always mix full kits.

Mix Part "A" using a low speed drill with a mixing attachment for 3 minutes.

Add Part "B" and mix for an additional 3 minutes.

NOTE: Mix only the amount that can be applied during the pot life (approximately 17 minutes, depending on air/surface temperatures). Do not aerate the mix.

Scrape sides and bottom of container to ensure thorough mixing. Apply immediately with a notched squeegee and a 3/8 in nap epoxy rated roller.

IMPORTANT APPLICATION STEPS

Apply only when substrate and air temperatures are between 50 and 90 degrees F.

Squeegee apply in one coat spreading the material at 16 mils thickness. Immediately back roll at a right angle to the direction of the squeegee application, evenly distributing the product across the entire area. Then immediately back roll with a spiked roller to help release entrapped air created from the mixing or application process.

CAUTION: Do not spike roll after 20 minutes

Refer to Application Guide or visit hp.seal-krete.com for detailed application instructions.

3.05 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service. Final inspection: Warranty request. Manufacturer's representative will inspect finished surface preparation, application, and finished coating and may require further preparation or application to achieve appropriate result.

3.06 CLEANUP AND DISPOSAL

- A. Clean tools immediately with xylene. Dispose of container and contents in accordance with local laws and regulations. Observe all fire and health precautions when handling or storing solvents.
- B. Clean spills or drips while still wet with xylene. Dried Seal-Krete Vapor-Shell will require mechanical abrasion for removal.
- C. Remove all debris related to application of floor coatings from job site in accordance with all applicable regulations for hazardous waste disposal.

3.07 CAUTIONS

Do not aerate during mixing. Do not mix or apply unless surface, air and material temperatures are 50°F and rising. Do not apply if surface temperature is within 5°F of the dew point in the work area. Do not store Seal-Krete Vapor-Shell at temperatures below 40°F. Cure new concrete 28 days before application.

Seal-Krete Vapor-Shell will yellow upon prolonged exposure to sunlight or high intensity

artificial lights.

3.08 MAINTENANCE

SEAL-KRETE Industrial Flooring Systems are monolithic, making them easier to clean as dirt and other contaminants remain on the surface. For maintenance and care recommendations, refer to application guide or visit hp.seal-krete.com.

END OF SECTION