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## **Seal-Krete High Performance Poly-Shell 7000 Color System**

### **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 in plans and specified herein.

##### **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: Clear, Pre-Blended Color...OR... Color Pack

- 1. ASTM C 307  
Tensile Strength 1500 psi
- 2. ASTM D 2240  
Hardness, 24 hours @ Shore D 78
- 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		
8. Thermal Cycling	No Cracking (24 hours @ -21°C to 25 °C)	
9. Mixed VOC Content		<50 g/L*
10. Mix Ratio 1:1 (by volume)		
11. ASTM C-722-	Monolithic Surfacing	Pass
12. ASTM D 2794 Impact Resistant		Pass
13. ASTM D 4060	Abrasion Resistance (CS-17)	3 mg
14. ASTM D 4366	Konig Hardness	137

#### 1.04 SUBMITTALS

- A. Comply with Bidding Requirements Section 00600 Bonds and Certificates, and 00650 Certificates of Insurance.
- B. Manufacturer's Technical Data Guide 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.
- C. Store materials in a temperature controlled environment above freezing (40° - 90° F).

- D. When stored properly (between 40° and 90°), Shelf Life is one (1) year.
- E. Handle all products with appropriate precautions and care as stated on Material Safety Data Sheet.
- F. 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.

## **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 31 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, and slip resistance characteristics (when specified).
- 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 Poly-Shell 7000

**Poly-Shell Material Properties at 75°F**

Mix Ratio (by volume) 1:1  
Gel Time (minutes) 35-45  
Working/Broadcast Time 1 hour

Recoat Time  
Minimum Recoat Time 2 hours  
Maximum Recoat Time 24 hours

	<b>POLY-SHELL:</b>	Poly-Shell	Vertical/Horizontal
1.	Solids by weight:		70 percent
2.	Solids by volume:		67 percent
3.	Water Absorption (24 hours):	ASTM D570	<0.5%
4.	Flammability:	ASTM D635	Self-Extinguishing
5.	Compressive Strength:	ASTM D695	24hrs 6700psi 7days 7950psi
6.	Adhesion Strength	ASTM D4541	725 psi
7.	Tensile Strength psi	ASTM D2240	4500-5200 psi
	Tensile Elongation:	ASTM D638	25% – 30%

**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, pool, and shrubbery.
- B. Protect all surroundings areas from sand-blasting/scarification process to include, but not be limited to, windows, substrates not to be blasted, and any landscaping.

**3.02 SITE VERIFICATIONS OF CONDITIONS**

- A. Conduct pre-application inspection of site verification with authorized SEAL-KRETE Representative.
- B. Ensure concrete is structurally sound and fully cured (28 days minimum).
- C. Test floors for vapor drive in accordance with ASTM D4263.

**Note: If moisture is higher than 3.1, then a moisture mitigation 100% epoxy coat will be required for warranty.**

- D. Evaluate atmospheric, floor, and material temperatures. Do not apply materials if temperatures are below -20 or above 130 degrees F. Evaluate relative humidity. Do not apply materials if relative humidity is below 35 or above 80 percent.
- E. Repair concrete and install joint sealants and fillers as directed by Engineer. Make all repairs in accordance with manufacturer's written instructions.

### 3.03 PREPARATION

**New concrete must be allowed to cure a minimum of 28 days. All concrete must be structurally sound.**

- A. The preferred method of surface preparation is abrasive blasting or scarification using diamond heads, achieving a final 50 – 120 grit finish (Ref: Profile SP-2 ICRI Technical Guideline No. 03732).
- B. Once the concrete preparation process is complete, clean floors of any grease or oils not removed by mechanical means (if applicable) with Seal-Krete Clean-N-Etch in accordance with Manufacturer's instructions and ASTM D4258. Surface laitance must be removed.
- C. If patching is required, SEAL-KRETE Fast Cure High Strength Concrete Repair is recommended.
- D. Rising moisture vapor emission rate must not exceed 3 lbs. per 1000 s. f. over a 24 hour period as measured by calcium chloride test method ASTM F-1869.
- E. Conduct inspection of surface preparation with authorized Seal-Krete Representative.

### 3.04 APPLICATION

#### **Seal-Krete Poly Shell 7000**

##### Mixing Instructions

**NOTE: When Poly-Shell Colorant is specified, colorant MUST be added first to Poly-Shell Part A prior to mixing Poly-Shell Part B.**

- 1.) **Poly-Shell 7000 Primer Coat** (Mix Ratio 1:1) Coverage Rate 150 sq. ft./gal

Combine one part by volume of Seal-Krete Poly-Shell 7000 Part A with one part by volume of Poly-Shell 7000 Part B and mix using a low speed drill motor and a "Jiffy" type mixer for 3 minutes. To insure proper cure, ratio recommendations must be followed precisely.

NOTE: Mix only that amount of material that can be applied based on pot life. Do not aerate during the mixing process.

Wearing spiked shoes, apply with a notched squeegee or short nap, lint-free roller at 150 sq. ft. per gallon. If applied with a squeegee, back roll to ensure uniform application. Let cure a minimum of 2 to 12 hours, but no more than 24 hours and apply Layer 1.

**2.) Poly-Shell 7000 Layer 1 (Mix Ratio 1:1) Coverage Rate 150 sq. ft./gal.**

**When adding colorant, see NOTE above prior to mixing.**

Combine one part by volume of Seal-Krete Poly-Shell 7000 Part A with one part by volume of Poly-Shell 7000 Part B and mix using a low speed drill motor and a "Jiffy" type mixer for 3 minutes. To insure proper cure, ratio recommendations must be followed precisely.

NOTE: Mix only that amount of material that can be applied based on pot life. Do not aerate during the mixing process.

Wearing spiked shoes, apply Layer 1 with a notched squeegee or short nap, lint-free roller at 150 sq. ft. per gallon. If applied with a squeegee, back roll to ensure uniform application. Let cure a minimum of 2 to 12 hours, no more than 24 hours, and apply Poly-Shell 7000 Seal Coat.

**3.) Poly-Shell 7000 CLEAR Seal Coat (Mix Ratio 1:1) Coverage Rate 200 sq. ft./gal.**

Combine one part by volume of Seal-Krete Poly-Shell 7000 Part A with one part by volume of Poly-Shell 7000 Part B and mix using a low speed drill motor and a "Jiffy" type mixer for 3 minutes. To insure proper cure, ratio recommendations must be followed precisely.

NOTE: Mix only that amount of material that can be applied based on pot life. Do not aerate during the mixing process.

Apply Poly-Shell CLEAR Seal-Coat with a flat squeegee or short nap, lint-free roller at 200 sq. ft. per gallon. If applied with a squeegee, back roll to ensure uniform application.

**Allow to cure a minimum of 24 hours prior to subjecting to traffic.**

**Important: Poly-Shell materials will appear to be cure and dry to touch prior to full chemical cross linking. For best results, allow system to cure 2 – 3 days prior to exposing to water or other chemicals.**

**For detailed application instructions, refer to Application Guide or visit [hp.seal-krete.com](http://hp.seal-krete.com)**

### **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. DO NOT USE any cleaner that contains alcohol, such as IPA or Lacquer thinner blends, to clean equipment or tools.
- C. Remove all debris related to application of floor coatings from job site in accordance with all applicable regulations for hazardous waste disposal.
- D. Collect spilled product with absorbent material. Dispose of in accordance with current, local and state and federal regulations.

### **3.07 CAUTIONS**

Do not aerate during mixing. Do not mix or apply unless surface, air and material temperatures are -20 to 130°F. Lower temperatures will slow cure time. Do not apply if water or ice is present. Do not store Seal-Krete Poly-Shell 7000 at temperatures below 40°F. Cure new concrete 28 days before application. Do not apply to slabs on grade unless a heavy, uninterrupted vapor barrier has been installed under the slab. Do not apply Seal-Krete Poly-Shell 7000 if the floor is subject to moisture vapor drive or Hydrostatic pressure.

### **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](http://hp.seal-krete.com).

**END OF SECTION**