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Seal-Krete Surface-Shell HP & HP/Q

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):

1.	Tensile Strength psi (kPa)	ASTM C 307	825 psi (5,688)
2.	Compressive Modulus psi (kPa):	ASTM C 469	1,125 (7,756)
3.	Compressive Strength psi (kPa):	ASTM C 579	7,400 (51,023)
4.	Flexural Strength psi (kPa)	ASTM C 580	2,005.7 (13,829)
5.	Adhesion Strength psi (kPa)	ASTM D 4541	> 600 100% concrete failure (4137)

6.	Modulus of Elasticity psi (kPa)	ASTM C 469	1,105 (7,619)
7.	Water Absorption %	ASTM C 413	<0.1
8.	Abrasion resistance, gloss, CS-17 wheel, 1000 cycles	ASTM D 4060	0.06 mg
9.	Resistance to fungi growth	ASTM G 21	Pass/Rating of one
10.	Coefficient of Friction, wet/dry	ASTM D 2047	Passes ADA Recommendations
11.	Density	16.66 lb./gal. (7.56 kg/gal.)	

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 2 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. Store and transport in unopened containers at temperatures approximately 60 degrees to 73 degrees F, 15 degrees to 22.5 degrees C.
- C. When properly stored (unmixed), shelf life is:

Parts A & C: 6 months
Part B 1 year

Part D	5 years
Parts E & F	2 years

- D. Handle all products with appropriate precautions and care as stated on Material Safety Data Sheet.

1.07 PROJECT CONDITIONS

- A. Do not use products under conditions of precipitation or freezing conditions.
- B. Protect all adjacent work from contamination due to mixing, handling, and application of resurfacing material, Surface-Shell HP & HP/Q.
- 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 85° F, 10° to 29° C.

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. Chemical Resistance
ASTM D 1308

72 degrees F (22 degrees C) for the following chemicals

- Hydrochloric Resistant to 35%
- Phosphoric Resistant to 50%
- Sulfuric Acid Resistant up to 30%
- Potassium hydroxide Resistant up to a 50% solution
- Acetic, formic and uric acid Resistant up to 30% solutions

- Resists fats, oil and sugars
- Resists mineral oils, diesel fuel, kerosene, and gasoline
- Resists IPA, xylene, toluene, and MEK

- B. Complies with USDA guidelines for use in federally inspected meat and poultry plants in the USA.
- C. Meets ADA recommendations for a slip-resistant surface.

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.
- B. Yield: 36 – 38 sq. ft. (3.34 – 3.53 sq. meters) per HP Kit

2.04 PACKAGING

3 Part Kit Item #570000

Part A: 1 Gallon (3.78 L)

Part B: 1 Gallon (3.78 L)

Part C: 49.9 lb (22.63 kg)

Part D: Colorant 1 lb (453 g)

Black #570001

Blue #570002

Charcoal # 570003*

Brown # 570004

Cream # 570005*

Gray #570006

Green #570007

Red #570008*

*Stock Colors

Part E: Cold Temp Additive .94 oz.

Part F: Cold Temp Additive .25 lb.

Approved Top Coats: Poly-Shell 7000 and Epoxy-Shell 1000 SL

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 (exterior slabs/resurfacing).
- B. Protect all surroundings from etching/cleaning and floor coating to include, but not be limited to, windows, walkways, drives, and landscaping (exterior slabs/resurfacing).
- C. When used on exteriors, must be sealed with pigmented Poly-Shell 7000 seal coat.

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 85 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.

MECHANICAL PROFILING IS THE PREFERRED FLOOR PREPARATION METHOD.

3.03 PREPARATION

- A. The preferred method of surface preparation is mechanical profiling for both new and existing floors (Ref: Profile CSP-3 ICRI Technical Guideline/4 – 5 minimum).**
- B. Floors must be structurally sound and properly cured. Test for vapor drive in accordance with ASTM D 4263.
- C. 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.
- D. Repair Concrete as necessary.
- E. 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.

- F. Apply a 10 by 10 ft. test in an inconspicuous area that meets the owner's expectations for appearance, slip resistance, and performance.

3.04 APPLICATION

Seal-Krete Surface-Shell to be installed only by trained contractors.

- 1) Install SEAL-KRETE Surface-Shell Cove Base, as required. See product specification for Seal-Krete Surface-Shell Cove Base or refer to Seal-Krete Surface-Shell Cove Base data sheet and application guide for detailed instructions.
- 2) Mix Part A and B in a clean 5 gallon pail, then add 1 lb. of colorant while using a mechanical mixer and sift in Part C (49.9 lb. aggregate). NOTE: The materials are supplied in pre-measured containers.
- 3) If the temperature is below 60 degrees F, add the Part E once the Part A and Part B have been mixed together. Mix for 1 minute then add the Part F. Sift in the Part C and then add the color pack.
- 4) Immediately spread mixed material onto the floor at 3/16 – 1/4" (6.35 mm-9.525 mm) using a screed box, rounded trowel and/or gauge rake. Back roll with a loop roller to remove trowel marks then back roll with a 7/16" spike roller to burst any air entrained during the mixing process. Immediately broadcast the specified aggregate beyond the point of rejection or .5 lb./sq. ft.
- 5) Allow a minimum of 8 hours at 77 degrees F (25 degrees C) for the Seal-Krete Surface-Shell to cure, then sweep, stone or vacuum excess aggregate to achieve the desired profile.
- 6) Apply finish clear or pigmented coat of SEAL-KRETE Epoxy-Shell 1000 or Poly-shell 7000 to lock in the aggregate and obtain the desired profile. The total system thickness should range from 1-4 – 3/8" (6.35 mm -9.525 mm) depending on the job requirements.
- 7) Following the lock-coat or finish coat application, the floor can be returned to service after 24 hour dry time.
- 8) For full chemical cure of lock and finish coats, allow 7 days.

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 (In California, use acetone). Dispose of container and contents in accordance with local laws and regulations. Observe all fire and health precautions when handling or storing solvents.
- B. Remove all debris related to application of floor coatings from job site in accordance with all applicable regulations for waste disposal.

3.07 CAUTIONS

Do not expose Seal-Krete Surface-Shell HP and HP/Q to any chemicals until fully cured (12 hours @ 70 degrees F (21 degrees C). In colder temperatures below 50 degrees F (10 degrees C), Surface-Shell HP and HP/Q may take as long as 48 hours to reach full operational strength.

3.08 MAINTENANCE

Regular cleaning and maintenance will prolong the life of all polymer flooring systems, enhance their appearance, and reduce any tendency to retain dirt. Seal-Krete Surface-Shell will withstand high pressure or hot water cleanings up to 2,500 psi at 180 degrees F (82 degrees C)

END OF SECTION