SECTION 09 67 23
Heavy Duty Polyurethane Cement Topping
Sikafloor Purcem SLB System

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Polyurethane/cementitious flooring

B. Epoxy Intermediate coating

1.2 RELATED SECTIONS

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 03 01 00 - Concrete Rehabilitation.

C. Section 03 39 00 – Concrete Curing

1.3 REFERENCES

A. ASTM C 307 - Tensile Strength of Chemical-Resistant Mortar, Grouts, and Monolithic Surfacings.

B. ASTM C 413 - Absorption of Chemical-Resistant Mortars, Grouts, and Monolithic Surfacings.

C. ASTM C 579 - Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.

D. ASTM D 696 - Coefficient of Linear Thermal Expansion of Plastics.

E. ASTM D 2240 - Rubber Property - Durometer Hardness.

F. ASTM D 4258 - Surface Cleaning Concrete for Coating.

G. ASTM D 4259 - Abrading Concrete.

H. ICRI Guideline 03732 – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings and Polymer Overlays

1.4 SUBMITTALS

A. Comply with Section 01 33 00 - Submittal Procedures.

B. Product Data: Submit manufacturer's product data, including physical properties and colors available.

C. ISO 9001: Submit Manufacturer’s current ISO 9001 Certificate of Registration

D. Maintenance Instructions: Submit manufacturer's maintenance instructions, including maintenance procedures and materials, procedures for stain removal and surface repair, and recommended schedule for cleaning.

1.5 QUALITY ASSURANCE

A. Qualifications:
   1. Applicator: Use applicator with at least five [5] years of experienced specifically in the application of urethane cement and other specified materials, on projects of similar size and complexity. Provide list of completed projects including project name and location, name of architect, name of material manufacturer, and approximate quantity of materials applied.

2. Submit letter from Manufacturer stating that applicator meets the qualification requirements of the specification and is approved to install their products.

3. Applicator's Personnel: Employ only persons trained for application of specified materials.

B. Pre-application Meeting: Convene a pre-application meeting [2] [Two] weeks before start of application of floor coating. Require attendance of parties directly affecting work of this section, including Contractor, Architect, applicator, and manufacturer's representative. Review surface preparation, priming, application, curing, protection, and coordination with other work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, batch or lot number, and date of manufacture. Do not store materials in direct sunlight.

B. Storage:
1. Store between 50-75ºF (10°-25°C), do not store in direct sunlight or high heat conditions.
2. Keep containers sealed until ready for use.
3. Do not subject material to freezing; do not apply material that has been subjected to freezing. Material subjected to freezing shall be separated from inventory and destroyed by mixing all three components. The solid reacted product shall be disposed of in environmentally sound and regulatory compliant manner.

C. Handling: Protect materials during handling and application to prevent damage or contamination.

D. Condition materials for use to 60º-70ºF (15-21ºC) for 24 hours prior to application.

1.7 ENVIRONMENTAL CONDITIONS

A. Do not apply materials if floor or air temperature does not conform to Manufacturer’s published technical data.

B. Do not apply materials if relative humidity does not conform to Manufacturer’s published technical data.

C. Utilities, including electric, water, heat and finished lighting to be supplied by General Contractor

D. Maintain room temperature between 45°F – 85°F (7°C - 30°C) for 48 hours before, during and 48 hours after installation, or until cured.

E. At the time of application ensure the minimum substrate temperature is above the Manufacturer’s published technical data.

F. Erect suitable barriers and post legible signs at points of entry to prevent traffic and trades from entering the work area during application and cure period of the floor.

G. Protection of finished floor from damage by subsequent trades shall be the responsibility of the General Contractor.

1.8 WARRANTY

A. Manufacture shall provide standard limited warranty for one [1] year covering material and manufacturing defect.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Manufacturer shall be certified under ISO 9001: All liquid materials, including primers, resins, curing agents,

finish coats, and sealants are manufactured and tested under an ISO 9001 registered quality system.

B. Approved Manufacturer shall be Sika Corp., Industrial Flooring, 201 Polito Avenue, Lyndhurst, NJ 07071
Please contact Jeff Fleming with questions
Phone: 773-230-5861 fleming.jeff@us.sika.com

2.2 MATERIALS

A. PurCem® 31NA Three component polyurethane/cementitious primer

B. PurCem® 24NA Flooring: Description: Three-component, trowelable polyurethane/cementitious concrete floor resurfacer.

1. Sikafloor 24NA PurCem applied neat at a thickness of 120 mils (3.2 mm) after priming/scratch coat in accordance with Manufacturer's published technical data.
2. Compressive Strength - ASTM C579: 28 days 6,961psi (48 MPa)
3. Tensile Strength - ASTM C307 1,290 psi (8.9 MPa)
4. Flexural Strength - ASTM C580 2,726 psi (18.8 MPa)
5. Broadcast to rejection with quartz aggregate uniform mesh size:_____US Mesh.
6. Color: Agate Gray

B. Finish/Aggregate Lock Coat: Sikafloor 264 Description: Two component, pre-pigmented high solids, UV stable epoxy coating.

1. Apply in one coat at 14 - 16 mils (0.40 mm) WFT, or as specified by the Architect to achieve specific level of orange peel finish
2. Compressive strength - ASTM C579, 7,250 psi (50 N/mm²)
3. Flexural Strength, - ASTM C580, 2,900 psi (20 N/mm²)
4. Pull-off Strength - ASTM D4541 > 400 psi (2.7 MPa) (100% concrete failure
5. Elongation - ASTM D638 60%
6. Shore D Hardness - ASTM D2240 76
7. VOC Content - ASTM D2369 ≤ 30 g/L
8. Color: Special Sikafloor color: Pigmented per owner's request.

Cove Base

1. Provide cove base of complimentary materials, integral to flooring system. Height four [4] inches or as specified by the Architect. Apply final coats to match floor surface.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine surfaces to receive PurCem® 24NA urethane concrete floor resurfacer and finish system. Notify Architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

B. Application of PurCem® 24NA can be installed over concrete less than 30 days old. Consult Technical Service prior to application when concrete has not cured for 30 days.

C. Do not apply Sika PurCem® 24NA and finish system to sand-cement setting beds, regardless of condition. Sand-cement beds shall be removed to structural concrete substrate and re-leveled/sloped as necessary to achieve grade and/or adequate drainage.

D. Do not apply to asphaltic or bitumen membranes, soft wood, aluminum, copper or fiberglass reinforced polyester/vinyl ester composites. Applications to existing sound vitrified (dairy) brick or tile shall be approved only with Manufacturer's written recommendation.

E. Do not apply to concrete substrates that exhibit conditions of ASR (alkali silica reaction) or other defect[s].

3.2 SURFACE PREPARATION

A. Prepare concrete surfaces in accordance with manufacturer's instructions and ASTM D 4258.

B. Remove dirt, oil, grease, wax, laitance, curing compounds, water-soluble concrete hardeners, and other surface contaminants.

C. Remove sealers, finishes, and paints.

D. Remove unsound concrete by scarifying, sand blasting, shot blasting, or high pressure water blasting.

E. Chemical Surface Preparation:

1. Chemical surface preparation (acid etching) is unacceptable and will void Manufacturer's warranty.

F. Mechanical Surface Preparation:

1. Mechanically abrade concrete surface in accordance with manufacturer's instructions.
2. Leave concrete surface with an aggressive texture.
3. Remove concrete dust.
4. Conform to ASTM D 4259.
5. Surface profile shall conform to IRCI Guideline 03732, CSP 3-6
6. All outside edges that do not terminate against a wall or curb must be "keyed" to avoid featheredges. All through floor penetrations such as drains and trenches require a keyed edge that maintains a uniform 1/8" (3 mm) thickness.

3.3 CONTROL JOINTS, CRACKS

A. Provide repair and treatment of control joints and surface cracks utilizing manufacturer's standard materials and installation details.

3.4 APPLICATION

A. Repair concrete substrate as required using materials approved by the Manufacturer. Repair concrete substrate as required using SikaQuick® 1000 cementious repair/resurfacer in accordance with Manufacturer's instructions. Repair minor defects with Sika PurCem 22NA. Follow all Manufacturers' recommendations.

B. Do not add thinners to materials. No thinners shall be approved or allowed.

C. For coverage rates, consult data sheet for the specific grade of PurCem®.

D. Finish surface to be smooth, with uniform texture, free of surface defects, and without porous areas.

E. Follow Manufacturer's recommendations on terminations and connections to walls, drains, doorways, columns and floor-to-floor transitions.

3.4 CLEANUP

A. Remove masking, draping, and other protection from adjacent surfaces.

B. Remove remaining materials and debris from job site and dispose of them in according with local rules and regulations. Leave area in clean condition free of debris.

3.5 PROTECTION

A. Protect PurCem® floor resurfacer during curing from traffic and chemical spillage. Based on air temperature of

68ºF/20ºC

1. Foot Traffic: 10 –12 hours.
2. Full Cure: 5 days

3.6 CLOSE OUT

END OF SECTION

See legal disclaimer and pertinent information following