

SECTION 03 0130.61

RESURFACING CAST IN PLACE CONCRETE

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) format. The section must be carefully reviewed and edited by the architect, engineer or specifier to meet the requirements of the particular project. This section must also be with other specification sections and any drawings. Please also visit www.lyonsmanufacturing.com to ensure the latest version of this specification is used.

Specifier Notes: **FLOWCRETE SLU** is self-leveling underlayment for interior applications. Lyons Manufacturing Inc also makes other products that are applicable to the same sections covered below. These products have more specific limited uses. If the details given below do not match the project application requirements you need please visit the Product Application Guide at www.lyonsmanufacturing.com to see if one of our other products is a better fit for your project or contact the factory for product recommendations.

Part 1 – General

1.01 SECTION INCLUDES

- A. This section specifies a single component, Low Alkali Cement based self-leveling repair mortar suitable for interior horizontal underlayment applications.
- B. Overlay (Underlayment): Designed for horizontal underlayment overlays from featheredge to 3" in depth.

1.02 RELATED SECTIONS

- A. Section 03 30 00 - Cast in Place Concrete
- B. Section 03 50 00 - Cast Decks and Underlayment

1.03 REFERENCES

- A. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars - Modified Air Cured.
- B. ASTM C 348 - Standard Test Method for Flexural Strength of Hydraulic Cement Mortars.
- C. ASTM C 1583 - Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)

1.04 QUALITY ASSURANCE

- A. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have experience with the application concrete repairs products preferably with the product specified.
- B. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.05 DELIVERY, STORAGE, HANDLING

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, and product identification. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.

1.06 JOB CONDITIONS

- A. Environmental Conditions: Minimum application ambient air temperature 50°F (5°C) and rising. Surface temperature must be between 40°F (4°C) and 90°F (32°C).
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.07 SUBMITTALS

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.08 WARRANTY

- A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year.

Part 2 - Products

2.01 MANUFACTURER

- A. **FLOWCRETE SLU**, as manufactured by Lyons Manufacturing, Inc, is considered to conform to the requirements of this specification.
- B. Lyons Manufacturing Inc, 8900 Forney Rd, Dallas, TX 75227 214-381-8100. FAX: 214-381-8158. Web Site: www.lyonsmanufacturing.com.

2.02 MATERIALS

- A. **FLOWCRETE SLU**, a Polymer-modified Low Alkali Cement based self-leveling underlayment.
 - 1. Component A shall be a blend of selected Low Alkali Cement, specially graded aggregates, admixtures for controlling setting time, flow agents for increased flow time, and an organic accelerator.
 - 2. The materials shall be non-combustible, both before and after cure.
 - 3. The materials shall be supplied in a factory-proportioned unit.
 - 4. The polymer-modified, Low Alkali Cement mortar must be placeable from featheredge to 3" for applications per lift.
- B. Primer for standard absorbent concrete shall be **P-100 Primer**.
- C. Optional Primer for non-porous subfloors shall be **EP-200 Epoxy Primer**.
- D. Optional Cutback Adhesive blocker shall be **ACRYLIC-BOND**.
- E. Optional Skim Patch for Ceramic Tile/Cement Terrazzo shall be **PAVECRETE PLUS**.
- F. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).

2.03 PERFORMANCE CRITERIA

- A. A. Typical Properties of the mixed polymer-modified, Low Alkali Cement based self-leveling mortar:
 - 1. Working Time: Approximately 15-20 minutes
 - 2. Flow/Self-Heal Time: 10-12 minutes
 - 3. Color: concrete gray
- B. Typical Properties of the cured polymer mixed polymer-modified, Low Alkali Cement based self-leveling mortar:
 - 1. Compressive Strength (ASTM C-109 Modified) @ 28 day: 3300 psi minimum
 - 2. Flexural Strength (ASTM C-348 Modified) @ 28 days: 750 psi minimum
 - 3. Tensile Bond (ASTM C-1583) @ 28 days: 275 psi minimum
 - 4. Dry Density: 106 lbs per cu. ft.
 - 5. Installed Weight (Cured) 2.2 lbs per sq., ft. at 1/4"

Note: Tests above were performed Air Cured where indicated

Part 3 – Execution

3.01 SURFACE PREPARATION

- A. **Concrete Slabs:** All surfaces must be clean and structurally sound; free of dust, grease, oil, paint, sealers, etc. Pores of the concrete surface must be open to permit proper bonding, especially on fresh “green” concrete. If a minimum bond strength of 72 PSI is not achieved, surface preparation will be necessary by shotblasting, scarifying, sandblasting or acid etching. If acid etch is used, be sure to neutralize surface, clean and brush thoroughly. Do not bridge cracks with **FLOWCRETE SLU**. They will “telegraph” through. Fill cracks prior to placement of **FLOWCRETE SLU**. Expansion joints should be extended through the **FLOWCRETE SLU**. Concrete surfaces should be surface saturated but dry to touch (SSD). Prime Concrete Surface with **P-100 PRIMER** per instructions.
- B. **Cutback Adhesive on Concrete:** Removed as much cutback as possible by mechanical abrasion leaving only a thin residue firmly bonded to concrete. Remember your bond will only be as good as the bond of the cutback to the concrete. Water soluble adhesives must be completely removed. Coat the surface with a thin uniform amount of **ACRYLIC-BOND**. Let this coat dry completely, then Prime surface according to “Priming” instructions.
- C. **Ceramic Tile or Cement Terrazzo:** To prevent grout lines from shadowing to the surface, remove glaze from top of ceramic tile and skim patch with **PAVECRETE PLUS**. Let this layer dry completely for 24 hours then Prime surface according to “Priming” instructions.
- D. **Wooden Sub-Floors:** Installer must verify that weight of both wet and cured **FLOWCRETE SLU** will not cause significant deflection. Prime surface according to “Priming” instructions. Install 3.2# galvanized diamond metal lathe over entire exterior glue plywood floor. Secure lathe to prevent loose sections AFTER Primer has dried.
- E. **Perimeter Isolation Strip:** Note: It is recommended to install a perimeter isolation strip to walls before the installation of **FLOWCRETE SLU**.
- F. Do not install over moisture-sensitive gypsum based surfaces. Test adhesion.
- G. Do not apply directly over waterproofing or crack isolation membranes.
- H. Do not apply to luan, OSB, particle board, or Masonite® surfaces.

3.02 PRIMING

- A. Prime surface with **P-100 Primer**. Apply primer with roller or soft bristle push broom. Remove any puddles. Allow primer to dry completely before applying **FLOWCRETE SLU**. Primer will dry in approximately 30 minutes. Use a mixture of 1 part water to 2 parts **P-100 Primer**. Once the Primer is dry you must apply the **FLOWCRETE SLU** within 24 hours.
- B. For non-porous surfaces such as ceramic tile, cement terrazzo, wood flooring and cutback, use

primer without addition of water or consider using **EP-200 Epoxy Primer** and a broadcast sand method. (See **EP-200 Epoxy Primer** literature).

3.03 MIXING AND APPLICATION

- A. **FLOWCRETE SLU** should be mixed with 4.0 – 4.5 quarts of water per 50 lb bag. Do not over water. For manual application, add product to water and mix for 3 min with a heavy duty drill (>700 rpm) to obtain a lump free mix. **DO NOT OVERMIX**
- B. If mixing tools support it, two bags may be mixed at once, use a team approach with several mixing containers for faster installation.
- C. **FLOWCRETE SLU** can also be used in most pump equipment. A check should always be performed to ensure that mix is homogeneous and free from separation before pouring. Contact factory for details
- D. **DO NOT** entrap air while mixing. Use Jiffy or basket mixer. Bladed paddles increase opportunity to trap air. Keep paddle down in mix. At surface of material paddle will pull air into mix. End mix with paddle at bottom of mixing container. Strike container on side to help release air. Entrapped air can often result in bubbles affecting surface texture and cosmetic appearance of material.
- E. **MATERIAL PLACEMENT** - Pour or pump the **FLOWCRETE SLU** over the primed substrate and spread with a spike roller or gauging rake. Use a smoothing paddle to combine pours and to obtain a flat smooth surface. Other applicator tools may be used such as guided squeegee, porcupine(spike) roller, gage rake... **DO NOT TROWEL FINISH**. Use a trowel or smoother to featheredge or touch up. Where spike shoes if it is necessary to walk in fresh mortar. Always pour **FLOWCRETE SLU** into edge of in-place product. Properly mixed product will have approximately 10-12 minutes of flow and self-heal time at 70° F.
- F. **TOPPING or SECOND LAYER:** A finish coat of **SUPER FLOWCRETE** may be applied to **FLOWCRETE SLU** the next day. It is extremely important that **FLOWCRETE SLU** is primed with a coat of **P-100 Primer**. This also applies to a second lift of **FLOWCRETE SLU**.

3.04 POST INSTALLATION

- A. **FOOT TRAFFIC** - Floor will be ready for foot traffic in 3-4 hours.
- B. **PROTECTION** - Protect surface of **FLOWCRETE SLU** from construction traffic prior to application of Floor Coverings.
- C. **FLOOR COVERINGS** - Floor goods can be applied to surface from 3 – 72 hours after application, depending on thickness, drying conditions and type of finished floor. Due to the relatively low pH level of **FLOWCRETE SLU**, finished floor goods can be applied rapidly without risk of adhesive bond failure.
- D. Always test performance suitability and compatibility of finished floor systems prior to their application. Sample surfaces should be installed as a field test so as to be representative of entire

surface and tested for intended use. Always refer to finished floor manufacturer's recommendations regarding installation instructions, restrictions and compatibility.

- E. Follow manufacturer's recommendations for installing vinyl tile, linoleum, carpet, wood parquet or other products over concrete. Before installing wood or resilient flooring, consult manufacturer for recommendations on substrate moisture content requirements. Allow **FLOWCRETE SLU** to dry in accordance with those recommendations.

3.05 CLEANING

- A. The uncured polymer-modified, Low Alkali Cement based self-leveling mortar can be cleaned from tools with water. The cured polymer-modified, Low Alkali Cement based self-leveling mortar can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

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