

SECTION 071416 - COLD FLUID-APPLIED WATERPROOFING

This Section specifies a two-component epoxy-urethane hybrid waterproofing membrane produced by SCI Coatings, Inc., 8320 Grenache, Anjou (QC) H1J 1C5 Canada. Telephone: (514) 907-7722. Website: www.scicoatings.com.

SCI-100 M300 is designed to maintain concrete surface integrity and prevent water infiltration. This coating exhibits excellent tear resistance, very low permeability, and good elongation. The product is formulated to be solvent-free with minimal odor and a very low VOC.

For sustainable design projects, U.S. Green Building Council (USGBC) LEED v4.1 EQ Credit for Low-Emitting Materials is available.

Section Editing: Informational notes will appear throughout the Section. Bracketed bold text will require a selection to be made.

PART 1 - GENERAL

1.1 SUMMARY

- A. Furnish and install a cold fluid-applied waterproofing membrane as indicated on Drawings and specified herein.
- B. Related Requirements:
 - 1. Section 033000 "Cast-in-Place Concrete."

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM D570: Standard Test Method for Water Absorption of Plastics.
 - 2. ASTM D638: Standard Test Method for Tensile Properties of Plastics.
 - 3. ASTM D2240: Standard Test Method for Rubber Property-Durometer Hardness.
 - 4. ASTM D4541: Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
- B. International Concrete Repair Institute (ICRI):
 - 1. CSP: Concrete Surface Profile.
 - 2. CSP No. 2 diamond grind.
 - 3. CSP No. 3 light shot blast.
- C. Mine Safety and Health Administration (MSHA).

- D. National Institute for Occupational Safety and Health (NIOSH).

1.3 SUBMITTALS

- A. Product Data: Manufacturer's technical product data and installation instructions. Include Safety Data Sheets.

Editing Note: Retain sustainable design submittals if a Project requirement.

- B. Sustainable Design Submittals:

1. VOC Content Data: Product information or statement from manufacturer indicating the VOC content of the product in grams per liter (g/L).
2. Environmental Product Declaration: For each product.

- C. Test Reports: Certified test reports produced by an accredited testing agency.
- D. Installer qualifications.

1.4 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide system components by a single manufacturer.
- B. Installer Qualifications: Firm with installation personnel trained and approved by manufacturer.

1.5 ENVIRONMENTAL CONDITIONS

- A. Acceptable temperature range for coating application is 59 deg F to 82 deg F. Maximum allowable relative humidity during application is 85 percent. 59 Deg F to 86 Deg F for substrate temperature range, with humidity content less than 4 percent when waterproofing is applied.
- B. Do not apply on porous surfaces where a transfer of humidity may occur during application.
- C. Avoid exterior use on substrates at ground level.
- D. Protect coating from humidity, condensation, and contact with water during the 24 hour initial curing period.
- E. Do not expose coating to ultraviolet light, to prevent discoloration.
- F. Work only in a properly ventilated area.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Delivery: Deliver materials in original containers, with seals unbroken, bearing manufacturer's labels including brand name and directions for storage and mixing.
- B. Storage: Store materials not in use in tightly covered containers in a dry, well-ventilated area with ambient temperatures with range required by manufacturer; maximum 12 weeks shelf life. Keep materials out of direct sunlight and away from potential fire hazards.
- C. Handling: Maintain containers in a clean condition, free of foreign materials and residual substances.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Basis of Design Product: "SCI-100 M300"; SCI Coatings Inc.

2.2 COLD FLUID-APPLIED WATERPROOFING

- A. Description: Two-component epoxy-urethane hybrid membrane. 100 percents solids by weight and volume. Formulated for waterproofing on concrete surfaces. Two coats required.
 - 1. First Coat Thickness: 10 mils.
 - 2. Second Coat Thickness: 20 mils.
 - 3. VOC: 61.5 g/L after mixing.

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- 4. Color: **[] [Scheduled on Drawings] [Selected from manufacturer's full range].**
- B. Performance Criteria: Tested property values as follows, based on 73 deg F and 50 percent relative humidity conditions:
 - 1. Bond Resistance: 390 psi; ASTM D4541.
 - 2. Permeability: 0.25 percent; ASTM D570.
 - 3. Hardness (Shore D): 45 to 55; ASTM D2240.
 - 4. Tensile Strength: 1200 psi; ASTM D638.
 - 5. Elongation: 300 to 400 percent; ASTM D638.

2.3 MIXING

- A. General: Comply with manufacturer's written instructions for mixing procedures, including mix ratios.

- B. Precondition materials to minimum temperature of 50 deg F prior to use.
- C. Mix Part A component in mixing container, then empty Part B component into mixing container and mix again until uniform consistency in texture and color is achieved. Ensure there is no air entrapment during mixing.
 - 1. Thinning: Use xylene if thinning is required.
 - 2. Do not mix more material than can be applied within working time limits.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrates and conditions are acceptable to receive cold fluid-applied waterproofing.
- B. Verify concrete substrates to receive the specified waterproofing product have a minimum 3500 psi compressive strength at 28 days and minimum 215 psi tensile strength.
- C. Commencement of work will constitute acceptance of substrates and conditions to receive the work.

3.2 SURFACE PREPARATION

- A. All trowel marks and surface imperfections must be completely removed to produce a smooth and uniform surface to receive the waterproofing membrane.
- B. Remove wax, dust, laitance, grease, oil, dirt, impregnating agents, foreign materials and other deleterious substances using approved mechanical means, including shot blasting and grinding. Resultant surface to have an ICRI-CSP No. 2 or No. 3 profile.

3.3 APPLICATION

- A. General: Apply coatings according to manufacturer's written installation instructions, including application methods and materials.
- B. Health and Safety Requirements: Wear personal protective equipment (e.g. safety glasses, chemical-resistant gloves, breathing apparatus) as recommended by manufacturer. Breathing apparatus designed for filtering organic vapors and approved by NIOSH/MSHA.
- C. Apply all coats with a rubber squeegee, back rolling to obtain a uniform film.

- D. Comply with manufacturer's recommendations for cure times required (foot traffic, light traffic, and full cure time durations).

3.4 CLEANING AND PROTECTION

- A. Promptly clean all tools and materials with xylene. Once the product has hardened, it can only be removed by mechanical means.
- B. Protect the completed work from deterioration or damage for the remainder of the construction period.

END OF SECTION 071416