MANUFACTURER'S GUIDE SPECIFICATIONS

SECTION 071326
SELF-ADHERING SHEET WATERPROOFING
CCW MIRADRI 860/861

CARLISLE®
COATINGS & WATERPROOFING

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SECTION 07 13 26

SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SECTION INCLUDES:

Installation of sheet membrane waterproofing on surfaces indicated on drawings, consisting of preparation of existing and repaired concrete surfaces, sealing of cracks and joints, and application of CCW MiraDRI 860/861Sheet Membrane Waterproofing.

1.2 RELATED SECTIONS

A. Section 03 10 00 – Concrete Accessories/Expansion Joints
B. Section 03 30 00 – Cast-In-Place Concrete
C. Section 04 20 00 – Unit Masonry
D. Section 07 60 00 – Flashing and Sheet Metal
E. Section 07 90 00 - Caulking and Sealants
F. Section 07 95 00 – Expansion Control
G. Section 22 00 00 – Plumbing
H. Section 23 00 00 – Heating, Ventilating, and Air Conditioning (HVAC)
I. Section 26 00 00 – Electrical

1.3 REFERENCES

A. ASTM D 3767 Standard Practice for Rubber—Measurement of Dimensions
B. ASTM D 412 Standard Test Method for Rubber Properties in Tension
C. ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
D. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
E. ASTM D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
F. ASTM C 836 Standard Specification for High Solids, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
G. ASTM D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
H. ASTM D 1876 Standard Test Method for Peel Release of Adhesives (T-Peel)
I. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover
J. ASTM D 570 Standard Test Method for Water Absorption of Plastics
K. ASTM D 5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
L. GSA-PBS 07121 Test for Decay from Soil Burial
M. UL 790 Tests for Fire Resistance of Roof Covering Materials

1.4 SYSTEM DESCRIPTION

Product provided by this Section is a self-adhesive membrane of not less than 60 mils thickness, consisting of 56 mils of rubberized asphalt membrane laminated to a 4 mil cross-laminated polyethylene film.

1.5 SUBMITTALS

A. General: Submit in accordance with Section 01 30 00.
B. Product Data: Submit manufacturer's product literature and installation instructions.

C. Subcontractor’s approval by Manufacturer: Submit document stating manufacturer's acceptance of subcontractor as an Approved Applicator for the specified materials.
D. Warranty: Submit a sample warranty identifying the terms and conditions stated in Section 1.7.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: Applicator shall have 5 years of experience in applying the same or similar materials and shall be specifically approved in writing by the membrane manufacturer.
B. Regulatory Requirements: Comply with applicable codes, regulations, ordinances, and laws regarding use and application of products that contain volatile organic compounds (VOC).
C. Pre-Application Conference: Prior to beginning work, convene a conference to review conditions, installation procedures, schedules and coordination with other work.

1.7 WARRANTY

A. Upon completion and acceptance of the work required by this section, the manufacturer will issue a warranty agreeing to promptly replace defective materials installed by an approved applicator for a period of 5 years.
B. The formation or presence of mold or fungi in a building is dependent upon a broad range of factors including, but not limited to, the presence of spores and nutrient sources, moisture, temperatures, climatic conditions, relative humidity, and heating/ventilating systems and their maintenance and operating capabilities. These factors are beyond the control of Carlisle and Carlisle shall not be responsible for any claims, repairs, restoration, or damages relating to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in any building or in the air, land, or water serving the building.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to project site in original, factory-sealed, unopened containers bearing manufacturer's name and label intact and legible with following information.
    1. Name of material.
    2. Manufacturer's stock number and date of manufacture.
    3. Material safety data sheet.

B. Store materials in protected and well ventilated area. Protect from damage from sunlight, weather, excessive temperatures and construction operations. Remove damaged material from the site and dispose of in accordance with local applicable regulations.

1.9 PROJECT CONDITIONS

A. Do not apply membrane when surface temperature is below or inclement weather conditions conflict with manufacturer’s published requirements.
B. Coordinate waterproofing work with other trades. The applicator shall have sole right of access to the specified areas for the time needed to complete the installation.
C. Warn personnel against breathing of vapors and contact of material with skin or eyes. Wear applicable protective clothing and respiratory protection gear.
D. Keep flammable products away from spark or flame. Do not allow the use of spark producing equipment during application and until all vapors have dissipated. Post “NO SMOKING” signs.
E. Maintain work area in a neat and orderly condition, removing empty containers, rags, and rubbish daily from the site.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Provide CCW MiraDRI 860/861 Sheet Membrane Waterproofing as manufactured by Carlisle Coatings and Waterproofing Incorporated, 900 Hensley Lane, Wylie, Texas 75098, Phone: (800) 527-7092 Fax: (972) 442-0076.

2.2 PRODUCTS

A. Self-Adhesive Sheet Membrane Waterproofing: Shall be CCW MiraDRI 860/861consisting of a 56 mil rubberized-asphalt membrane laminated to 4 mil cross-laminated polyethylene film, and shall meet or exceed the following requirements:
   1. Thickness: 60 mils, ASTM D 3767
   2. Tensile Strength (Membrane): 325 psi, ASTM D 412
   3. Tensile Strength (Film): 5000 psi, ASTM D 882
   4. Elongation: 350% minimum, ASTM D 412
   5. Permeance: 0.05 Perm maximum, ASTM E 96
   6. Flexibility, 180° bend over 1 in. mandrel at -45°F: Unaffected, ASTM D 1970
   7. Crack Cycling at -25°F (100 cycles): Unaffected, ASTM C 836
   8. Peel Strength: 10.0 lb/in, ASTM D 903
   9. Lap Adhesion: 19.0 lb/in, ASTM D 1876
   10. Puncture Resistance: 60 lb (min), ASTM E 154
   11. Soil Burial 16 weeks: No Effect, GSA-PBS 07121
   12. Water Absorption: 0.1% by wt., ASTM D 570
   13. Hydrostatic Head: 230 ft., ASTM D 5385

B. For application temperatures between 25°F and 65°F, use CCW-861 Sheet Membrane and CCW-702, CCW-702LV, or CCW-715. For application temperatures above 40°F use CCW MiraDRI 860 sheet membrane and CCW-702, CCW-702LV, CCW-702WB, CCW-715, CCW-AWP, or Cav-Grip.

2.3 ACCESSORY PRODUCTS

A. Surface Primer: Shall be CCW-702, CCW-702LV, CCW-715, CCW-702WB, CCW-AWP or Cav-Grip.
B. Mastic: Shall be CCW-704 Mastic.
C. Sealants: Shall be CCW-703 Vertical Grade Liquiseal Membrane, CCW-LM-800XL, CCW-201 two-component Polyurethane Sealant or approved sealant by CCW.
D. Backer Rod: Shall be closed-cell polyethylene foam rod.
E. Protection Course: Shall be CCW-Protection Board-H or HS, CCW-300HV for horizontal surfaces or CCW-Protection Board-V or CCW-200V for vertical surfaces.
F. Drainage Composite: Shall be CCW MiraDRAIN as recommended by the manufacturer for each condition.
G. Perimeter Drainage System: Where required shall be CCW MiraDRAIN HC.

PART 3 - EXECUTION

3.1 INSPECTION

A. Before any waterproofing work is started the waterproofing applicator shall thoroughly examine all surfaces for any deficiencies or unsatisfactory conditions detrimental to the proper completion of the work. Should any deficiencies exist, the architect, owner, or general contractor shall be notified in writing. Do not proceed with work until all deficiencies or unsatisfactory conditions are corrected.

3.2 SURFACE PREPARATION

A. Refer to manufacturer's literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions.

Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Use repair materials and methods which are acceptable to manufacturer of sheet membrane waterproofing.

B. Cast-In-Place Concrete Substrates:
   1. Do not proceed with installation until concrete has properly cured and dried (minimum 7 days for normal structural concrete and minimum 14 days for lightweight structural concrete).
   2. Concrete shall be cured by water curing method. Any curing compounds must be of the pure sodium silicate type or clear resin-based materials without waxes, oils or pigments and be approved by the Carlisle representative.
   3. Form release agents must not transfer to the concrete. Remove forms as soon as possible from below horizontal slabs to prevent entrapment of excess moisture. Excess moisture may lead to blistering of the membrane.
   4. Concrete shall be sloped for proper drainage.
   5. Voids, rock pockets and excessively rough surfaces shall be repaired with approved non-shrink grout or ground to match the unrepaired areas. Fill form tie rod holes with concrete and finish flush with surrounding surface.
   6. Two-stage drains shall have a minimum 3 inch flange and be installed with the flange flush and level with the concrete surface.
   7. Surfaces at cold joints shall be on the same plane. Grind irregular construction joints to suitable flush surface.

C. Masonry Substrates: Apply CCW MiraDRI 860/861 waterproofing over concrete block with smooth trowel-cut mortar joints or rough surfaces prepared with a parge coat. Allow the parge coat to dry before priming and installing the CCW MiraDRI 860/861 waterproofing membrane.

D. Wood Substrates: Apply CCW MiraDRI 860/861 waterproofing membrane over securely fastened sound surface. All joints and fasteners shall be flush to create a smooth surface.

E. Related Materials: Treat joints and install flashing as recommended by waterproofing manufacturer.

3.3 APPLICATION

A. Refer to manufacturer's literature for recommendations on installation, including but not limited to, the following:

   1. Apply primer/contact adhesive at rate recommended by manufacturer. Recoat areas which were not waterproofed the same day or if contaminated by dust. Mask and protect adjoining exposed finish surfaces to protect those surfaces from excessive application of primer.
   2. Do not install membrane until primer/contact adhesive is completely dry. Dry time will vary with weather conditions.
   3. Seal installation at the end of the day with troweled bead of CCW-LM-800XL or CCW-703V Liquiseal.
   4. Apply protection board and/or MiraDRAIN and other related materials in accordance with manufacturer's recommendations.

3.4 INTEGRITY TESTING

A. Test is required for all expanded warranties beyond the standard material warranty of horizontal applications.

B. The test can be done with Electronic Vector Mapping or flood testing. Flood testing requires 2” minimum head of water for a period of 24 hours minimum.

3.5 PROTECTION COURSE

A. VERTICAL APPLICATION:
Install CCW MiraDRAIN HC Drainage System as the first course of drainage composite immediately after membrane has been installed on vertical surfaces. Install CCW MiraDRAIN Drainage Composite (consult CCW for recommendation), CCW-Protection Board-V or CCW-200V on remainder. Stop drainage composite 6" below final grade level.

B. HORIZONTAL APPLICATION:
Install CCW MiraDRAIN Drainage Composite (consult CCW for recommendation) or CCW-Protection Board-H or HS or CCW 300HV immediately after flood testing on horizontal surfaces. If flood testing is delayed, install a temporary covering to protect the CCW MiraDRI 860/861membrane from damage by other trades.

End of Section