MANUFACTURER'S GUIDE SPECIFICATIONS

SECTION 071413
HOT FLUID-APPLIED RUBBERIZED ASPHALT WATERPROOFING (CCW-500R)

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SECTION 07 14 13

HOT FLUID-APPLIED RUBBERIZED ASPHALT WATERPROOFING

PART 1 - GENERAL

1.1 SECTION INCLUDES:

Installation of hot-applied membrane waterproofing on surfaces indicated on drawings, consisting of preparation of existing and repaired concrete surfaces, sealing of cracks and joints, and application of a 215-mil reinforced CCW-500-R Hot-Applied Membrane Waterproofing.

1.2 RELATED SECTIONS

A. Section 03 15 00 – Concrete Accessories/Expansion Joints
B. Section 03 30 00 - Cast-In-Place Concrete
C. Section 07 90 00 - Caulking and Sealants
D. Division 04 - Masonry
E. Division 20 – Mechanical/Floor Drains and Standpipes
F. Division 25 – Electrical/Conduit and other Electrical

1.3 REFERENCES

A. CGSB-37.50-M89 Canadian Specification for Hot-Applied, Rubberized Asphalt for Roofing and Waterproofing.
B. ASTM Applicable Standards and Test Methods.
C. UL 790 Tests for Fire Resistance of Roof Materials.

1.4 SYSTEM DESCRIPTION

Product provided by this Section is a 215-mil thick, reinforced, hot-applied rubberized asphalt membrane system, consisting of two layers of rubberized asphalt membrane reinforced with polyester fabric.

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 be experienced 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

Provide a written, single-source-year warranty for all system components agreeing that during the warranty period to promptly make repairs or replacement of defective materials of the waterproofing system without additional cost to the owner.

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 flashing, mastic and primer in a protected area out of direct sunlight. Protect from rain and physical damage.

1.9 PROJECT CONDITIONS

A. Do not apply membrane if temperature is less than 0ºF or to a damp, frosty, snow covered or contaminated surface.
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 application.
C. Protect adjoining surfaces not to be waterproofed against damage or soiling. Protect plants, vegetation and animals which might be affected by waterproofing operations.
D. Warn personnel against breathing of vapors and contact of material with skin or eyes. Wear applicable protective clothing and respiratory protection gear.
E. Keep flammable products away from spark or flame. Do not allow the use of spark producing equipment during application until all vapors have dissipated. Post “NO SMOKING” signs.
F. 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 products manufactured and supplied by Carlisle Coatings and Waterproofing Incorporated, 900 Hensley Lane, Wylie Texas 75098, phone (800) 527-7092, fax (972) 442-0076.

2.2 PRODUCTS

A. Hot-applied liquid membrane: Shall be CCW-500 Hot-Applied Membrane, rubberized asphalt compound, and shall meet or exceed the requirements of CGSB-37.50-M89.

B. Reinforcing fabric: Shall be CCW-500 Reinforcing Fabric which is a 1.18 oz/square yard spunbond polyester fabric.

2.3 ACCESSORY PRODUCTS

A. Flashings: Shall be CCW-711-90 90-Mil Sheet Membrane and Flashing or CCW 60-mil uncured neoprene for non-exposed areas and Sure-Seal® EPDM, Sure Weld 120-mil AFX TPO or Sure Seal Fleeceback 115-mil EPDM for exposed areas.
B. Surface Primer: Shall be CCW-550 Primer.
C. Mastic: Shall be CCW-550, CCW-702, CCW-702LV or CCW-AWP.
D. Sealants: Shall be CCW-703 Vertical Grade LIQUISEAL™ Membrane or CCW-201 two- component Polyurethane Sealant.
E. Backer Rod: Shall be closed-cell polyethylene foam rod.
F. Expansion Joints: Shall be the EJ-500
G. Protection Course: Shall be CCW Protection Board-HS or H.
H. Root Barrier: Shall be the CCW Root Barrier
I. Drainage Composite: Shall be CCW MiraDRAIN as recommended by the manufacturer for each condition.
J. Insulation: Shall be extruded or expanded polystyrene insulation with a minimum 40 psi (or as specified by architect) compressive strength as manufactured by Insulfoam, Foamular or Dow.
K. Pavers: Where required, shall be as recommended and supplied by the membrane manufacturer.
L. Perimeter Drainage System: Where required, shall be MiraDRAIN HC.
M. CCW 200V, CCW 300 HV or H.P Protective Mat shall be applied over insulation prior to ballast placement.

PART 3 - EXECUTION

3.1 INSPECTION

A. Before any waterproofing work is started the waterproofing applicator shall thoroughly examine all surfaces for any deficiencies. Should any deficiencies exist, the architect, owner, or general contractor shall be notified in writing and corrections made.
B. Condition of Concrete Surfaces:
    1. The concrete surfaces shall be of sound structural grade, 3500 psi minimum, and shall have a wood float or fine broom finish, free of fins, ridges, voids or entrained air holes.
    2. Concrete shall be cured by water curing method. Curing compounds must be of the pure sodium silicate type and be approved by the Carlisle representative.
    3. Concrete shall be cured at least 14 days and shall be sloped for proper drainage.
    4. Voids, rock pockets and excessively rough surfaces shall be repaired with approved non-shrink grout or ground to match the un-repaired areas.
    5. Two-stage drains shall have a minimum three inch flange and be installed with the flange flush and level with the concrete surface.
    6. Surfaces at cold joints shall be on the same plane.

3.2 SURFACE PREPARATION

A. The concrete surface must be thoroughly clean, dry and free from any surface contaminates or cleaning residue that may harmfully affect the adhesion of the membrane.
B. Detail expansion joints per manufacturer's recommendation using the EJ-500.
C. Apply a thin film of CCW-550, CCW-702, CCW-702LV or CCW-AWP primer 16" wide, centered over sealed cracks and joints. Apply 60-90 mils of CCW-550, CCW-702, CCW-702LV or CCW-AWP membrane to cover primed areas. Install a 12" wide strip of CCW-711-90 centered over joints and cracks greater than 1/16" in width.
D. Preferred Flashing Method (500-4B): Apply CCW-550, CCW-702, CCW-702LV or CCW-AWP Primer at the juncture of all horizontal surfaces and vertical surfaces to the height indicated on the drawings (eight inches min. recommended), such as parapet walls, curbs, columns and all penetrations through the deck at at the published sq. ft. per gallon rate recommended. Avoid puddles. Allow primer to dry for 1 hour minimum, 8 hours maximum. Membrane will not properly adhere to wet primer. Apply 60-90 mils of CCW-500 membrane to cover primed areas. Install CCW-711-90 mil sheet membrane or uncured neoprene flashing into this first course of CCW-500 to cover the vertical section and extend six inches onto deck surface. Flashing installation may be done during crack and joint treatment or during installation of the first layer of CCW-500 membrane. Completely cover all flashing material during installation of the subsequent layers of CCW-500 membrane.
E. Install Sure-Seal EPDM, Sure Weld 120-mil AFX TPO or Sure Seal Fleeceback 115-mil EPDM flashings in exposed areas per Carlisle recommendations (500-4A). Always clean and prime per Carlisle splice procedure prior to application of CCW-500 membrane.
F. Apply a thin film of CCW-550, CCW-702, CCW-702LV or CCW-AWP Primer in a four foot square area around drains. Allow primer to dry, one hour minimum, eight hours maximum. Apply 60-90 mils of CCW-500 membrane to cover primed areas. Install a three foot square section of CCW-711-90 or uncured neoprene flashing over the drain and onto the deck. No splices or seams are allowed within three inches of the drain flange. Terminate the flashing under the clamping ring of the drain and cut away the inner portion of the flashing. Use firm pressure to press the flashing against the CCW-

500 surface and ensure good adhesion. Do not interfere with weep holes. Completely cover all flashing material during installation of the subsequent layers of CCW-500 membrane.

3.3 APPLICATION

A. Apply CCW-550, CCW-702, CCW-702LV or CCW-AWP primer to all surfaces and at the juncture of all horizontal surfaces and vertical surfaces, to the height indicated on the drawings (eight inches min. recommended), such as parapet walls, curbs, columns and all penetrations through the deck, to receive CCW-500 Waterproofing Membrane, including over flashings at the published sq. ft. per gallon rate recommended. Avoid puddles. Allow primer to dry for one hour minimum, eight hours maximum. Membrane will not properly adhere to wet primer.

B. Heat CCW-500 Membrane blocks in a twin wall kettle with continuous agitation and apply at 350ºF or between temperatures of 325ºF to 375ºF. (*Caution: Do not exceed maximum safe operating temperature of 375˚F.)*.

C. Apply heated CCW-500 Hot Applied Membrane to primed area and any pre-installed flashings at a rate of 18 sq. ft. per gallon or as required to obtain an average thickness of 90 mils.

D. Apply CCW-500 Reinforcing Fabric and any required flashings while membrane is still warm and tacky. Cut and trim off any wrinkles or overlap sections of the reinforcing fabric or hot the fabric splices together with CCW-500.

E. Apply a second coat of CCW-500 Hot Applied Membrane at a rate of 13 sq. ft. per gallon or as required to obtain an average thickness of 125 mils. Total thickness of the CCW-500-R System shall be 215 mils.

F. Apply CCW Protection Board H or HS into the last course of CCW-500 and splice the protection board seams together with CCW-500.

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.

3.5 PROTECTION COURSE

A. Install CCW MiraDRAIN HC Perimeter Drainage System as the first course of drainage composite immediately after membrane has cured on vertical surfaces. Install CCW MiraDRAIN Drainage Composite to complete the drainage and protection System on Vertical installations.

B. Install CCW MiraDRAIN 9000 or 9900 over CCW Protection Board immediately after flood testing on horizontal surfaces. If flood testing is delayed, install a temporary covering to protect the CCW-500 membrane from damage by other trades.

C. Apply CCW Root Barrier in planter areas and green roofs covered with soil and plants. Apply over Protection Board and beneath the MiraDRAIN. CCW Root Barrier splices are a minimum of four feet and taped with CCW MiraDRAIN Drainage Composite Board.

Note: All fluid applied product application rates are based on theoretical coverage relative to the percentage of solids in the material. These are minimum application rates to achieve the required dry film thickness for the system and do not account for substrate condition or porosity. A thicker application of the product may be necessary to achieve the required dry film thickness for system relative to the substrate.