SECTION 07145

COLD FLUID-APPLIED WATERPROOFING

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\*\* NOTE TO SPECIFIER \*\* Carlisle Coatings & Waterproofing; coatings and waterproofing products.
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This section is based on the products of Carlisle Coatings & Waterproofing, which is located at:
900 Hensley Ln.
Wylie, TX 75098
Toll Free Tel: 888-229-0199
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Web: [www.carlisle-ccw.com](http://www.carlisle-ccw.com)
 [ [Click Here](http://www.arcat.com/arcatcos/cos31/arc31251.html) ] for additional information.
Carlisle Coatings & Waterproofing, Inc. (CCW) provides a broad range of solutions to meet specific waterproofing needs. CCW offers technical services, research and development and manufacturing capabilities from its headquarters in Wylie, Texas and three additional manufacturing facilities in Terrell, TX, Elberton, GA, and Carlisle, PA. The CCW network is further supported by over 50 Manufacturer's sales representatives directed by regional sales offices throughout the country. CCW offers a complete line of waterproofing and moisture protection products for the architectural, general construction, industrial and maintenance industries. Carlisle Coatings & Waterproofing, Inc. is part of the Syntec Division of Carlisle Companies, Inc.

1. GENERAL
	1. SECTION INCLUDES
		1. Cold fluid-applied waterproofing and accessories.
	2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03300 - Cast-In-Place Concrete.
		2. Section 07900 - Joint Sealers.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM C 836 - 100% Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for use with Separate Wearing Course.
	1. SYSTEM DESCRIPTION
		1. Product provided by this Section shall be a coal-tar and solvent-free, single component, elastomeric liquid designed to create a seamless reinforced waterproofing membrane at 120 mil (3.0 mm) thickness.
	2. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Installer's approval by Manufacturer: Submit document stating manufacturer's acceptance of Installer as an Approved Applicator for the specified materials.
		4. Warranty: Submit a sample warranty identifying the terms and conditions stated in Warranty article.
	3. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Minimum 5 year experience manufacturing similar products.
		2. Applicator Qualifications: Experienced in applying the same or similar materials and shall be specifically approved in writing by the membrane system manufacturer.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Finish areas designated by Architect.
			2. Do not proceed with remaining work until workmanship is approved by Architect.
			3. Rework mock-up area as required to produce acceptable work.
	1. PRE-INSTALLATION MEETINGS
		1. Pre-Installation Conference: Prior to beginning work, convene a conference to review conditions, installation procedures, schedules and coordination with other work.
		2. Convene minimum two weeks prior to starting work of this section.
	2. DELIVERY, STORAGE, AND HANDLING
		1. 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.
		2. Recommended storage and application temperature is 75 degrees F (24 degrees C). Store materials in protected and well ventilated area.
		3. Handling: Handle materials to avoid damage.
	3. PROJECT CONDITIONS
		1. Do not apply membrane if temperature is less than 40 degrees F (4.4 degrees C), if precipitation is imminent or the surface is wet or has frost. Substrate may be saturated surface dry.
		2. Coordinate waterproofing work with other trades to ensure adequate illumination, ventilation, and dust-free environment during application and curing of membrane. The applicator shall have sole right of access to the specified areas for the time needed to complete the application and allow the membrane to cure adequately.
		3. Protect adjoining surfaces not to be coated against damage or soiling. Protect plants, vegetation and animals which might be affected by waterproofing operations.
		4. Warn personnel against breathing of vapors and contact of material with skin or eyes. Wear applicable protective clothing and respiratory protection gear.
		5. Maintain work area in a neat and orderly condition, removing empty containers, rags, and rubbish daily from the site.
	4. SEQUENCING
		1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
	5. WARRANTY
		1. Warranty: Provide manufacturer's standard limited material warranty.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Carlisle Coatings & Waterproofing, which is located at: 900 Hensley Ln.; Wylie, TX 75098; Toll Free Tel: 888-229-0199; Tel: 972-442-6545 ; Fax: 972-442-0076; Email: [request info (Caitlyn.Ruhl@carlisleccm.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Carlisle+Coatings+%26+Waterproofing&coid=31251&rep=&fax=972-442-0076&message=RE:%20Spec%20Question%20(07145ccs):%20%20&mf=); Web: [www.carlisle-ccw.com](http://www.carlisle-ccw.com)

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01600.
	1. WATERPROOFING MEMBRANE
		1. Waterproofing membrane shall be CCW-MIRASEAL for horizontal surfaces applied at 60 mils (1.5 mm) for each coat, reinforced by DCH Fabric between coats and CCW- MIRASEAL for vertical surfaces applied at 60 mils (1.5 mm) for each coat, reinforced by DCH fabric between coats and shall meet or exceed the requirements of ASTM C 836.
	2. ACCESSORY PRODUCTS
		1. Surface Primer: Not required for concrete or wood. All other surfaces as recommended by manufacturer for each surface encountered.
		2. Sealants: CCW-201 two-component Polyurethane Sealant.
		3. Backing Rod: Closed-cell polyethylene foam rod.
		4. Flexible Flashing: As recommended and supplied by coating manufacturer.
		5. Protection Course: CCW Protection Board-H/HS for horizontal surfaces or CCW Protection Board-V for vertical surfaces.
		6. Drainage Composite: CCW MiraDrain as recommended by the manufacturer for each condition.
		7. Perimeter Drainage System: CCW HC - DRAIN where required.
		8. Reinforcing: CCW DCH Fabric.
1. EXECUTION
	1. EXAMINATION
		1. Before any waterproofing work is started the waterproofing applicator shall thoroughly examine all surfaces for any deficiencies. Where deficiencies exist, the Architect, Owner, or Contractor shall be notified in writing and corrections made.
		2. Condition of Concrete Surfaces:
			1. The concrete surfaces shall be of sound structural grade, minimum of 2500 psi (17,237 kPa) compressive strength, 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 shall be of the pure sodium silicate type and be approved by the Carlisle representative.
			3. Concrete shall be cured at least three days and shall be sloped for proper drainage.
			4. Control joints and/or expansion joints shall have been properly installed at strategic points throughout the field of the deck to control cracking caused by deflection and shrinkage.
			5. Required crickets or drains shall be installed at the time the main deck is poured. Deck shall be monolithic.
			6. Voids, rock pockets and excessively rough surfaces shall be repaired with approved non-shrink grout or ground to match the unrepaired areas.
			7. Two-stage drains shall have a minimum 3 inches (76 mm) flange and be installed with the flange flush and level with the concrete surface.
			8. Surfaces at cold joints shall be on the same plane.
	2. SURFACE PREPARATION
		1. The concrete surface shall be thoroughly clean, dry and free from any surface contaminates or cleaning residue that may harmfully affect the adhesion of the membrane.
		2. Install a 1 inch (25.4 mm) face, 45 degree cant of CCW-201 polyurethane sealant at all angle changes and inside corners including projections through the deck, walls, curbs, bumpers, etc.
		3. All cracks over 1/16 inch (1.59 mm) in width and all moving cracks under 1/16 inch (1.59 mm) in width shall be saw cut to 1/4 inch (6.35 mm) minimum in width and depth. Saw cut a 1/4 inch by 1/4 inch (6.35 mm by 6.35 mm) kerf around drain flanges. Clean, prime and fill saw cuts flush with CCW-201 polyurethane sealant.
		4. All moving cracks over 1/16 inch (1.59 mm) wide and all expansion joints less than 1 inch (25.4 mm) wide shall be cleaned, primed, fitted with a backing rod and caulked with CCW-201 polyurethane sealant. For larger joints, contact Carlisle representative.
		5. Allow all sealant to cure thoroughly.
		6. Apply a 6 inches (152 mm) wide, 45 mils (1.1 mm) thick stripe-coat of CCW-MIRASEAL centered over all sealed cracks, hairline cracks, joints, and outside corners.
		7. Apply a 45 mil (1.1 mm) thick stripe-coat of CCW-MIRASEAL over sealant cants and extending 4 inches (102 mm) onto the horizontal deck and up the vertical wall to the height called out on the drawings (minimum 8 inches (203 mm) recommended).
		8. Allow all detail work to cure overnight.
		9. All required metal shall be installed at this time. Apply a stripe coat of CCW- MIRASEAL, 45 mils (1.1 mm) thick, 6 inches (152 mm) wide, centered over all transitions from concrete to metal flashings and reinforce with CCW DCH Fabric. Allow the stripe coat to cure a minimum of three hours to a firm consistency.
	3. APPLICATION
		1. Priming: Not required for adhesion to dry surfaces, non-porous concrete or wood. Consult CCW for other substrates.
		2. Apply the CCW-MIRASEAL in one uniform coat at the rate of one gallon minimum per 25 square feet or as needed in order to obtain a minimum thickness of 60 wet mils (1.5 mm), including coverage of detail work. Use a 1 inch (25.4 mm) notch squeegee to achieve a uniform thickness, then back roll to smooth coating.
		3. Immediately install Carlisle's DCH fabric working the fabric into the wet CCW- MIRASEAL until fabric is saturated, avoiding trapped air, wrinkles and fish mouths. Cut and lay flat wrinkles and fish mouths.
		4. In the event the entire surface is not completed in one day and becomes contaminated, prior to beginning application clean an area 6 inches (152 mm) wide along the edge of the previously applied membrane with a cloth wet with xylene solvent. New work shall overlap the existing work by 6 inches (152 mm).
		5. Allow the first coat of CCW-MIRASEAL to cure three hours minimum to a firm consistency.
		6. Apply the second coat of CCW-MIRASEAL at 25 sf/gallon in a uniform consistency of 60 mils (1.5 mm) over the first coat of CCW-MIRASEAL. Cover the DCH fabric for complete encapsulation.
	4. FLOOD TEST
		1. Allow CCW-MIRASEAL Membrane to cure for at least 24 hours. Plug drains and provide barriers necessary to contain flood water.
		2. Flood surface with 1 inch (25.4 mm) head of water for 24 hours. Inspect for leaks and repair membrane if leaks are found. Retest after making repairs.
	5. PROTECTION COURSE
		1. Install MiraDrain Drainage Composite and CCW Protection Board-H/HS Protection Course immediately after flood testing on horizontal surfaces. If flood testing is delayed, install a temporary covering to protect the CCW-MIRASEAL membrane from damage by other trades.

END OF SECTION