
MANUFACTURER'S GUIDE SPECIFICATIONS

SECTION 07 13 26
MIRAPLY-V BLINDSIDE SELF-ADHERING
SHEET WATERPROOFING



MiraPLY-V Blindsight Waterproofing System

PART I - GENERAL

1.1 DESCRIPTION

Carlisle Coatings & Waterproofing Blindsight Waterproofing System utilizes the MiraPLY Waterproofing System fully adhered to poured concrete. The dual membrane is comprised of TPO and Butyl Alloy adhesive with a total thickness of 47 mils.

1.2 RELATED SECTIONS - Include, but not limited to the following

- A. Section 031000 - Concrete Forming
- B. Section 312000 – Earth Moving
- C. Section 031500 – Concrete Accessories
- D. Section 031500 – Hydrophilic Waterstop
- E. Section 316200 - Driven Piles
- F. Section 316400 - Caissons
- G. Section 032000 - Concrete Reinforcing
- H. Section 033000 – Cast-In-Place Concrete

1.3 REFERENCE STANDARDS

- A. ASTM D 412 Standard Test Methods for Rubber Properties in Tension
- B. ASTM D 570 Standard Test Methods for Water Absorption of Plastics
- C. ASTM D 624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- D. ASTM D 882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
- E. ASTM D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
- F. ASTM D 1876 Standard Test Method for Peel Release of Adhesives (T-Peel)
- G. ASTM D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
- H. ASTM D 3767 Standard Practice for Rubber - Measurements of Dimensions
- I. ASTM D 5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes
- J. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
- K. ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover

1.4 QUALITY ASSURANCE

- A. MiraPLY-V, Blindsight Waterproofing System must be installed by a Carlisle Coatings & Waterproofing Inc Authorized Applicator in compliance with shop drawings approved by Carlisle Coatings & Waterproofing Inc. There must be no deviations made from Carlisle's specifications or the approved drawings without the prior approval from Carlisle Coatings & Waterproofing Inc.
- B. A pre-installation meeting should be coordinated by the General Contractor and attended by the waterproofing applicator, membrane manufacturer's representative and other trades working on the Blindsight System both before and after installation. The purpose of this meeting is to discuss the necessity of ensuring proper waterproofing membrane protection during all phases of installation and to review other applicable requirements or unusual field conditions.

- C. Upon request by the authorized applicator, an inspection will be conducted by a Carlisle Coatings & Waterproofing Inc representative to ensure that the waterproofing membrane has been installed according to Carlisle Coatings & Waterproofing Inc specifications and details. This inspection shall be coordinated prior to installing the Blindsight components so that access to the membrane is not impaired.
- D. An in-progress inspection may be scheduled after the initial inspection (after the membrane installation is completed) to ensure proper protection procedures are being followed to prevent possible damage to the membrane during the installation of above membrane components.

1.5 SUBMITTALS

- A. General: Submit in accordance with Section 01 33 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 1.06.

1.6 WARRANTY

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

- A. A 5, 10, 15 or 20-year System Warranty is available for a charge on commercial buildings and applies only to products manufactured or marketed by Carlisle Coatings & Waterproofing Inc. The membrane system is defined as membrane, flashings, adhesives, sealants and other Carlisle brand products utilized in this installation. For a complete description of these products, refer to the "Products Section" or the applicable "Attachment" in the Carlisle specifications.
- B. Access for warranty service - it shall be the owner's responsibility to expose the waterproofing membrane assembly in the event warranty service is required.
- C. 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

1.7 JOB CONDITIONS

- A. Coordination between various trades is essential to avoid unnecessary damage to the membrane.
- 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. Wear applicable protective clothing and respiratory protection gear.
- E. Maintain work area in a neat and orderly condition, removing empty containers, rags, and rubbish daily from the site.

1.8 PRODUCT 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 the following information.
 - 1. Name of material
 - 1. Manufacturer's stock number and date of manufacture
 - 2. Material safety data sheet
- B. Store membrane and accessory products in a protected area out of direct sunlight and between 40°F and 100°F. Protect from rain, physical damage and construction traffic.

PART II PRODUCTS

2.1 GENERAL

- A. Provide products manufactured and supplied by Carlisle Coatings & Waterproofing Inc, 900 Hensley Lane, Wylie Texas 75098, phone (800) 527-7098, fax (972) 442-0076.
- B. Distributed by: Bowman Construction Supply, 10801 E. 54th Avenue, Denver, CO 80239; Phone: (303) 696-8960
- C. The components of this Blindsight System are to be products of Carlisle Coatings & Waterproofing Inc. The installation, performance or integrity of products by others is not the responsibility of Carlisle Coatings & Waterproofing Inc and is expressly disclaimed by the warranty.

2.2 MEMBRANE

- A. Sheet membrane: Shall be CCW-MiraPLY-V self-adhering adhesive coated membrane, and shall meet or exceed the requirements listed in charts found in section 2.

2.3 RELATED ACCESSORY PRODUCTS

- A. Seam Tape: Shall be SecurTAPE – 6” wide
- B. Detailing Tapes: Shall be:
 - 1. CCW-Detail Tape – 2”, 6” wide
 - 2. P/S Elastoform Flashing
- C. Primers: Shall be:
 - 1. Low VOC Primer
 - 2. HP-250 Primer
- D. Termination Sealant: Shall be Sure-Seal Lap Sealant
- E. Detail Sealants: Shall be:
 - 1. Sure-Seal Lap Sealant
 - 2. Universal Single Ply Sealant
- F. 2-Part Liquid Membrane: Shall be CCW-703V LiquiSeal
- G. Reinforcing Fabric: Shall be:
 - 1. CCW-LiquiFiber – 6”, 12” wide
- H. Termination Bar: Shall be Sure-Seal Termination Bar
- I. Water Stop: Shall be CCW MiraSTOP
- J. Backer Rod: Shall be closed-cell polyethylene foam rod
- K. Expansion Joints: Shall be the EJ-500
- L. Drain Composite: Shall be CCW MiraDRAIN Drainage Composite as selected per project
- M. Perimeter Drainage System: Where required, shall be CCW MiraDRAIN HC
- N. Cleaner: Shall be Weathered Membrane Cleaner or approved equal
- M. Reinforcing Membrane/Flashing: Shall be Sure-Seal P/S Elastoform Flashing.

2.4 CARLISLE BLINDSIDE PHYSICAL PROPERTIES MiraPLY-V

Property	Method	Unit	Typical Value
TPO	—	mils (mm)	22 (.56)
Butyl Alloy	—	mils (mm)	25 (.64)
Thickness per ASTM D 5147 across sheet	ASTM D1970	mils (mm)	47 (1.19)
Water Vapor Transmission	ASTM E96 (Water Method)	perms	0.100
Tensile Strength ¹	ASTM D882	psi	1,360
300% Modulus ¹	ASTM D412	psi	1,390
90° T-Peel	ASTM D1876	lb.	>5.0
Elongation @ Break @ 23°C (Die C) ¹	ASTM D412	%	335
Flexibility Temperature @ -29°C (-20°F) ¹	ASTM D1970	pass/fail	No Cracking @ -29°C (-20°F)
Hydrostatic Pressure Resistance	ASTM D5385	ft.	>231 ft. (100 psi)
Peel Strength Over Poured Concrete(tested w/2" strips)	ASTM D903	lb.	5.6
Puncture Resistance Elongation	ASTM E154	in	4.9
Puncture Resistance Load at Puncture	ASTM E154	lb.	106.4
Tear Strength of Vulcanized Rubber and Thermoplastics Die C ¹	ASTM D624	psi	685
Soil Decay Testing- E 96 Permeance	ASTM E154		Pass
Soil Decay Testing- Weight Loss	ASTM E154		Pass
Lateral Water Migration Resistance ²	ASTM D5385 modified		Pass at 100 psi (231 ft) of hydrostatic pressure

¹Data Listed according to Machine Direction criteria where applicable

²Lateral water migration resistance test is performed by casting concrete against butyl side of membrane with a hole and applying a hydrostatic head pressure with water. This test measures the resistance of lateral water migration between membrane and concrete.

PART III EXECUTION

3.1 GENERAL

Before any waterproofing work is started, the waterproofing applicator shall thoroughly examine all lagging and support for any deficiencies. Should any deficiencies exist, the architect, owner, or general contractor shall be notified in writing and corrections made.

3.2 SUBSTRATE REQUIREMENTS

The substrate must be relatively even without noticeable high spots or depressions, relatively smooth, free of protrusions, debris, sharp edges or foreign materials and must be free of accumulated water, ice and snow.

- 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. All work shall be performed in accordance with Carlisle-CCW application instructions.

3.3 INSTALLATION: VERTICAL

Refer to the applicable Manufacturer's Technical Data Bulletins for cautions and warnings.

- A. All substrates shall be smooth and even. Concrete substrate should likewise be smooth and monolithic. Gaps or voids greater than 0.5in (12mm) shall be filled.
- B. Cover soil retention systems with CCW MiraDRAIN Composites by Carlisle Coatings and Waterproofing. Install CCW MiraDRAIN with fabric side facing toward grade/blind side.
- C. Always comply with the instructions found in manufacturer's literature, which includes:
 - i. Start the installation at one corner of the building. Unroll the first sheet of MiraPLY-V and install it square/parallel to building wall centered in the corner with the TPO side facing the MiraDRAIN attached to the soil retention system (lagging, sheet pile, shotcrete, etc.) and the adhesive/release liner facing out. Mechanically fasten the membrane vertically, use fasteners with plastic washer heads that are compatible with the substrate. Ensure MiraPLY-V is not bridging or wrinkled and tight to the corner with no seams in the corner. Install an adequate number of fasteners across the top of the MiraPLY-V to support and keep the membrane tight against the substrate without wrinkles and blousing until concrete is poured. Walls higher than 8'-0" require fasteners in the field of the MiraPLY-V membrane with approximately 1 fastener per 2 ft² (not including fasteners at the perimeter). Fasten perimeter edges of MiraPLY approximately 12" on center and a minimum of 6" from the edge. Caution – over driven fasteners can cause stress in the membrane and seams.
 - ii. Unroll the next sheet of MiraPLY-V and align parallel to and overlap the preceding roll of MiraPLY-V 3" and a minimum 3" end overlap. Stagger end laps. Ensure that the membrane lays flat and no openings are visible. Make sure that the TPO side of the lap is clean, dry and free of contaminants and prime TPO with HP-250 Primer or Low VOC Primer.

- iii. Remove the release liner on the lap (edge of the sheet) and mate the two sheets together. Lap area shall be rolled with a hard rubber roller using firm hand pressure.
- iv. Leave plastic release liner on MiraPLY-V until ready for concrete pour or placement of rebar. Cover fasteners with a 3" x 3" piece of SecurTAPE, P/S Elastoform Flashing or CCW Detail Tape.

MiraDRAIN, SecurTAPE and MiraPLY are trademarks of Carlisle.

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