

SECTION 07 25 00
SELF ADHERED WATER RESISTIVE BARRIER (WRB)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Self-adhered water resistive and air barrier membrane (Pro Clima SOLITEX ADHERO)

1.2 RELATED SECTIONS

- A. Section 01 35 43 – Environmental Procedures, including airtightness and blower door testing requirements
- B. Section 07 20 00 – Thermal Protection.
- C. Section 07 27 01 – Interior air and vapor control layer
- D. Section 07 27 02 – Airtight tapes
- E. Section 07 30 70 – Roof underlayment materials
- F. Section 07-XX-XX – Seam/sheathing Tape (TESCON VANA)
- G. Section 07-XX-XX – Window sealing (EXTOSEAL ENCORS, TESCO PROFIL and/or CONTEGA SOLIDO IQ)
- H. Section 07-XX-XX – Adhesives (CONTEGA HF or MULTIBOND)
- I. Section 07-XX-XX – Tape and adhesive primer (TESCON Primer RP)
- J. Section 07-XX-XX – Pipe/cable gaskets (ROFLEX, KAFLEX)
- K. Section 07-XX-XX – Liquid Applied Air Barrier (VISCONN)

1.3 REFERENCES [[pulled from spec sheet](#)]

- A. EN 1849-2 – Flexible sheets for waterproofing. Determination of thickness and mass per unit area. Plastics and rubber sheets for roof waterproofing
- B. ASTM E331 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- C. ASTM E2357 – Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies
- D. ASTM E96 – Standard Test Method for Water Vapor Transmission of Materials
- E. EN ISO 12572 - Hygrothermal performance of building materials and products
- F. EN 20811 – Textiles - Determination of resistance to water penetration - Hydrostatic pressure test
- G. American Association of Textile Chemists and Colorists (AATCC): ATCC 127 - Test Method for Water Resistance: Hydrostatic Pressure Test.
- H. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
- I. EN 1109 – Flexible sheets for waterproofing - Determination of flexibility at low temperature
- J. EN 1296- Flexible sheets for waterproofing - Method of artificial ageing by long term exposure to elevated temperature
- K. EN 1297 - Flexible sheets for waterproofing - Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water

1.4 SYSTEM DESCRIPTION

- A. SOLITEX ADHERO, manufactured by Pro Clima®, is a self-adhering, monolithic, vapor permeable membrane, durable weather resistive barrier or roof underlayment. It doubles as a continuous air barrier and rainscreen waterproofing. ADHERO relies on active vapor diffusion: its TEEE vapor-open membrane actively transports vapor outward by passing it along a molecular chain within. It has no pores, is completely waterproof and airtight, and is compliant with IBC 1403 and R703 as a tested WRB.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Submittal Procedures.
- B. Product Data: Manufacturer's data sheets, including:
 - 1. Installation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
- C. Verification Samples: SOLITEX ADHERO Membrane, minimum 4 x 6".

**** NOTE TO SPECIFIER **** When project is being submitted for Living Building Challenge, Passive House, PHIUS+ or USGBC LEED™ certification, contact 475 High Performance Building Supply for assistance in how to use Pro Clima® products to obtain certification. Additional submittals will be required.

1.6 QUALITY ASSURANCE

- A. Performance target: Completed installation must achieve the required airtightness performance level for this project as specified in Section 01 35 43.
- B. Installer Qualifications: Comply with one of the following requirements:
 - 1. The (sub-)contractor installing the weather resistive barrier shall have experience with installation of weather barrier assemblies under similar conditions and have achieved blower door tested airtightness of 1.0 ACH50 or 0.1 CFM/SF75 envelope leakage or better in a previous project.
 - 2. The (sub-)contractor has completed the installation training with 475 High Performance Building Supply.
- C. Due to their superior technical performance, code compliance, comprehensive warranty and durability, only products made by Pro Clima in Germany are acceptable for the construction of the weather barrier.

**** NOTE TO SPECIFIER **** Require 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 might be specified. When defining the extent of the mock-up, consider all corner connections and other complications (sequencing) that can disrupt the WRB.

- D. Mock-Up: Provide a mock-up for evaluation of installation techniques and application workmanship.
 - 1. Prior to installation of WRB, mock up installation as follows to verify details and to demonstrate connections to adjoining construction elements, and other termination conditions.
 - 2. Install mockup in location designated by Architect.
 - 3. Do not proceed with remaining work until workmanship and application technique are approved by Architect.
 - 4. Construct typical exterior wall, 8 feet wide by 8 feet long, illustrating materials interface and connections (tape, adhesives, and gaskets), incorporating specified options including but not limited to the following:
 - a. Junctions of walls, foundations, ceilings, floors and roof,
 - b. Corner condition, and
 - c. Window and doorframe connections
- E. Cooperate and coordinate with the owner's inspection. Do not install any elements of the exterior wall in the mock-up that would restrict access to the WRB until it has been inspected, blower door tested and approved.

1.7 PRECONSTRUCTION MEETING

- A. Preconstruction Meeting: Convene a meeting with all subcontractors affected by the Work of this Section a minimum of one week prior to commencing work of this section. Agenda shall include materials, details of construction, compatibility of materials, sequencing of construction/installation of membranes, WRB application. Discuss the air-tightness goal for the project and emphasize that the success of the blower door test is dependent on the collaboration of all subcontractors.
- B. Coordinate Work with other subcontractors (plumbers, electricians, carpenters, HVAC), operations and installation of finish materials to install correct-sized gaskets on pipes, ducts and cable when these elements pass through the WRB layer, and to avoid damage to installed materials. Before they commence work on site, provide each effected trade with sufficient gaskets.

- C. After meeting, post the following warning in prominent locations in red – 1” letter height minimum (free signs available by request from www.foursevenfive.com). Translate into additional languages if required/as appropriate.

AIRTIGHT BUILDING PROJECT

This is an airtight building; DO NOT PENETRATE the insulated envelope and airtight layer without prior permission of the Superintendent

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials on pallets. in clean and dry areas, not exposed to direct sunlight and in accordance with manufacturer's instructions.
- C. Protect materials during handling and application to prevent damage, puncturing or contamination.

1.9 PROJECT/SITE CONDITIONS

- A. Allowable Weather/UV-exposure: Minimize exposure to direct sunlight. Maximum exposure of 3 months on roofs and 4 months on walls in climate zones 1-3, 6 months on walls and 4 months on roofs in climate zone 4+.
- B. Minimum application temperature: 15°F (-10 °C)

1.10 WARRANTY

- A. Manufacturer's Warranty: The manufacturer's standard warranty is six years and includes replacement cost; however, the warranty can be extended to ten years when complying with Pro Clima warranty requirements. If possible, comply with manufacturer's requirements to obtain the ten year warranty; if not possible, inform owner/architect.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Pro Clima/Moll bauökologische Produkte GmbH, 68723 Schwetzingen Germany. Imported by 475 High Performance Building Supply, 334 Douglass Street, Brooklyn NY, 11217; Tel: +1 800-993-6329; Email; info@foursevenfive.com; Web: www.foursevenfive.com
- B. Substitutions: Due to ADHERO's unique monolithic vapor permeability, exceptional waterproof properties, code compliance, and comprehensive warranty, substitutions are not permitted.

2.2 WEATHER RESISTIVE BARRIER SYSTEM

- A. SOLITEX ADHERO 3000: self-adhering, monolithic, vapor permeable membrane, durable weather resistive barrier or roof underlayment. Tested in accordance with ASTM E331 criteria modified to meet IBC 1403.2 Weather protection and IRC R703 Exterior covering requirements for weather resistive barriers having the following properties:
 - 1. Materials: Monolithic TEEE membrane, with Polypropylene microfiber fleece; color — Dark Blue
 - 2. Weight: 0.79 oz/ft² ; 240 g/m² (EN 1849-2)
 - 3. Thickness: 28 mils ; 0.70 mm (EN 1849-2)
 - 4. Water resistance: Passed 2 hours at 200 Pa (ASTM E 331)
 - 5. Airtightness: 0.0009 CFM/ft² (ASTM E2357 – penetrated wall)
 - 6. Vapor Permeance: 8 perms (ASTM E96), 11 perms (EN ISO 12572)
 - 7. Fire class: A FS:10 - SDI: 15 (ASTM E84)
 - 8. Water column: over 32'10" (10m) (EN 20811/AATCC 127)
 - 9. Temperature resistance: -40 °C/-40 °F to +100 °C/212 °F
 - 10. Tensile strength: 250 N/5 cm / 200 N/5 cm ; 29 lb/in / 23 lb/in (EN 12311-1)
 - 11. Durability after artificial ageing: Passed (EN 1297/ EN 1296)

**** NOTE TO SPECIFIER ** select only the products listed below that will be used in the project:**

- B. Related system components:
1. Exterior seam tape: Airtight and waterproof TESCON VANA Solid Acrylic tape with PP carrying membrane.
 2. Airtight window tape: TESCON PROFIL/PROFECT: Solid Acrylic tape with PP carrying membrane and split release paper for sealing windows and corners.
- O R -
3. Airtight window tape: CONTEGA SOLIDO IQ: Solid Acrylic tape with PP backing fleece and PP copolymer special membrane.
 4. Windowsill/flashing tape: EXTONSEAL ENCORS - Acrylic modified butyl tape for window sills and flashing.
 5. Airtight adhesive: CONTEGA HF: non-embrittling adhesives for membrane connections to concrete, rough surfaces and plywood floors.
- O R -
6. Liquid applied membrane: VISCONN: liquid applied air barrier

2.3 ACCESSORIES

- A. PRESSFIX-XL tape pressurization tool.
- B. Primer: TESCON Primer RP
- C. Pipe, duct, cable sealing: ROFLEX and KAFLEX EPDM gaskets per specific pipe sizes.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates/surfaces have been properly prepared and cleaned from dust, silicones, oils and grease. Before installation, verify substrate is free of splinters, nails or other objects that could puncture membranes.
- B. If window or door opening preparation is the responsibility of another installer, notify architect of unsatisfactory preparation before proceeding.
- C. If there are unexpected pipes, ducts or wires in the installation area/airtight layer or these penetrations do not have ROFLEX/KAFLEX gaskets around them, notify architect of unsatisfactory preparation before proceeding.
- D. If floor, walls or beams interfere with the WRB layer, notify architect of unsatisfactory preparation before proceeding.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.
- F. Beginning of installation constitutes acceptance of existing conditions.

3.2 PREPARATION

- A. Clean and prepare surfaces to receive WRB in accordance with manufacturer's installation guidelines.
- B. All surfaces must be clean, smooth and dry and must be clean of oil, dust, and silicone.
- C. Pretreat rough or porous surfaces such as concrete, CMU, wood fiber board insulation or substrates with insufficient stability with TESCON Primer RP or VISCONN.

3.3 APPLICATION

- A. Apply materials in accordance with manufacturer's instructions (available at www.foursevenfive.com).
- B. Do not install products under environmental conditions outside manufacturer's absolute limits as listed above.
- C. Install membrane as soon as possible after sheathing is installed /exterior shell is completed.
- D. Install membranes on top of the substrate without creases.
- E. Overlap subsequent courses of membrane, using the printed lines on the membrane as a guide.

- F. Overlap the membrane at least 4" over dissimilar airtight materials (concrete, plaster), use expansion loops when connections dissimilar materials and planes.
- G. Pressurize membrane with PRESSFIX XL or other tool (broom/roller) over entire surface immediately after application.
- H. Leave some slack in the membrane to allow for expansion and contraction between dissimilar materials such as concrete, brick, plaster or rough OSB. Prime rough substrates with TESCON Primer RP or VISCONN if necessary. Do an adhesion test to verify the bond.
- I. Cut membrane with a utility knife in detail around penetrations.
- J. Seal membranes to windows, joists and beams with appropriate Pro Clima tape listed above. Follow application guides and use pre-folded tape corners for inside corners.
- K. Seal pipe, duct, cable, or similar penetrations with ROFLEX or KAFLEX gaskets taped to WRB with TESCON VANA airtight tape. Where it is not possible to use a Pro Clima gasket, seal penetrations with TESCON VANA. Avoid creases in tape and shi lap from bottom up.
- L. Inspect completed membrane installation before blower door or water infiltration test. Ensure:
 - 1. Each overlap is properly (ship-) lapped, taped and that tape has been properly pressurized.
 - 2. Battens are installed at recommended distances.
 - 3. Tears, and punctures have been repaired with appropriate Pro Clima tape.
 - 4. Windows, doors and penetrations are air sealed and waterproofed.

3.4 TESTING

**** NOTE TO SPECIFIER ** select tests listed below that will be used in the project:**

- A. Do a blower door test or hose tests (ASTM E1105/E779 or EN13829) as soon as the ADHERO application is complete. During the test search for any detectible leaks with hands, IR or smoke pencils.
- B. Document any leaks, and repair with appropriate Pro Clima tapes, adhesives and accessories.
- C. Repeat test until building complies with project goal-
- D. Re-do test if more than 3 holes/penetrations are made following completion of test above, or at the request of the architect.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Repair damages, punctures or burns (e.g. from sweating copper pipe) and/or replace damaged products before covering materials.
- C. To protect WRB, apply exterior insulation, battens and exterior finish as soon as possible, and not later than recommended weather exposure time for used product.

3.6 FINAL TEST

- A. Blower door test the envelope when:
 - 1. All penetrations have been made and sealed.
 - 2. Siding and other finishes on exterior walls have been installed.
- B. Find and repair leaks.
- C. Repeat testing and repairs until the project complies with the project airtightness goal.

END OF SECTION