

AEROBARRIER[®]

Breakthrough Envelope Sealing Technology

SECTION 072726

AEROSOL-APPLIED SEALANT

AeroBarrier: An air sealing technology transforming the way residential, multifamily, and commercial builders seal the building envelope. The computer-controlled system simultaneously measures and seals building envelope leaks allowing builders to “dial in” the precise level of leakage and performance quickly and easily.

AeroBarrier provides an easy, one-step, economical solution to meet performance needs now and into the future. It allows builders to meet codes more consistently and cost-effectively than traditional envelope sealing methods.

Instrumental in single and multi-family projects targeting performance requirements of LEED, ZERH, Passive House, and the 2015 IECC or better. These projects leave little room for error when it comes to sealing the building envelope and AeroBarrier is the only solution that can verify any level of envelope tightness, from 3 ACH50 all the way to the Passive House standard of 0.6 ACH50.

Edit specification to specific Project requirements. Delete editor’s notes (bordered and in blue) once specification is edited.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

- A. Aerosol-applied, interior-surface sealant for air sealing.

1.3 RELATED SECTIONS

- A. Section 061600 - "Sheathing." For wall sheathings and joint-and-penetration treatments.

1.4 COORDINATION

- A. Coordinate air barrier and installation requirements with progress of related and adjacent work in progress.

1.5 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site. Review, installation, details, mockups, testing, protection, and work scheduling.

1.6 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include manufacturer's written instructions for evaluating, preparing, and treating substrates
 - 2. Technical Data: Physical and performance properties of product.
- B. Sustainable Design Submittals:
 - 1. Product Data: Indicating VOC content.
 - 2. Laboratory Test Reports: Sealants, indicating compliance with requirements for low-emitting materials.
- C. Certificate of Completion: Documenting shows pre- and post-seal leakage (pressurization test).

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Installer must be certified by the manufacturer to conduct installations, performance testing and certifying the work result.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials original, undamaged packages.
- B. Storage: Store per manufacturer's written instructions. Store in original, undamaged packages in a clean, dry, protected location with temperatures from 40 to 100 degrees F (5 to 37 degrees C). Do not allow product to freeze.
- C. Handling: Shelf life of 1 year when stored in accordance with storage instructions.

1.9 FIELD CONDITIONS

- A. Environmental Limitations: Application temperature: Above 40 degrees F (5 degrees C) and rising. If installing below 40 degrees F (5 degrees C), please refer to Cold

Weather Air Barrier Installation Technical Bulletin or contact AeroBarrier Technical Service

1. Protect substrates from environmental conditions that affect air-barrier performance.
2. Do not apply AeroBarrier to damp or wet substrates.

1.10 WARRANTY

- A. Warranty: Provide manufacturer's standard limited warranty and as follows.
1. AeroBarrier warrants its products to be free of defects in materials but makes no warranty as to appearance or color.
 2. Since methods of application and on-site conditions are beyond our control and can affect performance, AeroBarrier makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to AeroBarrier Products.
 3. AeroBarrier's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of AeroBarrier Products proven to be defective, and AeroBarrier shall not be liable for any loss or damage.

PART 2 - GENERAL

2.1 AEROSOL-APPLIED, WATERBORNE ACRYLIC SEALANT

- A. Basis of Design: AeroBarrier X1. Part Number: AERO-128. Manufactured by AeroBarrier; 7989 South suburban Road, Centerville, OH 45458; Phone: 937-428-9300; Email: info@aerobarrier.net
1. Aerosol-Applied, Waterborne Acrylic Sealant: Stable, non-toxic, air sealing system utilizing a computerized process to pressurize an interior space and install to seal leaks in the building enclosure from the inside. Particles deposit only at leak sites and build to form a complete and tight seal. Seals remain firmly in place for years while staying completely pliable and flexible. Intended for use on interior surfaces of residential and commercial building envelopes. Reduces energy loss, mitigates moisture damage, and enhances overall comfort and health of the building.
 2. Features:
 - a. Seals leaks up to 1/2 inch (13 mm) and as small as a human hair.
 - b. Most economical to install at rough in or drywall stage of construction but can be applied to unoccupied, finished spaces.
 - c. Sealant does not stick to vertical surfaces like walls, windows, or doors.
 - d. UL GreenGuard Gold certified. Safe to use in any type of building.
 - e. Ultra-Low VOC: 12 grams per liter. No off-gassing.
 - f. Solids: 18.5 to 21.5 percent.
 - g. Sealant Base: Acrylic.
 - h. Color: White.

- i. Dispersion: Water.
- j. Application: Aerosol.

B. Performance Requirements:

1. Sealant will enhance the primary air barrier capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.
2. Air-Barrier Air Leakage per ASTM E2357: 0.04 cu ft per min per sq ft of surface area at 1.57 lbf/sq. ft. (0.2 L per sec per sq m of surface area at 75 Pa).
3. Standards Compliance:
 - a. GreenGuard Gold Certification
 - b. ASTM E84 - Surface Burning Characteristics of Building Materials
 - c. ASTM C719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement
 - d. ASTM D543 - Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents
 - e. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components
 - f. ASTM E2357 - Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer, for conditions affecting performance of the Work.
1. Verify substrates are free of contaminants and moisture.
 2. Proceed after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Prep internal area by covering any openings that won't be sealed. This includes taping or covering any designed or intentional openings and any finished horizontal surfaces within the space.
1. Emitters: Set up throughout the area to be sealed.
 2. Set up Application Equipment: Includes blower door, emitters, hoses, and the AeroBarrier Master Control Unit.

3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's recommendations, approved submittals including the following:
 - 1. Pressurize: Using a blower door, the space is pressurized.
 - 2. Application: A computer measures and controls the entire process including controlling the temperature, pressure, humidity, and distribution of sealant within the space during the process.
 - 3. Seal and Monitor: During application air leakage results are controlled and monitored in real time. Results displayed are based on a pressurization test.
 - 4. Application: Continue the application process until desired level of air tightness required is achieved.

3.4 FIELD QUALITY CONTROL

- A. Air Seal Test: At the end of the process; conduct a post seal test to verify the sealing results. Installer and manufacturer shall provide a Certificate of Completion that shows pre and post seal leakage.
 - 1. Transitions at changes in direction and structural support at gaps have been provided
 - 2. All penetrations have been sealed to the level reported in the post seal test.
- B. Tests: As determined by testing agency from among the following tests:
 - 1. System uses a standard blower door to measure envelope leakage during the process. AeroBarrier uses a positive pressure blower door test for all leakage readings
 - a. Blower Door: Calibrated to meet ASTM Standard E779, E1554, CGSB-149.10-M86, EN 13829, ATTMA Technical Standard 1, NFPA 2001, RESNET and USACE.

3.5 CLEANING AND PROTECTION

- A. Protect materials from damage during application and remainder of construction period, according to manufacturer's written instructions.

END OF SECTION