



FW-100 Air, Water Barrier & Vapor Retarder System Specifications

PART 1: GENERAL

1.01 Description of Work

- A. This specification is for the application of Wall Guardian FW-100 to provide a continuous air barrier system where indicated.

1.02 References

- A. ASTM E 96, Method B: Water Vapor Permeance (perms)
- B. ASTM E 283-91: Air Rate Leakage Thru Exterior Windows
- C. ASTM E330-90: Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- D. FL Building Code, TAS 114: Bond Strength to Concrete, Structural Performance/Adhesion Under Static Air Pressure ("Wind Resistance")
- E. ASTM E2178-01: Standard Test for Determining the air Permeability of Building Materials
- F. ASTM E2357: Standard Test Method for Determining Air Leakage of Air Barrier Systems (Full Scale Wall Testing of the Air Barrier System) Make certain tests were conducted on steel stud frame walls as some air barrier systems are tested only on CMU or concrete walls.

1.03 Quality Assurance

- A. Installer: Submit in writing a document stating that the applicator of the primary air barrier system specified is an acceptable applicator to the manufacturer
- B. Perform Work in strict adherence to the manufacturer's instruction
- C. Maintain one (1) copy of manufacturer's application instructions on job site
- D. Allow access to the Work by the air barrier manufacturer's representative
- E. Components used in this section shall be obtained from a single distributor
- F. With 7 days notice a pre-job conference is to convene prior to commencing the Work
- G. Mock up: as directed by the architect and it may remain as part of the Work

1.04 Product Storage And Handling

- A. Deliver materials to the job site in undamaged and original packaging indicating the name of the manufacturer and the product
- B. Store roll materials on end and in original packaging and always above 40°F. Keep away from all flame or excessive heat
- C. Store Wall Guardian FW-100 above freezing temperature. DO NOT ALLOW TO FREEZE.

1.05 Job Condition

- A. Work is to be performed only in climatic conditions stipulated by manufacturer which are normally 40°F and rising with a maximum Relative Humidity of 80%. No application in the presence of dew, fog or when rain is forecast within 12 hours.
- B. All preparation work must be complete prior to installation of air barrier membrane

1.06 Protection And Coordination

- A. Ensure that the air barrier membrane is continuous where indicated in the drawings

PART 2: PRODUCTS

2.01 Characteristics – Wall Guardian FW-100 Air Barrier

- A. Vehicle Base: Polymer Modified Asphalt
- B. Water Vapor Permeance: 11.6 perms
- C. Weight per Gallon: 8.6 lbs.
- D. Solids by Weight: 59 ± 2%
- E. Solids by Volume: 58 ± 2%

- F. Elongation @ break: >90%
- G. Tensile Strength: 29 psi
- H. Dry Time:
 - 1) Sets to Touch in 4-6 hours
 - 2) Recoat in 24 hours
- I. Exposure: 6 months
- J. Solvent: Mineral Spirits
- K. Clean Up: Mineral Spirits

Air Barrier Properties at 26.7 ft²/gallon

- L. Sag/Flow – ASTM D4586: none @ 240°F
- M. Air Rate Leakage – ASTM E283: none
- N. Air Permeance ASTM E2178 (SCFM/ft²) 30 mil (dry thickness) @ ΔP = 0.3 in water = 0.001
- O. ASTM E2357 Full Scale Wall Testing
 - 1) System Air Leakage: 0.0004 CFM/ft² (required 0.04 CFM/ft²)
 - 2) Penetration Check: PASS (required 0.045 CFM/ft²)
- P. Bond Strength to Concrete, FBC (FL Bldg Code), TAS 114, Appendix H, Sec 2: > 1000 lb
- Q. Structural Performance, TAS 114 performed, Moisture Vapor Permeance after 250 hrs QUV (ASTM E96, Method B): 20.5 perms

2.02 Characteristics – GreatSeal LT-100 Liquid Tape

- A. Viscosity: non-slump, gun grade mastic, 750,000 cps @ 72°F
- B. Skin Over Time: 25 minutes. @ 72°F 40% RH
- C. Set time (60mil film): 1 hour @ 72°F 40% RH
- D. Appearance: lightly textured, distinctive blue color
- E. Density: specific gravity = 1.1 or (8.0# / gallon)
- F. Durometer: 27 Shore A
- G. Odor: mild mint ester
- H. VOCs: 15.7 gr/liter
- I. Solids: 100%
- J. Exposure: 6 months

Test Results:

- K. Hardness, ASTM D-2240: 27 Shore A
- L. Tensile, ASTM D412/C1135: 160 psi
- M. Tensile @ 50% Elongation, ASTM C1184: 75 psi
- N. Tensile @ 100% Elongation, ASTM C1184: 115 psi
- O. Elongation, ASTM D412/C1135: 200%
- P. Tear Strength, ASTM D624: 3.4# (Type T)
- Q. Shear Strength, ASTM C961: 140 psi
- R. Peel Strength 1, ASTM C794: 3.75 pli
- S. Peel Strength 2, ASTM C794: 4.5 pli
- T. Joint Movement Capability, ASTM C719: 12.5%

PART 3: EXECUTION

3.01 Examination

- A. Verify that surfaces and conditions are ready to accept the Work of this section. Follow all manufacturer instructions on acceptability of substrate.

3.02 Preparation

- A. All substrates must be sound, hand dry, clean and free of oil, grease, excess mortar, dust or other contaminants. Starting the work is an acceptance of the substrate.

3.03 Installation

- A. Transition Tape

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- 1) Joints between panels of exterior grade gypsum, plywood and rigid insulation up to ¼" wide shall be filled with GreatSeal LT-100 Liquid Tape.
 - a. GreatSeal LT-100 Liquid Tape is a one component ready to use material that requires no mixing or preparation.
 - b. Use a quality caulking gun to ensure ease of application.
 - c. Application shall occur only when temperatures are above 40 degrees F and inclement weather is not predicted.
 - d. Cut the plastic nozzle at a 45 degree angle.
 - e. Begin gunning the material filling the joint from the bottom to the surface ensuring there are no voids or air pockets in the joint.
 - f. Applied in a 1/4" bead.
 - g. Tool to 3/4" by 1/16" cap seal that becomes tack free in twenty minutes.
 - h. It cures to a firm rubber seal in one hour.
 - i. For best finishing performance do not allow un-tooled beads to stand for more than ten minutes.
- 2) Joints between panels wider than ¼" shall be filled with UT-40 Universal Tape overlapping each side of the joint by 3 inches.
- 3) Surfaces should be flashed in with beams, columns, window and doorframes, etc. using UT-40 Universal Tape lapped a minimum of 2" on both substrates.
- 4) Mechanical attachment should be made to all window and doorframes, or a properly designed sealant joint provided.

B. Air Barrier:

- 1) FW-100 may be applied with heavy brush, rollers, heavy-duty spray equipment or spreaders on a completely dry surface.
- 2) FW-100 may be applied in a single coat.
- 3) Mark areas off and ensure that the appropriate volume has been applied over each area.
- 4) During spraying, the product should be applied in horizontal strokes, then vertical strokes in a cross-hatch method to ensure even application.
- 5) Apply over entire surface of the glass faced sheathing, and/or roof board.
- 6) Frame Walls with OSB, plywood, gypsum sheathing including Dens Glass Gold: Apply Wall Guardian FW-100 at 3.75 gallons per 100ft² minimum (60 wet mils). Spray around all projections, including masonry veneer anchors, ensuring a complete and continuous air seal.
- 7) CMU Walls: Apply Wall Guardian FW-100 at 3.75 gallons per 100 ft² minimum.

3.04 Protection of Finished Walls

- A. These materials are not meant for permanent exposure: 6 months maximum

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