



**07 2500
Weather Barriers**

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A. General:

1. Weather barriers include vapor retarders, air barrier membranes, water drainage membranes, and materials that perform one or more barrier functions. Weather barriers shall be designed as part of an exterior envelope system.
2. Exterior wall system shall include a vapor retarding and weather resistive barrier system that performs as a continuous air and moisture barrier and as a liquid water drainage plane.
3. In masonry veneer walls and rainscreen wall systems, the weather barrier shall be installed on the exterior face of the backup wall, between the interior of the building and the continuous wall insulation.
4. The weather barrier shall be designed and detailed to provide a complete enclosure from the foundation to the roofing. Continuous air, water, and moisture barrier planes shall be established and detailed to assure no gaps are permitted.
5. Sheet membrane weather barriers shall be used unless otherwise approved by the Owner.

B. Performance Requirements:

1. Air Leakage:
 - a. Air leakage through the weather barrier materials shall not exceed 0,004 cfm/sf of surface area at a pressure differential of 1.57 lb/sf, when tested according to ASTM E 2178.
 - b. Air leakage through the weather barrier assembly, consisting of the backup wall construction, weather barrier, insulation, exterior finish anchorage system, and typical penetrations shall not exceed 0.04 cfm/ sf at a pressure differential of 1.57 psf, when tested according to ASTM E 2357.
2. Connections between roof air barrier, wall weather barrier, window frames, door frames, foundations, floors over crawl spaces, ceilings under attics and across building joints must be flexible to withstand building movements due to thermal, seismic, moisture content changes and creep; the joint must support the same air pressures as the weather barrier material without displacement.

C. Quality Assurance:

1. Perform visual inspection of all weather barrier components prior to the application of insulation and exterior veneers.



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2. If required for envelope commissioning, perform weather barrier testing prior to the application of insulation and exterior veneers. Spot testing of installations, including field seams, is recommended when full envelope commissioning is not required.
3. Do not permit weather barrier products to remain exposed to UV light and weather conditions more than 60 days.
4. Mockup Testing: Weather barrier assemblies shall comply with performance requirements indicated, as evidenced by reports based on mockup testing by a qualified testing agency.
 - a. Owner will engage a qualified testing agency.
 - b. Quantitative Air Leakage Testing: Field test the mockup for air leakage in accordance with ASTM E 783 at the test pressure differential, positive and negative, indicated in "Performance Requirements" Article for air barrier assembly air leakage.

D. Products:

1. Self-Adhering Sheet Air Barrier:
 - a. Modified bituminous sheet, 40 mil (1.0 mm) thick, self-adhering sheet consisting of 36 mils (0.9 mm) of rubberized asphalt laminated to a 4 mil (0.1 mm) thick polyethylene film, suitable for use in high-temperature applications.
2. Flashing, Counterflashing and Sealing Strips: Sheet Air barrier manufacturer's standard strip products compatible with the air barrier system.
3. Primer: Manufacturer's standard primer for substrates indicated. Prime all surfaces as recommended by the membrane manufacturer.
4. Sealant: Provide recommended sealant at all membrane terminations and at dissimilar materials.

E. Field Quality Control

1. Inspections: Air barrier materials and installation are subject to inspection for compliance with requirements.
 - a. Continuity of air barrier system has been achieved throughout the building envelope with no gaps or holes.
 - b. Continuous structural support of air barrier system has been provided.
 - c. Site conditions for application temperature and dryness of substrates have been maintained.
 - d. Maximum exposure time of materials to UV deterioration has not been exceeded.



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- e. Surfaces have been primed, if applicable.
 - f. Laps in strips and transition strips have complied with minimum requirements and have been shingled in the correct direction (or mastic has been applied on exposed edges), with no fishmouths.
 - g. Termination mastic has been applied on cut edges.
 - h. Strips and transition strips have been firmly adhered to substrate.
 - i. Compatible materials have been used.
 - j. Transitions at changes in direction and structural support at gaps have been provided.
 - k. Connections between assemblies (membrane and sealants) have complied with requirements for cleanliness, preparation and priming of surfaces, structural support, integrity, and continuity of seal.
 - l. All penetrations have been sealed.
2. Manufacturer's field services: Obtain field services of a site representative qualified by membrane manufacturer to inspect substrate conditions; surface preparation; membrane application, flashings, protection, and drainage components; and to furnish daily reports to Architect.
- a. Representative shall make a minimum of 3 site inspections, no more than 3 days apart.
 - b. Inspect substrates, substrate preparation, and initial application at start of Work.
 - c. Provide subsequent field inspections as Work progresses.
 - d. Inspect installation at completion.
3. Quantitative Air Leakage Testing: Test assembly according to ASTM E 1186 prior to application of exterior veneer or rainscreen systems, not to exceed the test pressure differential, positive and negative, indicated in "Performance Requirements" Article for air barrier assembly air leakage.

END OF SECTION