

ABAA Technical Bulletin – 2011-01

Air Barrier Materials, Air Barrier Assemblies, Whole Building Testing and Water Resistive Barriers in Codes and Standards

Below is a list of five codes and standards with the requirements for air barrier materials, air barrier assemblies, whole building testing and water resistive barriers.

ASHRAE 90.1-2010

Air Barriers

5.4.3.1. *Continuous* Air Barrier – requirement for continuous air barrier design and construction

5.4.3.1.1. Air Barrier Design – requirement for air barrier design

5.4.3.1.2. Air Barrier Installation – requirement for air barrier design and installation

5.4.3.1.3. Air Barrier Materials and Assemblies – requirements for air barrier materials and assemblies.

ASHRAE 189.1-2010

Air Barriers

7.4.2.10. - requirement for continuous air barrier

Normative Appendix B – Prescriptive air barrier application

- B1 Characteristics
 - prescriptive measures for a continuous air barrier
- B2 Compliance, requirements for:
 - air barrier materials
 - air barrier assemblies
 - building air leakage rate

2012 International Residential Code

Air Barriers

N1102.4 (R402.4) Air Leakage (Mandatory) – design and construction of the building thermal envelopes to limit air leakage

N1102.4.1.1 (R402.4.1.1) – installation of the air barrier components

N1102.4.1.2 (R402.4.1.2) – air leakage testing of the building envelope

Water Resistive Barriers

R703.2 Water resistive barrier – requirement and application for material

Definitions:

Vapor Permeable - The property of having a moisture vapor permeance rating of 5 perms (2.9×10^{-10} kg/Pa•s•m²) or greater when tested in accordance with the desiccant method using Procedure A of ASTM E96. A vapor permeable material permits the passage of moisture vapor.

Vapor Retarder Class – A measure of the ability of a material or assembly to limit the amount of moisture that passes through a material or assembly. Vapor retarder class shall be defined using the desiccant method with Procedure A of ASTM E 96 as follows:

Class I: 0.1 perm or less

Class II: $0.1 < \text{perm} \leq 1.0$ perm

Class III: $1.0 \text{ perm} \leq 10$ perm

Water Resistive Barrier- a material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into exterior wall assembly.

2012 International Energy Conservation Code

Air Barriers

C402.4 Air leakage (mandatory) – air leakage of the thermal envelope

C402.4.1 Air barriers – requirement for continuous air barrier in the listed Climate Zones

C402.4.1.1 Air barrier construction – prescriptive measures for a continuous air barrier to be designed and constructed

C402.4.1.2.1 Materials – air permeance requirements for air barrier materials

C402.4.1.2.2 Assemblies - air leakage requirements for air barrier assemblies

C402.4.1.2.3 Building test – air leakage rate requirements of the building envelope

C402.4.2 Air barrier penetrations – prescriptive methods for sealing air barrier penetrations and paths of air leakage

2012 International Building Code

Water Resistive Barriers

1404.2 Water resistive barrier - requirement for water resistive barriers

Definitions:

Vapor Permeable - The property of having a moisture vapor permeance rating of 10 perms ($5.7 \times 10^{-10} \text{ kg/Pa}\cdot\text{s}\cdot\text{m}^2$) or greater when tested in accordance with the desiccant method using Procedure A of ASTM E96. A vapor permeable material permits the passage of moisture vapor.

Vapor Retarder Class – A measure of a material or assembly’s ability to limit the amount of moisture that passes through a material or assembly. Vapor retarder class shall be defined using the desiccant method of ASTM E 96 as follows:

Class I: 0.1 perm or less

Class II: $0.1 < \text{perm} \leq 1.0$ perm

Class III: $1.0 \text{ perm} \leq 10$ perm

Water Resistive Barrier- a material behind an exterior wall covering that is intended to resist liquid water that has penetrated behind the exterior covering from further intruding into exterior wall assembly.