

## 5.5 Air Leakage

Where testing of AL is required, the air leakage shall be measured in accordance with the attachment product installed over a calibration test panel as detailed below and in Appendix B. Air leakage shall be measured in accordance with ASTM E283 at a test pressure of 75 Pa (1.57 psf) applied to the exterior side of the product / test panel assembly. Operable attachment products shall be tested in the fully closed position.

The calibration test panel shall consist of a PMMA acrylic panel with minimum 6 mm thickness mounted and sealed in a coniferous wood buck to accommodate installation of the test specimen. The calibration test panel shall include drilled orifice holes and/or an attached needle valve to create a nominal air leakage rate of 10.2 L/s/m<sup>2</sup> (2.0 cfm/ft<sup>2</sup>) when tested in accordance with ASTM E283 at a test pressure of 75 Pa (1.57 psf).

Prior to testing each attachment product, the air leakage of the calibration test panel alone shall first be measured in accordance with ASTM E283 at a test pressure of 75 Pa (1.57 psf), and the needle valve or holes shall be used to adjust the measured air leakage to 10.2 ± 0.1 L/s/m<sup>2</sup> (2.0 ± 0.02 cfm/ft<sup>2</sup>).

As specified in AERC 1, the test opening size shall be 1200 mm x 1500 mm. The test specimen shall be installed on the side of the calibration test panel such that the orientation represents the installation of the attachment product over a primary window (i.e. exterior attachment products installed on the outward side of the calibration test panel towards where the test air pressure is applied; interior attachment products installed on the inward side of the calibration test panel away from where the test air pressure is applied). The attachment product shall be installed according to manufacturer instructions with no special sealing that would not be part of normal product installation, except removable foam sealing tape shall be allowed to be substituted for caulking and other permanent sealants.

For products that are not permanently attached to the window frame, retaining clips or brackets are allowed to be used to retain the attachment product in the wood buck while under pressure, provided they do not affect the measured air leakage. The clips and brackets shall be evenly spaced and designed to contact only the glazing of the product, leaving a clear distance a minimum of 0.5" from the frame of the product. There shall be no more than 15 contact points on the glazing with a size not to exceed 13 mm (0.5 in) diameter each.

The air leakage of the combined attachment product / test panel assembly shall then be measured in accordance with ASTM E283 at a test pressure of 75 Pa (1.57 psf).

The recorded air leakage shall be rounded and reported to the nearest 0.1 L/s/m<sup>2</sup> (0.02 cfm/ft<sup>2</sup>), calculated using the test opening area (1200 mm x 1500 mm).

A tested AL for one product may also represent the tested AL for other products that may be grouped in accordance with AERC 1 Section 5.2 and AERC 1.1. The same AL result may be used for storm windows and window panels with different glazing that varies only in the coating, film, or tint.

## Appendix B

### Air Leakage Calibration Test Panel

