

## Section 5.4. Air Leakage

### 5.4.1. Air Barrier Systems

#### 5.4.1.1. Required Resistance to Air Leakage

(See Note A-5.4.1.1.)

**1)** Where a *building* component or assembly separates interior *conditioned space* from exterior space, interior space from the ground, or environmentally dissimilar interior spaces, the properties and position of the materials and components in those components or assemblies shall be such that they control air leakage or permit venting to the exterior so as to

- a) provide acceptable conditions for the *building* occupants,
- b) maintain appropriate conditions for the intended use of the *building*,
- c) minimize the accumulation of condensation in and the penetration of precipitation into the *building* component or assembly,
- d) control heat transfer to roofs where ice damming can occur,
- e) minimize the ingress of airborne radon from the ground with an aim to controlling the indoor radon concentration to an acceptable level, and
- f) not compromise the operation of *building* services.

**2)** Except as provided in Sentence (3), an *air barrier system* shall be installed to provide the principal resistance to air leakage.

**3)** An *air barrier system* is not required where it can be shown that uncontrolled air leakage will not adversely affect any of

- a) the health or safety of *building* users,
- b) the intended use of the *building*, or
- c) the operation of *building* services.

#### 5.4.1.2. Air Barrier System Properties

**1)** Except as provided in Sentence (2), air barrier materials intended to provide the principal resistance to air leakage shall

- a) have an air leakage characteristic not greater than  $0.02 \text{ L}/(\text{s}\cdot\text{m}^2)$  measured at an air pressure difference of 75 Pa, when tested in accordance to ASTM E 2178, “Air Permeance of Building Materials,” or
- b) conform to CAN/ULC-S741, “Air Barrier Materials – Specification.”

(See Note A-5.4.1.2.(1) and (2).)

**2)** The air leakage limit specified in Sentence (1) is permitted to be increased where it can be shown that the higher rate of leakage will not adversely affect any of

- a) the health or safety of the *building* users,
- b) the intended use of the *building*, or
- c) the operation of *building* services.

(See Note A-5.4.1.2.(1) and (2).)

**3)** The *air barrier system* shall be continuous

- a) across construction, control and expansion joints,
- b) across junctions between different *building* assemblies, and
- c) around penetrations through the *building* assembly.

**4)** The structural design of *air barrier systems* installed in assemblies subject to air pressure loads shall comply with Article 5.1.4.1. and Subsection 5.2.2.