

Section 5.5. Vapour Diffusion

5.5.1. Vapour Barriers

5.5.1.1. Required Resistance to Vapour Diffusion

(See Note A-5.5.1.1.)

1) Where a *building* component or assembly is subjected to differentials in temperature and water vapour pressure, the properties and position of the materials and components in those components or assemblies shall be such that they control vapour diffusion or permit venting to the exterior so as to minimize the accumulation of condensation in the *building* component or assembly.

2) Except as provided in Sentence (3), a *vapour barrier* shall be installed to provide the principal resistance to water vapour diffusion.

3) A *vapour barrier* is not required where it can be shown that uncontrolled vapour diffusion 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.

5.5.1.2. Vapour Barrier Properties and Installation

(See Note A-5.3.1.2.)

1) The *vapour barrier* shall have sufficiently low permeance and shall be positioned in the *building* component or assembly so as to

- a) minimize moisture transfer by diffusion, to surfaces within the assembly that would be cold enough to cause condensation at the design temperature and humidity conditions, or
- b) reduce moisture transfer by diffusion, to surfaces within the assembly that would be cold enough to cause condensation at the design temperature and humidity conditions, to a rate that will not allow sufficient accumulation of moisture to cause deterioration or otherwise adversely affect any of
 - i) the health or safety of *building* users,
 - ii) the intended use of the *building*, or
 - iii) the operation of *building* services.

(See Note A-5.5.1.2.(1).)

2) Coatings applied to gypsum board to provide required resistance to vapour diffusion shall conform to the requirements of Sentence (1) when tested in accordance with CAN/CGSB-1.501-M, “Method for Permeance of Coated Wallboard.”

3) Coatings applied to materials other than gypsum board to provide required resistance to vapour diffusion shall conform to the requirements of Sentence (1) when tested in accordance with ASTM E 96/E 96M, “Water Vapor Transmission of Materials,” by the desiccant method (dry cup).