



# Vapour Barriers For Medium Density (2lb Closed Cell) Spray-Applied Polyurethane Foam Insulation

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## 9.25.1.1. Scope and Application

(1) This Section is concerned with heat, air and water vapour transfer and measures to control condensation.

## 9.25.4.2. Vapour Barrier Materials

(1) Except as provided in Sentence (2) vapour barriers shall have a permeance not greater than  $60 \text{ ng}/(\text{Pa}\cdot\text{s}\cdot\text{m}^2)$ , measured in accordance with ASTM E96/E96M, "Standard Test Methods for Water Vapour Transmission of Materials", using the desiccant method (dry cup).

(3) Where the intended use of the interior space will result in high moisture generation, the assembly shall be designed according to Part 5. (See Note A-9.25.4.2.(3))

(8) Where insulation functions as the vapour barrier, it shall be sufficiently thick so as to meet the requirement of sentence (1).

## 9.25.4.3. Installation of Vapour Barriers

(1) Products installed to function as the vapour barrier shall protect the warm side of wall, ceiling and floor assemblies.

(2) Where different products are used for the vapour barrier and the insulation, the vapour barrier shall be installed sufficiently close to the warm side of the insulation to prevent condensation at design conditions. (See Notes A-9.25.5.1.(1) and A-9.25.5.1.(1))



(3) Where the same product is used for the vapour barrier and the insulation, the product shall be installed sufficiently close to the warm side of the assembly to prevent condensation at the design conditions. (See Notes A-9.25.4.3.(2), A-9.25.5.1.(1) and A-9.25.5.2.)

## **OBJECTIVE**

When using a medium density (2lb closed cell) Spray-Applied Polyurethane Foam Insulation (SPF) in a wall assembly with a minimum thickness of 50mm, the requirement for a vapour barrier could be eliminated where the thickness of 50mm of SPF provides the maximum permeance of 60 ng/(Pa.s.m<sup>2</sup>).

Caution: if the intent of the medium density spray foam is to be used as a vapour barrier and it is combined with batt-type insulation, then a vapour barrier would be required and sealed to prevent any vapour or moisture from condensing within the insulation and wall assembly.

In addition, where the SPF is used as the air barrier it must be continuous. To maintain a continuous air barrier, all wood to wood joints must be caulked with an acoustical sealant.

- Caulk between all studs and top/bottom plates.
- Seal all headers and top plates with acoustical sealant.
- Seal around door/window openings with polyurethane.
- Seal multiple plates with acoustical sealant or membrane.
- Seal multiple studs with sealant.

