TECHNICAL BULLETIN

STRUCTURAL BOARD ASSOCIATION

Representing the OSB Industry

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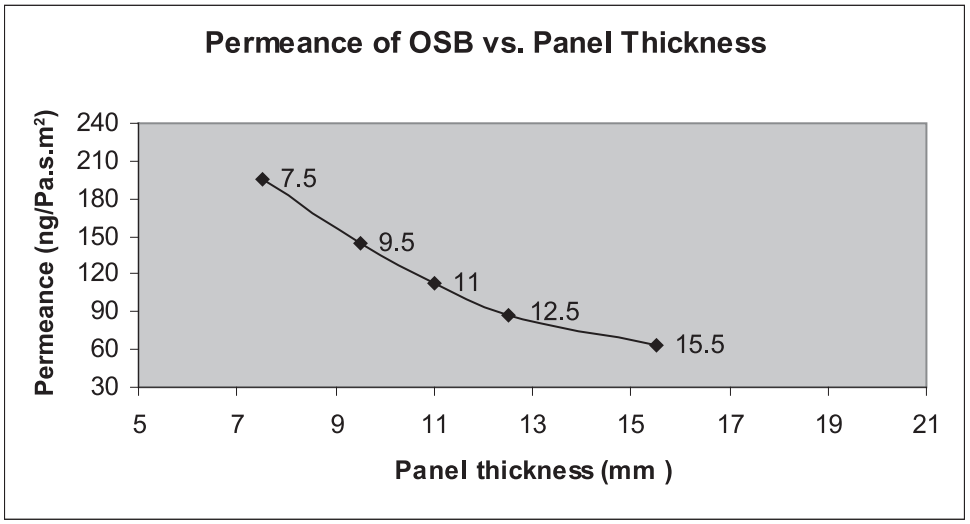
PERMEABILITY OF OSB STRUCTURAL PANELS

The water vapour permeability or permeance of a structural wood panel is the rate at which water vapour will pass through the panel in the presence of a pressure gradient. The Structural Board Association contracted with Forintek Canada Corp to undertake a series of "wet cup" tests on OSB and waferboard panels in accordance with ASTM test procedures (E96). The chart gives the permeance for a range of thicknesses from 7.5 mm (5/16") to 15.5 mm (5/8").

Panels with a water vapour permeance of 60 ng/Pa.s.m^2 (1.0 perm) or less are permitted to be used as vapour barriers and panels with a permeance of 120 ng/Pa.s.m^2 (2 perms) or more are considered to pass sufficient water vapour that a wall cavity will dry out when constructed with green lumber.

For instance, nominal 15.5 mm (5/8") or thicker OSB panels can be installed as subfloor over unheated spaces without the need of a separate vapour barrier[1], while nominal 11 mm (7/16") or thinner wall sheathing panels will allow a wall cavity containing green stud lumber and glass fibre insulation to reach an equilibrium moisture content below 19 % in about 60 days.

This information was taken from a comparative study of wall sheathing performance by the University of Waterloo Building Engineering Group. (Waterloo, Ontario, Canada)



Note: 1 perm = 60 ng/Pa.s.m^2, 1 inch = 25.4 mm

([1]) Per the requirement in the 2005 NBCC. The requirement is for "dry cup" results, which are typically lower than the tabulated wet cup results.