

## Water vapor permeability (Ability to Breathe) ASTM E96 test method

Since Fullback contoured foam absorbs precious little water, concern has been expressed that it might act as a vapor barrier. The average home produces six buckets of water vapor a day. If this is not released, it can condense on and between wall studs, and as a result can cause both structural and health related problems – moistened or wet dry wall is transformed into a perfect growing medium for molds, fungi and bacteria. These organisms multiply quickly; the molds and fungi release spores into the home, promoting a host of respiratory related problems. The result is what has become referred to as the "sick home syndrome," an issue which is gaining momentum as a topic of concern with consumers.

### Vapor Barrier

The effectiveness of a vapor barrier is measured by its perm rating, which is the ratio of porosity of material to passage of water vapor. A material having a vapor-transmission rate of 1 perm or less is considered a good vapor barrier. Accordingly, a material with a perm rating of more than the 1 perm is not considered a vapor barrier.

### Water Vapor Transmission

Perm ratings are tested in accordance with ASTM E96. A perm rating for a material is the number of grains of water vapor (7000 grains equal to 1 lb.) that will pass through 1 sq. ft. of the material in 1 hour when the vapor-pressure differential between two sides of the material equals 1 inch of mercury (0.49 psi).

The Fullback® Thermal Support System produced by Progressive has a perm rating of 5.0 perms per inch. It clearly is not a vapor barrier and will not trap harmful water vapor in your walls.

### Independent Perm Rating Test

Note: The higher the test number the greater the permeance of the respective product.

Product description	g/h.m <sup>2</sup>
A. Shape molded Fullback Thermal Support System	.835
B. Molded (Wire cut) ThermoWall EPS	.804
C. 1/4" extruded DOW Styrofoam	.398
D. 3/4" extruded DOW Styrofoam	.280