



R-Value

Thermal Performance Myth. There is a widespread belief that all insulation materials of equal R-value will perform equally.

Thermal Performance Fact. While insulations of equal R-value perform equally in the controlled conditions of a laboratory, they do not all maintain that R-value in the walls and ceilings of a building. Some give off gasses to the atmosphere and suffer a decline in efficiency, while the performance of others are vulnerable to the installers' shortcomings.

'Thermal Drift' as this phenomenon is politely called, results from the failure of materials to fill all cavities completely, thus leaving air pockets which permit air movement inside the cavity. Further 'drift' occurs with some materials if the insulation is not fully protected against air infiltration, both from the interior and the exterior. Commonly used insulation may well perform at a fraction of its' nominal rating depending on installation, how well it fits the cavity and how well it's protected from air infiltration.

The performance of The Spray Foam Insulation System does not 'drift.' It is not dependent on the installer, or on other trades. As it expands, the material forces its way into every corner and crevice, completely filling the cavity. It creates its own virtually continuous air barrier by adhering to structural components. It always ensures a well filled, air sealed building envelope. It contains **no** gasses, so none escape.

[Blower door](#) tests have proven that foam, with no polyethylene vapor barrier, can make a steel framed home as tight as 1.2 ACH @ -50 Pa. depressurization, which is equivalent to 0.03 natural air changes per hour, when required.

Click [here](#) to return to Building Science.