

## *Northwestern Ohio Foam Products, Inc.*

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[WWW.NOFP.COM](http://WWW.NOFP.COM) • [WWW.THEBARRIER.COM](http://WWW.THEBARRIER.COM)

Dear Contracting Professional,

**The Barrier™ Under Concrete Insulation** has been voted the #1 material for under concrete applications in the North America. Its ease of use, high-performance values, and cost effectiveness has made this product the most sought after material in the underground insulation industry today.

As you know, there are two key components regarding underground insulation materials. Its ability to resist heat / cold transfer, and its ability to resist or stop moisture flow in its various transmittal forms.

### **R-Value vs. K-Value**

What is the difference between these two types of measurements? As this pertains directly to the heat / cold transfer rates - being knowledgeable of these two different values is of great importance to both you and your customers. It's common knowledge that **R-Value** refers to a materials ability to resist the flow of hot or cold air from one environment to another. The key aspect of this is the direct reference to "resisting the flow of air". Have you dug a hole lately? How much air escaped that hole? None - maybe if you're lucky some oil - but still - no air. So if there is no underground airflow, what does R-Value have to do with an underground insulation? Nothing - underground insulation is most effectively measured by its K-Value Standards.

Simply put - **K-Value** refers to a materials ability to resist Thermal Conductivity transmission from one environment to another when that material is utilized in a subterranean environment. With no airflow to measure - K-Value is the definitive measurement standard in determining a materials underground insulation value. It measures a materials ability to stop the heat and cold flow conducted from one side of a material to the opposite side.

### **What is the K-Value of The Barrier™ Under Concrete Insulation?**

The Barrier™ has been rigorously tested to ASTM procedure C-518. The test data results are that The Barrier™ has a K-Value of 0.60 per 3/8".

While the above performance numbers are extremely impressive - as you know - there are two parts to an effective underground insulation product. The second key aspect is a materials **Water Permeability**. Without an excellent moisture and vapor barrier in an underground insulation material - its K-Value is meaningless.

**The Barrier™**'s ability to resist water transmission of all forms is remarkable - in fact, it's perfect. Tested to the standards of ASTM E96 Procedure B (standard test for water vapor transmission), The Barrier™ Permeance results were 0.000 grains / hr(2) in. Hg. Its Permeability test results were no less astounding - also testing to 0.000 grains-in. / hr ft(2) in. Hg. Simply put NO moisture travels through this material. In fact - testing certification engineers were so shocked by its effectiveness - they asked to put the material to an additional test - the ICBO Standpipe Water Pressure Test. This test follows the procedures of ICBO Sections 4.6.1 and

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4.6.2. To quote: “This product meets or exceeds the ICBO conditions for acceptance. At the end of 24 hours, there was no indication that any water had dripped from the underside of the specimens. **A 3.5” head of water (rather than the required 2.0” head for 24hrs.) was employed, with the same results after a period of 96 hours**”. Quite simply - this material completely eliminates any form of moisture transmission in an underground application.

Is there anything comparable on the market to **The Barrier™ Under Concrete insulation**? No. Foam sheet suppliers will talk about R-Values and “trapping air” in their sheets. Doesn’t it stand to reason if you can trap air - you can also trap water? Most knowledgeable professionals would prefer to eliminate water. Foil material salesmen will try to sell you on the reflectivity and insulation values of their foil products - but they omit the fact that the lime in cement will degrade the aluminum facing of their material - and leave only half of the original material for insulation purposes. And the last time analyzed - the sun was not shining underground - so the “reflectivity” aspect is - excuse the pun - nothing but hot air. In fact, The Federal Trade Commission has also deemed that reflective foil insulation should not be marketed as an underground insulator and has reprimanded reflective foil manufacturers who have claimed significant R-Values in an under slab application (please see attached letter). Reflective foil works wonderfully in “dry” installations such as when applied to the underside of a floor joist where there is an airspace, but in the absence of an airspace the product reverts to just its mass insulation property which is nominal.

In addition, the Canadian Mortgage and Housing Corporation funded a study comparing underslab insulation materials and found that the concrete with bubble/foil/bubble insulation “did not look like it had any insulation underneath”, further confirming the FTC’s finding. Details of the study can be found at <https://www.cmhc-schl.gc.ca:50104/b2c/b2c/init.do?language=en> , or by searching the CMHC website for Research Highlight publication [Comparison of Under-Floor Insulation Systems](#), product number 63728 (see attached article).

**The Barrier™** material comes in the standard size of 48” wide x 60 lineal feet in length - yielding 240 square feet per roll. In addition to the high-performance characteristics and the standards this product is setting in the underground insulation market, it also has the following advantages as well:

1. There is a 1” lip running the lineal length (60’) of the material with a 1” double-faced tape adhesive. This patented self-sealing feature allows for extreme ease of use and NO SEAMS.
2. The material is flexible. You can walk on the material without cracking or breaking. Try that with foam board products.
3. The core component is an extruded (not block molded) EPS with surface facing skin - and heavy-duty 3mil polyethylene film laminated to EACH side.
4. The product is lightweight, and can ship via UPS or common carrier anywhere in the world.

For purchasing or any further information, please contact your local distributor or Northwestern Ohio Foam Products directly at **1-800-339-4850** or e-mail to [info@nofp.com](mailto:info@nofp.com). We will be more than happy to assist in your cost-effective upgrade to the #1 underground insulation on the market today.

Sincerely,

*The Sales Staff at NOFP*