

Improving Energy Efficiency in Concrete Slabs with Under Concrete, Under Slab, and Radiant Floor Insulation

HOUSTON, TX, UNITED STATES, November 7, 2025 /EINPresswire.com/ -- Builders and contractors are increasingly integrating [under concrete insulation](#), [under slab insulation](#), and [radiant floor insulation](#) into new construction and retrofit projects to improve thermal performance, moisture control, and occupant comfort.

Concrete floors can transfer significant heat into the ground, leading to higher energy use and moisture-related issues. Using insulation beneath the slab provides a stable thermal break and acts as a barrier against vapor and ground gases such as radon.

A Layered Approach to Sub-Slab Protection

The Prodex Total Under Concrete Insulation (5M) is designed specifically for placement beneath poured concrete. It incorporates a 5 mm (0.20 inch) closed-cell polyethylene foam core with a reinforced foil surface, combining thermal resistance, moisture protection, and reflective properties in a single layer.



Under Concrete Prodex Total Insulation Roll

Laboratory and field data show that the insulation maintains its thickness under slab loads and provides a low-permeance barrier with a perm rating below 0.1. When used with radiant heating systems, it directs heat upward into the living space, enhancing system efficiency and reducing energy waste.

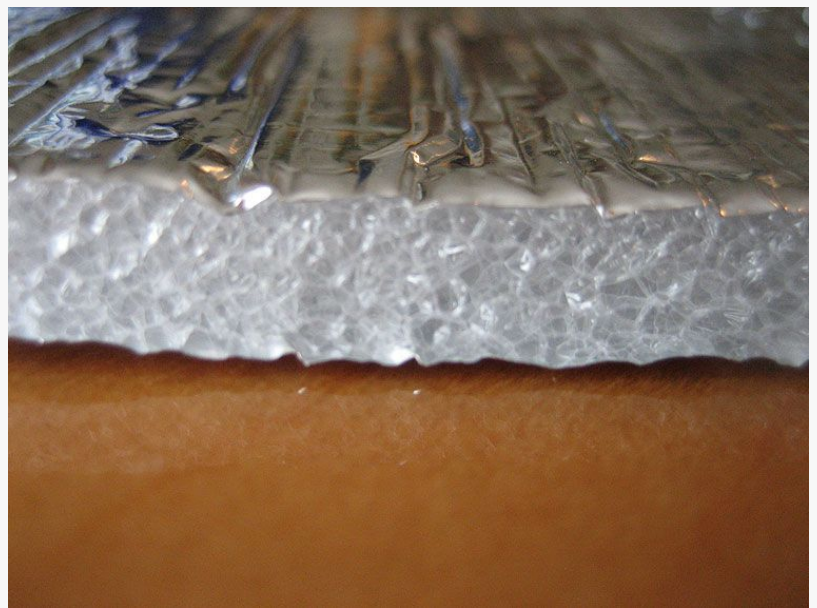
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Cool in Summer. Warm in Winter. Dry all the Time.”

Jonathan Barber

Installation Guidance and Best Practices

A detailed installation overview is available on their website. Key recommendations include placing the insulation with the reflective surface facing upward, overlapping seams by approximately 2 inches, sealing joints with under-concrete tape, and extending the material a few inches up adjoining walls to ensure a continuous barrier. These steps help maintain the insulation's integrity during and after the concrete pour, preventing moisture migration and supporting long-term thermal stability.



Closed cell foam of Prodex Total Insulation

Industry Context

In climates with high temperature differentials or radiant floor systems, under slab insulation has become a standard best practice for code compliance and building durability. The use of reflective and closed-cell foam materials reduces conductive and radiant heat loss, mitigates condensation, and protects indoor environments from ground moisture.

According to Insulation4Less, the adoption of radiant floor insulation and related sub-slab materials reflects a broader trend toward integrated building-envelope design that prioritizes both energy conservation and occupant comfort.

About Insulation4Less

Insulation4Less.com is a U.S./Canada branch of Prodex, specializing in reflective and thermal insulation materials for residential, commercial, and agricultural construction. The company provides technical resources and product data for a variety of applications, including under concrete insulation, under slab insulation, and radiant floor insulation systems.

For additional information, visit:

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