No difference in roof system performance

The secret to keeping roof decks dry?
An underlayment that repels water in the first place.

When it comes to installing a new roof, don’t take chances. Rely on the advanced protection of Owens Corning® Deck Defense™ High Performance Roof Underlayment. Deck Defense underlayment offers durable synthetic construction that provides an immediate first line of defense—so strong it can protect roofs for up to 6 months* of exposure. It also acts as a secondary water-shedding barrier for even greater long-term moisture protection compared to standard felt. Deck Defense underlayment provides faster, easier installation** with its extra-wide roll and preprinted nailing pattern, and it resists tearing away from fasteners in high wind or when walked on, reducing the chance of leaks. It’s one of the easiest, most effective ways to keep roof decks dry and moisture out during installation.

Breathable underlayments hold no advantage over nonbreathable underlayments.

Synthetic underlayment products are quickly increasing in popularity in the roofing market because they are stronger and lighter, and install faster than traditional felts. They also provide a superior secondary water-shedding barrier over extended exposure periods.

So this raises the age-old question, “Does a roof underlayment need to be breathable or nonbreathable?”

Recent testing at Owens Corning Roofing & Asphalt, LLC, takes a systematic approach to prove that adding “breathability” (permeability measured by a “perm” rating) to a roof underlayment offers no advantage to a home or building with an asphalt roof system. Why?

• The shingle creates a vapor barrier, or a nonbreathable layer. Therefore the “breathability” of an underlayment becomes unnecessary.

• Proper ventilation, not a breathable roof underlayment, is required to prevent moisture from becoming trapped in the roof deck.

The results speak for themselves.

The systematic test approach used was ASTM E96, which was designed for testing perm ratings in individual materials and material systems. Test results verified that installing shingles in a traditional pattern alone results in the ultimate vapor barrier with a perm rating of 0.65. With a perm rate of less than 1.0, the installed shingles are the final nonbreathable layer within the roofing system.

This important fact begs the question, if the installed asphalt shingles act as a vapor barrier on the roof, then why would you need a breathable underlayment below it? Testing shows that a breathable underlayment adds no value to roof systems as compared to nonbreathable underlayments.

How do you remove moisture from your deck or your attic?

If indeed your decking sheet or your attic space contains moisture and your roof system is a vapor barrier, then how do you “dry” your attic? The answer is proper ventilation. With the asphalt shingle layer acting as a vapor barrier, moisture must be vented to the building exterior through the space below. Most building codes require 1:300 NFPA/SGI ventilation at both your eave and your roof ridge.

Proper venting and, in turn, proper air flow beneath the roof deck will keep your roof deck and your attic space dry and functioning as designed throughout the life of your roofing system, with or without a breathable underlayment below your shingles.

* Special application required for extended exposure. See installation instructions.

** Compared to standard felt underlayment.

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<table>
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<th>Description</th>
<th>Perm</th>
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<tr>
<td>One-Shingle Layer</td>
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<td>Two-Shingle Layer</td>
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<td>Three-Shingle Layer</td>
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Single-Component testing:

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<tr>
<td>OSB, Nonbreathable Synthetic, Shingles</td>
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</tr>
</tbody>
</table>

Vapor Permeable = 5 perms or greater
Vapor Barrier = 1 perm or less

1 2009 International Residential Code, Section R701.7

Buy 4 rolls of Deck Defense™ underlayment and get a $50 value† reward card.

Buy 9 rolls and get a $150 value† reward card.

Send to: It’s Raining Rewards Promotion, P.O. Box 52106, Phoenix, AZ 85072-2106

Contractor Name: ____________________________
Address: ____________________________
City: ____________________________ State: _____________ ZIP: _____________
No. of Deck Defense rolls purchased: ____________
Date: ________

Card will be issued in the name on this form

12009 International Residential Code, Section R701.7