

# 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.



INNOVATIONS FOR LIVING®



# Is breathable underlayment better?

## The answer may surprise you.

### 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 roofing system is a vapor barrier, then how do you "dry" your attic? The answer is proper venting of moisture. 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 NFVA/SQ.FT. of 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.

#### Single-Component Testing<sup>2</sup>

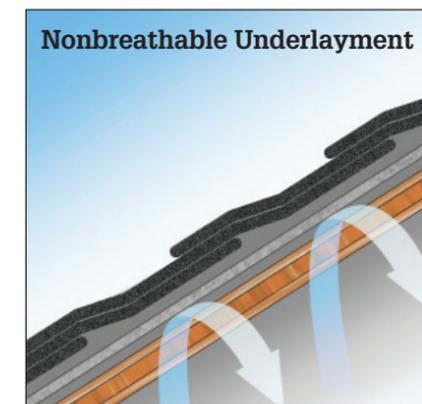
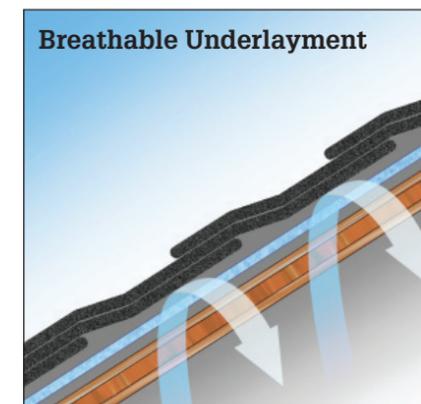
|                                      |     |
|--------------------------------------|-----|
| PERM (One Shingle Layer) .....       | 0.9 |
| PERM (#15 Felt) .....                | 3.3 |
| PERM (Breathable Synthetic) .....    | 9.5 |
| PERM (Nonbreathable Synthetic) ..... | 0.1 |

#### Roofing System Testing

|   |      |
|---|------|
| PERM (Layered Shingle Construction only) .....      | 0.65 |
| PERM (OSB, #15 Felt, Shingles) .....                | 0.31 |
| PERM (OSB, Nonbreathable Synthetic, Shingles) ..... | 0.27 |

Vapor Permeable = 5 perms or greater<sup>1</sup>  
 Vapor Retarders = between 5 and 1 perms  
 Vapor Barriers = 1 perms or less

<sup>1</sup> 2009 International Residential Code, Section R202.  
<sup>2</sup> ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials, Desiccant Method.



No difference in roofing system performance

**Get \$450 up to worth of rewards!** Buy 4 rolls of Deck Defense™ underlayment and get a \$50 value\* reward card. Buy 9 rolls and get a \$150 value\* reward card. Offer valid on purchases October 15, 2010–February 28, 2011. Request form must be postmarked by March 31, 2011. Please submit one form for rebate along with invoice(s) as proof of purchase. Maximum \$450\* worth of rewards per contractor.

Contractor Name: \_\_\_\_\_ (Card will be issued in the name on this form)  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_  
 No. of Deck Defense rolls purchased: \_\_\_\_\_

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

\*Reward cards are issued in connection with loyalty, award or promotion program. For use virtually anywhere that welcomes American Express® Cards in the U.S.; not for revolving payments, water taxis, limousines or ATMs. Point-based with 1 point = \$1 USD in purchasing. Valid up to 6 months; unused points forfeit at midnight MST the last day of the month of the valid-through date, subject to applicable law. Card terms and conditions apply; visit [www.encompasscard.com](http://www.encompasscard.com) for details. No cash redemption; not transferable—issued in the Contractor Name above; cannot be issued to minors. Issued by IntelISpend Prepaid Solutions, LLC. Toll-free: 1-877-837-3918. [owenscomingrebatestatus.acbcoop.net](http://owenscomingrebatestatus.acbcoop.net). Please allow 4–6 weeks for delivery after verification.

\*Special application required for extended exposure. See installation instructions.  
 \*\*Compared to standard felt underlayment.  
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