

## Technical Bulletin FH 2023-02

### First Release:

May 1, 2023

### Prepared by:

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### Applicable Standards:

FORTIFIED Multifamily™ – Wind  
FORTIFIED Commercial™ – Wind

### Applicable Designation Level:



# 2-ply Synthetic Underlayment is an Approved Sealed Roof Deck Option on Asphalt Shingle and Metal Roofs

## Introduction

The installation of two layers of synthetic underlayment has been evaluated and approved by IBHS as a qualified sealed roof deck method for asphalt shingle or metal roofing.

## Underlayment Product Requirements

Apply two layers of one of the following code-compliant synthetic underlayment options:

- ASTM D8257 – Mechanically Attached Polymeric Roof Underlayment Used in Steep Slope Roofing.
- Reinforced synthetic roof underlayment which has a current ICC, AC 188 approval as an alternate to ASTM D226 Type II felt paper.

The synthetic underlayment must have a minimum tear strength of 15 lbf in accordance with ASTM D4533, a minimum tensile strength of 20 lbf/in. in accordance with ASTM D5035 and pass the ASTM D4869 liquid water transmission test.

## Installation Requirements

Two layers of a FORTIFIED-compliant reinforced synthetic underlayment shall be installed in a shingle fashion, in the following manner.

### For 40-in.-wide Rolls

Install the first course of underlayment as described below.

1. Cut 20 inches off one side of the roll and install the remaining 20-in.-wide strip of underlayment along the eave. Safely tack in place.
2. Carefully install a 40-in.-wide roll of underlayment over the 20-in.-wide course of underlayment along the eave.
3. For the succeeding courses follow the same procedure for each, overlapping the sheets 22 inches (leaving an 18-in. exposure). Fasten with one row in the center of the sheet at 12 in. o.c. and one row at the overlaps fastened 6 in. o.c.



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### For 48-in.-wide Rolls

Install the first course of underlayment as described below.

1. Cut 24 inches off one side of the roll and install the remaining 24-in.-wide strip of underlayment along the eave. Safely tack in place.
2. Carefully install a 48-in.-wide roll of underlayment over the 24-in.-wide course of underlayment along the eave.
3. For the succeeding courses follow the same procedure for each, overlapping the sheets 26 inches (leaving a 22-in. exposure). Fasten with one row in the center of the sheet at 12 in. o.c. and one row at the overlaps fastened 6 in. o.c.

### For 60-in.-wide Rolls

Install the first course of underlayment as described below.

1. Cut 30 inches off one side of the roll and install the remaining 30-in.-wide strip of underlayment along the eave. Safely tack in place.
2. Carefully install a 60-in.-wide roll of underlayment over the 30-in.-wide course of underlayment along the eave.
3. For the succeeding courses follow the same procedure for each, overlapping the sheets 32 inches (leaving a 28-in. exposure). Fasten with two equally spaced rows in the center of the sheet at 12 in. o.c. and one row at the overlaps fastened 6 in. o.c.

In all cases, fasten underlayment a maximum 6 in. o.c. along the side and end laps and a maximum 12 in. o.c. in the middle of the sheet between the side laps.

**For ultimate design wind speeds less than 170 mph**, secure underlayment using annular-ring or deformed-shank nails with 1-in.-diameter caps (button cap nails).

**For ultimate design wind speeds 170 mph or greater**, secure underlayment using annular-ring or deformed-shank nails with thin metal disks (“tincaps”).

## Additional References

For additional guidance, please refer to:

- [FORTIFIED Commercial™–Wind Standard](#)
- [FORTIFIED Multifamily™–Wind Standard](#)
- [FORTIFIED Legal Disclaimer](#)

