

Technical Bulletin FC/FMF 2023-02

First Release:

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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](#)

