

Technical Bulletin
FH 2015-04

Last Update:

November 15, 2024

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Applicable Standards:

FORTIFIED Home™–Hurricane
 FORTIFIED Home™–High Wind

Applicable Designation Level:



Using Two-Part Closed-Cell Spray Polyurethane Foam Adhesive

Introduction

Strengthening the attachment of roof sheathing and installation of a sealed roof deck system can be achieved simultaneously by applying an ASTM or TAS-tested two-part, spray polyurethane foam adhesive to the underside of the roof deck as shown in Figure 1.

This system can satisfy two FORTIFIED Roof™ requirements:

1. Sealing the roof deck.
2. Supplemental deck attachment, when the roof fastening cannot be verified to comply with the FORTIFIED Standard requirements.



Figure 1. Closed-cell spray polyurethane foam adhesive applied to the underside of the roof sheathing at the joints between the sheathing panels and along all intersections between roof sheathing and all roof framing members.





Sealed Roof Deck Supplemental Deck Attachment

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Requirements

A two-component closed-cell spray polyurethane foam adhesive can be used on new or existing homes with wood structural panel roof sheathing, such as plywood or OSB. This system cannot be used on roofs with board decking. It is most commonly used on existing homes where the roof cover is deemed to be in good condition and NOT in need of replacement. When the roof cover is not being replaced, other systems that are installed from the topside cannot be used. Closed-cell spray polyurethane foam adhesive allows for improvements to be made from within the attic.

The minimum requirements for spray adhesives are:

- Product must be tested and evaluated in accordance with either ASTM E330, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference (applied to roof sheathing), or TAS 202, Criteria for Testing Impact and Non- Impact Resistant Building Envelope Components Using Uniform Static Air Pressure. The minimum allowable Design Uplift Pressure must be greater than or equal to 110 psf (proof test of at least 165 psf).
- Adhesive product must be a two-component spray polyurethane foam system with a minimum core density of 1.5–3.0 pcf in accordance with ASTM D1622, Standard Test Method for Apparent Density of Rigid Cellular Plastics.

Spray polyurethane foam adhesive system must be installed by a properly trained and qualified applicator in accordance with the manufacturer’s maintenance and installation guidelines.

To provide enhanced roof sheathing attachment and to seal the roof deck, apply a 1.5- to 3-in. fillet of two-component spray-polyurethane foam adhesive to:

- All joints between plywood/OSB sheathing. This method is not acceptable for use in homes with wood board decking
- All intersections between roof sheathing and roof framing members
- All valleys





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Use the minimum density and installation requirements prescribed by the manufacturer to meet a minimum Design Uplift Pressure on the sheathing of 110 psf.

All installations must be in accordance with the manufacturer’s instructions.

Note: For this method to be accepted for sealing the roof deck and for adding supplemental roof deck attachment, access to the entire underside of the roof deck within the attic must be available. If the slope of the roof is low, such that eaves are inaccessible, or any portion of the underside of the deck is obstructed by equipment or ductwork, or is otherwise inaccessible, it will be necessary to use an alternative qualified method to seal the portion of the deck that is unreachable by the spray foam installer.

Compliance Verification Requirements

It is not possible to determine the chemistry of a spray foam product by visual inspection. Therefore, it is necessary to collect documentation from the installing contractor identifying the manufacturer and product used for the improved roof sheathing attachment/sealed roof deck.

Documentation must be provided to the certified FORTIFIED Home Evaluator and be included with the evaluation. Documentation must state the installation meets the manufacturer’s requirements for an allowable Design Uplift Pressures detailed below.

- At least 110 psf (proof test of at least 165 psf)



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Minimum Documentation Required

- Letter from installing contractor, on company letterhead, that the material was applied by a trained installer and the installation meets the manufacturer’s requirements for an allowable Design Uplift Pressure specified for the appropriate standard.
- Documentation from Miami-Dade, FBC, TDI product approvals or ICC Evaluation Reports, if applicable (invoices and/or product labels identifying product name and manufacturer may be substituted in the absence of product test documents).
- A minimum of four site specific photos (verified with geolocation or home address visible in the photo) of the material applied to the entire underside of the roof deck. Pictures must be taken at 4 different locations of the attic to show complete coverage.

Note: Although 4 photographs is the minimum number of pictures required, the goal is to achieve a complete view of the underside of the roof deck. Photographs must be taken from inside the attic and show product installed in accordance with the requirements listed above. Site conditions may dictate that more than the minimum required number of photographs be provided.

Additional References

- [2025 FORTIFIED Home Standard](#)
- [FORTIFIED Home Documentation Requirements](#)
- [Standard Detail F-SRD-1](#)
- [FORTIFIED Legal Disclaimer](#)

