



Elevated Roof-Mounted HVAC Units

Technical Bulletin FH 2024-01

FORTIFIED Home™ Requirements for Elevated Roof-Mounted HVAC Units

First Release:

March 18, 2024

Prepared by:

FORTIFIED Technical Team

Applicable Standards:

FORTIFIED Home™–Hurricane

FORTIFIED Home™–High Wind

Applicable Designation Level:



Introduction

Roof-mounted HVAC units are popular in some parts of the country. However, improperly attached units or units in poor condition are at risk of failure during high-wind or hurricane events. This can lead to damage that allows water intrusion or undermines the structural integrity of the home. Additionally, the platform, or pieces of it, along with the HVAC unit itself can become windborne debris that damage the home and neighboring structures.



Figure 1: Wood framed supporting platform built over the roof area of a home



Figure 2: Metal support frame over the roof area of a home



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This technical bulletin details the requirements that must be met for homes with roof-mounted HVAC units to be eligible for a FORTIFIED Home™ designation. It applies to homes with roof-mounted HVAC units located over an area defined as a required roof section in [Technical Bulletin FH 2022-02: FORTIFIED Home™ Definition of “Roof” for FORTIFIED Roof Designations.](#)

Professional Engineer Required

Assessing a roof-mounted HVAC assembly’s ability to withstand a high-wind event is a complex task, and if the support platform or HVAC unit fails there is a higher risk for compounded damage. Therefore, when a roof-mounted HVAC assembly is present, a professional engineer must determine eligibility for a FORTIFIED designation, regardless of construction materials used.

Required for All FORTIFIED Designation Levels

The following requirements must be inspected, and field verified by a professional engineer:

- The roof-mounted supporting platform must be permanently attached to the roof structural members with positive anchorage in good condition.
 - Gravity-only mounted platforms or HVAC units are NOT eligible for designation.
 - Connections that are only to the roof cover or roof sheathing are NOT eligible for designation.
 - Positive anchorage may include metal connectors or bolts that connect the supporting platform to the main structural system of the roof. **Nail-only connections (such as toe-nailed connections) are NOT eligible for designation.**
 - All supporting platform components that penetrate the roof and their connections to the roof structural members must be free of rot, rust at connectors, deterioration, and damage.
- The roof-mounted supporting platform must provide clearance above the roof cover for re-roofing, repairs or maintenance, and water flow.
- All supporting platform components that penetrate the roof must be properly sealed and flashed.



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- **For re-roofing:** To be eligible for designation, it must be possible to roof around the elevated supporting platform and HVAC unit completely and install proper flashing at all roof penetrations without removing any structural support (post, beam, or joist) of the deck.
- A professional engineer must provide an assessment that the existing attachment of the supporting platform to the roof structure AND the attachment of the HVAC unit to the supporting platform is adequate to support all gravity and wind loads (including overturning loads) for the site conditions and provide repairs or retrofits as applicable.

A professional engineer must inspect and verify that all the above requirements are met and provide a signed and sealed letter of compliance detailing that each requirement has been met. This letter must be provided to IBHS as part of the required eligibility documentation for the home.

Because these requirements determine whether a home is eligible for designation, it is recommended that the inspection and verification of the roof-mounted HVAC requirements is complete before beginning any other work.

Compliance Verification Requirements

- Photos showing the full roof-mounted HVAC unit and supporting platform from each side.
- Signed and sealed letter of compliance from a licensed professional engineer registered in the state where the home is located, confirming all the eligibility requirements for a FORTIFIED designation are met.

Additional References

For additional guidance, refer to the following:

- [Technical Bulletin FH 2022-02: FORTIFIED Home Definition of “Roof” for FORTIFIED Roof Designations](#)
- [Technical Bulletin FH 2017-01: Roof Flashing](#)
- [Roof Mounted AC Inspection Template](#)