



# Elevated Roof-Mounted Decks

## FORTIFIED Home™ Requirements for Elevated Roof-Mounted (Rooftop) Decks

### Technical Bulletin FH 2022-03

**First Release:**

July 5, 2022

**Prepared by:**

Mark Zehnal  
Director, FORTIFIED Roof

Julie Lowrey  
FORTIFIED Director of Engineering

Mary Uher  
FORTIFIED Field Services Director

**Applicable Standards:**

FORTIFIED Home™—Hurricane  
FORTIFIED Home™—High Wind

**Applicable Designation Level:**



### Introduction

Roof-mounted or “rooftop” decks (typically wood-framed decks that are built over the roof of a home) are popular in some parts of the country. Any deck or balcony that is located over an area defined as a required roof section, per *Technical Bulletin FH 2022-02: FORTIFIED Home™ Definition of “Roof” for FORTIFIED Roof Designations*, are included within the scope of this technical bulletin and all requirements must be met regardless of construction materials. Some common roof deck types are pictured below.



Figure 1: Wood Framed Deck built over the roof area of a home



Figure 2: Framed Deck located on a flat roof over living space



Figure 3: Tiled Roof Deck located on a flat roof over living space



# Elevated Roof-Mounted Decks

## Technical Bulletin FH 2022-03

### First Release:

July 5, 2022

### Prepared by:

Mark Zehnal  
Director, FORTIFIED Roof

Julie Lowrey  
FORTIFIED Director of Engineering

Mary Uher  
FORTIFIED Field Services Director

### Applicable Standards:

FORTIFIED Home™—Hurricane  
FORTIFIED Home™—High Wind

### Applicable Designation Level:



Rooftop decks that are in poor condition or improperly attached 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. The deck, or pieces of it, can also become windborne debris that damages the home and neighboring structures.

Assessing a roof-mounted deck's ability to withstand a high-wind event is a complex task, and if the deck fails there is a higher risk for compounded losses. Therefore, the involvement of a professional engineer to determine eligibility for a FORTIFIED designation is required when a roof-mounted deck is present.

Because of their popularity in areas of the country where FORTIFIED demand is high, IBHS recognizes the need to outline a pathway to designation for homes with a roof-mounted deck. This technical bulletin is intended to detail the requirements which must be met for homes with roof-mounted decks to be eligible for a FORTIFIED Home™ designation.

## Required for ALL FORTIFIED Designations (Roof, Silver, and Gold)

For elevated roof-mounted decks to be eligible for any FORTIFIED designation, the following requirements must be inspected, and field verified by a professional engineer:

- Elevated roof-mounted decks must be permanently attached to the roof structural members with positive anchorage in good condition.
  - Gravity-only mounted decks are NOT eligible for designation.
  - Connections that are only to the roof cover/roof sheathing are NOT eligible for designation.
  - Positive anchorage may include metal connectors or bolts that connect the deck to the main structural system of the roof. Nail only connections (such as toe-nailed connections) are NOT eligible for designation.
  - All deck components that penetrate the roof and their connections to the roof structural members must be free of rot, rust at connectors, deterioration, and damage.



# Elevated Roof-Mounted Decks

## Technical Bulletin FH 2022-03

### First Release:

July 5, 2022

### Prepared by:

Mark Zehnal  
Director, FORTIFIED Roof

Julie Lowrey  
FORTIFIED Director of Engineering

Mary Uher  
FORTIFIED Field Services Director

### Applicable Standards:

FORTIFIED Home™—Hurricane  
FORTIFIED Home™—High Wind

### Applicable Designation Level:



- Elevated roof-mounted decks must provide clearance above the roof cover for re-roofing, repairs/maintenance, and water flow.
- All deck components that penetrate the roof must be properly sealed and flashed.
- For re-roofing: To be eligible for designation, it must be possible to roof around the elevated deck 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 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 deck requirements happen prior to any other work being done.

## Additional Requirements for Silver and Gold Designations

**For new construction:** The attachment of the roof-mounted deck to the roof structural members must be incorporated by the EOR (Engineer of Record) into the Continuous Load Path (CLP) design of the home.

**For existing homes:** In addition to field inspection and verification of requirements listed above, the anchorage of the deck to the roof structure must be capable of supporting all gravity and wind loads for the site conditions. A professional engineer must inspect and field verify this system, and must provide a signed and sealed letter of compliance as documentation.



# Elevated Roof-Mounted Decks

## Technical Bulletin FH 2022-03

### First Release:

July 5, 2022

### Prepared by:

Mark Zehnal  
Director, FORTIFIED Roof

Julie Lowrey  
FORTIFIED Director of Engineering

Mary Uher  
FORTIFIED Field Services Director

### Applicable Standards:

FORTIFIED Home™–Hurricane  
FORTIFIED Home™–High Wind

### Applicable Designation Level:



## Compliance Verification Requirements

- Photos showing the full roof-mounted deck 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 Roof™ level designation are met.
- For **new construction** Silver and Gold, CLP compliance documentation from engineer and installing contractor must include roof-mounted deck.
- For **existing construction** Silver and Gold, signed and sealed letter of compliance from a licensed professional engineer confirming that the attachment of the deck to the roof structure can support all gravity and wind loads for the site conditions.

## 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](#)