



Bulletin No. 2017-04

First Release:

December 12, 2017

Prepared by:

Fred Malik, Vice President,
FORTIFIED Programs

Applicable Standards:

FORTIFIED Home™—Hurricane
FORTIFIED Home™—High Wind
FORTIFIED Home™—High Wind & Hail
FORTIFIED for Safer Living™

Applicable Designation Level:



Eligibility Requirements and Retrofit Requirements for Elevated-Floor (Not Slab-on-Grade) Houses

Applicable Conditions

1. Dry stack foundations: all house types
2. All elevated-floor home-to-foundation connections

Abstract

This technical bulletin is intended to clarify FORTIFIED Home™ requirements that relate to a home’s foundation and the need for the home to have a positive connection to the foundation in order to be eligible for a FORTIFIED Home designation. The criteria included are requirements for any and all FORTIFIED Home designations and are not limited to FORTIFIED Home Gold designations which address the continuous load path.

Requirements

Dry Stack Foundations

A dry stack foundation is defined as a foundation constructed of unrestrained stacked masonry or stone.

Eligibility: Homes that are supported by a dry stack foundation are ineligible for any level of FORTIFIED Home designation unless the home is retrofitted so that it is supported by and attached to a permanent foundation capable of resisting the design level wind uplift and lateral forces on the building.

All Foundations

To be eligible for designation or re-designation under the FORTIFIED Home program, homes with elevated floors (not slab-on-grade construction) must have adequate positive connections from the floor or wall structure to the supporting foundation, e.g. homes on piers or pilings must have a connection from the



Eligibility Requirements—Foundations

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piers/pilings to the perimeter beams of the house. All connectors must be free from damage, corrosion-resistant (if applicable) in accordance with Appendix D of the FORTIFIED Home—Hurricane standards, and installed per the connector manufacturer’s installation instructions.

HUD-Code Manufactured Home Foundations

Foundation must meet the design wind load requirements with no more than ¼-in. lateral deflection. Requirements specified in the U.S. Department of Housing and Urban Development (HUD) Permanent Foundation Guide for Manufactured Housing (HUD-4930.3G) dated September 1996 or later provide useful assistance in identifying suitable foundation options. Based on results of past inspections of home installations that were reported as permanent, the following requirements of the HUD Guide and FORTIFIED Home requirements are emphasized and are part of the Field Evaluation inspection.

1. Screw-in soil anchors are not considered a permanent anchorage and cannot be used as any part of the required permanent foundation unless their heads are restrained from lateral movement by embedment in a reinforced concrete footing or concrete slab.
2. All concrete masonry unit (CMU) bearing walls, piers and columns, as well as any units used as part of systems to resist uplift, overturning and lateral loads must be composed of reinforced concrete masonry with mortared bed and head joints. Cells with reinforcing must be fully grouted. Dry-stacking of CMU is not allowed.
3. All bearing walls, piers and columns must be installed on and connected to acceptable footings or a concrete slab. Footings and slabs must be protected from the effects of frost heave by extending below the frost line or by using a frost protected shallow foundation design.
4. Walls and piers used as part of the uplift, overturning or lateral load-resisting system must include adequately sized connections and elements capable of resisting tension or compression loads as appropriate. Straps or cables are acceptable, provided they are connected to the home or its chassis and transfer the design loads to the slab or footings supporting the walls, piers or columns. Use



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of frictional resistance between the home or its chassis and the tops of the walls, piers or columns or between the bottom of the walls, piers or columns and the footings to resist lateral loads is not allowed.

Eligibility: Manufactured homes must be installed on a foundation designed and installed in accordance with the criteria outlined above. A certification attesting to compliance with the design requirements of the HUD Permanent Foundations Guide for Manufactured Housing (HUD-4930.3G) dated September 1996 or later, and the requirements outlined above must be provided by a licensed professional engineer or registered architect. A copy of the certification and foundation design must be provided before or during the Field Evaluation at the time of the house setting for reference by the inspector and submission to IBHS.

Documentation Requirements

A minimum of four (4) photographs of a home’s foundation is required. The photographs must be taken from four different locations around the perimeter of the home.

Photographs of connectors are required. If any damaged or corroded connectors are present, photographs of the damaged connector(s) need to be provided in the “General/Site Information” section of the evaluation form regardless of designation level being sought. Photographs can be added to the **Finished Elevation Photos** portion of the form.

For Evaluators Only: Evaluation Form Input

Photographs of the foundation and connectors from perimeter beam to foundation need to be uploaded in the “General/Site Information” section of the evaluation form regardless of designation level being sought. Photographs can be added to the **Finished Elevation Photos** portion of the form.