

**GIVE YOUR CUSTOMERS A STRONGER,
MORE RESILIENT ROOF.**



ROOFING CHECKLIST

HIGH WIND & HAIL



This checklist will familiarize you with the specific requirements of FORTIFIED Roof™, a superior yet affordable design and construction standard for roofing.

FORTIFIED HOME ROOFING CHECKLIST

1. Pre-Qualifications

- 1.1 Engage a [certified FORTIFIED evaluator](#). If you are seeking a FORTIFIED designation certificate, which is generally required for insurance discounts and/or tax incentives, you must work with an evaluator. This independent third-party inspector will verify the requirements of this checklist have been met and will submit the required documentation to IBHS.
- 1.2 FORTIFIED Roof™, FORTIFIED Silver™, and FORTIFIED Gold™ designations: minimum roof thickness is per Table 4.2 of the 2020 FORTIFIED Home Standard.

Table 4.2 Roof Sheathing Minimum Thickness Requirements for FORTIFIED Home – High Wind & Hail

Max. Roof Member Spacing	FORTIFIED Roof		FORTIFIED Silver		FORTIFIED Gold	
	ASCE 7-10	ASCE 7-16	ASCE 7-10	ASCE 7-16	ASCE 7-10	ASCE 7-16
16" O.C.	3/8"	3/8"	3/8"	3/8"	7/16"	7/16"
24" O.C.	7/16"	15/32"	7/16"	15/32"	7/16"	15/32"

- EXCEPTION: for new clay or concrete tile roofs, roof sheathing must have minimum thickness of 15/32 in. per the FRSA/TRI Florida High Wind Concrete and Clay Tile Installation Manual, Revised 5th Edition (for ASCE 7-10) or 6th Edition (for ASCE 7-16) requirements or greater thickness if required by tile manufacturer. For metal roof covers, verify manufacturer's sheathing thickness requirements are met.
 - NOTE: Local building code requirements for roof sheathing thickness may be more stringent based on-site conditions.
 - Refer to section 2.9 of 2020 FORTIFIED Home Standard for additional information regarding ASCE 7 editions referenced by different model building codes.
- 1.2.1 Roof decks with sheathing less than minimum thickness can be re-decked.^(3.1) Retrofit solutions provided by a professional engineer may be considered.

2. Roofing Scope

- 2.1 Is the home within 3,000 ft of saltwater shoreline water? **If yes**, hot-dip galvanized and/or stainless steel fasteners are required. See [Technical Bulletin FH 2018-01](#) and [FORTIFIED Standard Detail F-G-1](#) for more information.
- 2.2 Remove all existing roofing material. Replace any damaged wood.
- 2.3 [Nail the roof deck](#) with 8d ring-shank nails^(3.2) at 6 in. o.c. per [F-RR-4](#). **Documentation:** Photograph the fastener package and the spacing of the installed new fasteners in four locations, including at least one gable.
- 2.4 Seal the roof deck (choose one of the following three options).
 - 2.4.1 Option 1: [F-SRD-2 - Install a 4-in.-wide \(nominal\) roof deck flashing tape](#)^(3.4) over all roof sheathing panel seams and cover the deck with a #30 felt or an equivalent synthetic underlayment^(3.5). Note: [Attach underlayment](#) with button cap nails at 6 in. o.c. along the laps and 12 in. o.c. spacing, vertically and horizontally, between the laps. **Documentation:** Photograph (a) the tape installation and (b) the underlayment installation over the tape showing the button cap nail spacing^(3.6) (nails, not staples!).
 - OR -
 - 2.4.2 Option 2: [F-SRD-3 - Install a two-layer #30 felt underlayment system](#)^(3.7). Installation instructions for a two-layer #30 felt underlayment system: Cut 17 in. off one side of the roll and install the remaining 19-in.-wide strip of underlayment. Tack in place. Install a 36-in.-wide roll of underlayment over the 19-in.-wide course of underlayment along the eave. Continue, overlapping the sheets 19 in. (leaving a 17-in. exposure). Attach underlayment with button cap nails at 6 in. o.c. along the laps and 12 in. o.c. spacing, vertically



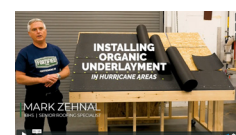
<https://vimeo.com/271121398>



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and horizontally, between the laps. **IMPORTANT NOTE: Synthetic underlayments do not qualify for this method. Documentation:** Photograph (a) laps and fasteners and (b) packaging label indicating ASTM designation of the underlayment.

-OR-

- 2.4.3 Option 3: [F-SRD-4](#) - [Install a self-adhered \(peel-and-stick\) membrane^{\(3.3\)}](#) over the entire roof deck. Recommend #15 felt as bond break between membrane and shingles. **Note:** Manufacturers emphasize the need for adequate attic ventilation when this type of membrane is applied over the entire roof. **Documentation:** Photograph the installed self-adhered underlayment.



<https://vimeo.com/303543202>

See [FORTIFIED General Flashing Guidelines for Steep-Sloped Roofs](#) for more information.

- 2.5 [Install proper flashing](#) at all penetrations and roof/wall intersections, at valleys, at gables and at eaves.
- 2.6 Install [drip edge^{\(3.8\)}](#) over the underlayment at rakes and eaves and fasten at 12 in. o.c. staggered per [F-DE-3](#). **Documentation:** Photograph the drip edge fastening.
- 2.7 Asphalt shingles



<https://vimeo.com/271160569>

- 2.7.1 [Starter strips adhered at the eave and rake](#). Either embed the starter strip in roofing cement or use self-adhered starter strips per [F-RC-1](#), [F-RC-2](#), [F-RC-3](#). **Documentation:** Photograph the starter strip installation.
- 2.7.2 Asphalt shingles^(3.9) must be ASTM D3161 (Class F) or ASTM D7158 (Class H) rated and be installed with six nails per high-wind installation instructions. **Documentation:** Photograph the section of the shingle package that shows the wind rating.



<https://vimeo.com/271122173>

- 2.7.3 **OPTIONAL HAIL SUPPLEMENT:** If seeking the optional Hail supplement to the FORTIFIED Home-High Wind designation, asphalt shingles must meet impact resistance requirements described in 3.10. **Documentation:** Photograph the shingle packaging with specific jobsite in view.



<https://vimeo.com/271122275>

NOTE: All other roof coverings (metal, tile, low-sloped roofs, wood shakes/shingles) must be rated and installed for the site-specific wind speed and design pressures corresponding to $V_{ult} = 130$ mph with Exposure C minimum.

OPTIONAL HAIL SUPPLEMENT: If seeking the optional Hail supplement to the FORTIFIED Home-High Wind designation, roof cover must meet impact resistance requirements described in 3.10. **Documentation:** Photograph the shingle packaging with specific jobsite in view.

IMPORTANT! After installation, the Roofing Compliance Form MUST be completed and provided to the FORTIFIED Evaluator.

3. Qualifying Products and Systems

- 3.1 For existing roof sheathing less than minimum required over 24 in rafter spacing - remove existing sheathing and install new roof sheathing meeting minimum thickness requirements directly to rafters/trusses per Section 2.3 or, if the existing sheathing is in good condition, install new roof sheathing meeting minimum thickness requirements over the existing sheathing by attaching to the rafters/trusses below using 10d ring-shank nails (0.120 in.x 3.0 in.) at 4 in. o.c.
- 3.2 8d ring-shank nails must be at least 0.113-in. diameter and 2-3/8-in. long.
- 3.3 Self-adhered membrane must meet ASTM D1970 requirements.
- 3.4 [Roof deck flashing](#) tape must be a 4-in.-wide (nominal) ASTM D1970 or 3-3/4-in. wide AAMA 711- 13, Level 3 compliant self-adhering flashing tape.
- 3.5 #30 felt or synthetic underlayment equivalent must be an ASTM D226 Type II or ASTM D4869 Type III or IV underlayment or a synthetic underlayment equivalent that has an ICC approval as ASTM D226 Type II and meets ASTM D4869 section 8.6 water shower test.

ADDITIONAL
INFORMATION

[2020 Standard](#)
[Standard Details](#)

- ASTM D6757 is an acceptable alternate underlayment in lieu of ASTM D226 Type II and ASTM D4869 Types III and IV for the following situations:
 - 2.4.1 Option 1 for asphalt shingles only
 - 2.4.2 Option 2 for asphalt shingles only

- 3.6 Button cap nails must be annular-ring or deformed-shank roofing fasteners with minimum 1-in.-diameter caps.
- 3.7 #30 felt must be an ASTM D226 Type II or ASTM D4869 Type III or IV organic felt underlayment (ASTM D6757 is an acceptable alternate as described in section 3.5). Synthetic underlayments are not allowed for the two-layer system. Installation instructions for a two-layer #30 felt underlayment system: Cut 17 in. off one side of the roll and install the remaining 19-in.-wide strip of underlayment. Tack in place. Install a 36-in.-wide roll of underlayment over the 19-in.-wide course of underlayment along the eave. Continue, overlapping the sheets 19-in. (leaving a 17-in. exposure).
- 3.8 Drip edge must extend ½ in. below sheathing and extend back on the roof a minimum of 2 in., overlap 3 in. at joints, meet code requirement for metal gauge, and be fastened at 12 in. o.c., staggered.
- 3.9 Asphalt shingles must have an ASTM D7158 Class H and/or ASTM D3161 Class F wind rating.

○ 3.10 **OPTIONAL HAIL SUPPLEMENT:** If seeking the optional Hail supplement to the FORTIFIED Home-High Wind designation, roof coverings must be rated as Impact Resistant.

- 3.10.1 Asphalt shingles must be ranked Good or Excellent in [IBHS's Hail Impact Standard Ratings](#).
- 3.10.2 Metal roof panels must be rated UL 2218 Class 4
- 3.10.3 Roof tiles must FM 4473 Class 4
- 3.10.4 Low slope roofing must be rated either UL 2218 Class 4 or FM 4470 with a Class 1-SH or 1-VSH

NOTE: For asphalt shingle products that have not yet been tested by IBHS, and therefore do not appear on the IBHS Impact Ratings List, documentation must indicate that the products are polymer-modified and have either a UL 2218 Class 4 rating or FM 4473 Class 4 rating to be eligible.

○ 3.11 **OPTIONAL HAIL SUPPLEMENT:** If seeking the optional Hail supplement to the FORTIFIED Home-High Wind designation, roof accessories must be rated as Impact Resistant.

- 3.11.1 Skylights must meet one of the following ratings
 - ASTM E1886 cyclic pressure test requirements and be ASTM E1996 missile impacted rated "B," "C," "D," or "E"
 - FM Approved per ANSI/FM 4431 with Severe Hail Rating
 - Miami-Dade County Approved (MDCA) with current Notice of Acceptance
- 3.11.2 Solar Panels
 - Flexible PV modules must be FM Approved for hail or meet FM 4476 that includes a Severe Hail rating
 - Rigid PV modules that are FM Approved for hail or meet FM 4478 that includes a Class 4 rating
 - Rigid modules that meet UL 1703 Standards for Flat-Plate Photovoltaic Modules and Panels



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