NOTE: Local building code requirements for roof sheathing thickness may be more stringent based on site conditions. Refer to section 2.9 for additional information regarding ASCE 7 editions referenced by different model building codes.

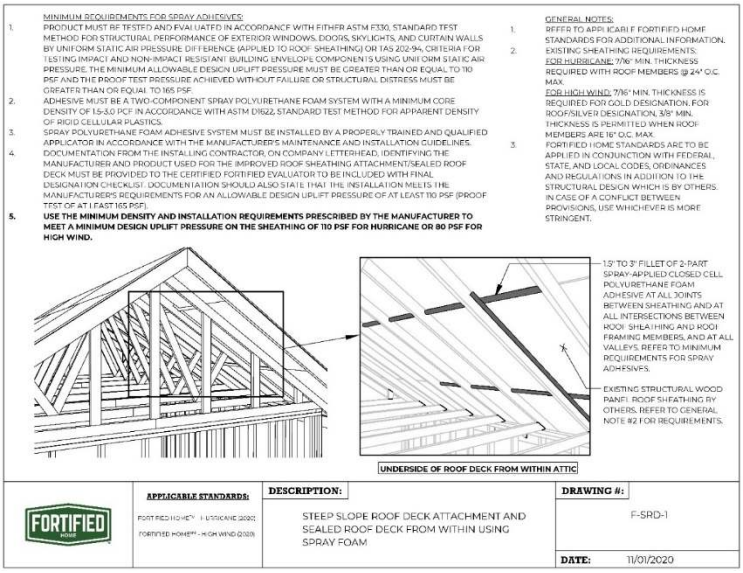
- ☐ The existing roof cover does not show visible signs of damage or deterioration.
- ☐ There is only one layer of roof covering.
  - **NOTE**: Although some jurisdictions allow a new roof to be installed over an existing roof, FORTIFIED requires existing roof covering be removed to the deck before installing a new roof cover system.
- ☐ Existing roof covering is estimated to have at least 5 years of useful life remaining
- ☐ There is adequate access to the attic to allow application of closed-cell spray urethane-based foam adhesives along joints between sheathing and roof framing members as well as along all seams between the roof sheathing panels.
- ☐ Drip edge is installed.

For FORTIFIED Hail Supplement requirements, refer to section 7.2 or 7.3 as applicable.

3.2 Sealing and Strengthening of Roof Deck

- ☐ Apply ASTM or TAS tested 2-part, spray polyurethane foam adhesive to the underside of the roof deck in accordance with FORTIFIED Standard Detail **F-SRD-1** “Roof Deck Attachment and Sealed Roof Deck from Within Using Spray Foam” (refer to Appendix A).

Figure 3.1. Closed-cell polyurethane foam adhesive applied to underside of roof sheathing



F-SRD-1

Closed-Cell Polyurethane Foam Adhesive Minimum Requirements

- ☐ 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 202-94, 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 and the proof test pressure achieved without failure or structural distress must be greater than or equal to 165 psf.

- ☐ Adhesive 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.

- ☐ Documentation from the installing contractor, on company letterhead, identifying the manufacturer and product used for the improved roof sheathing attachment/sealed roof deck must be provided to the certified FORTIFIED Evaluator to be included with final designation checklist. Documentation should also state that the installation meets the manufacturer's requirements for an allowable design uplift pressure of at least 110 psf (proof test of at least 165 psf).

Closed-Cell Polyurethane Foam Adhesive Installation

To provide enhanced roof sheathing attachment and to seal the roof deck, apply a 1.5- to 3-in. fillet of 2-part spray-applied polyurethane foam adhesive to:

- ☐ All joints between sheathing
- ☐ All intersections between roof sheathing and roof framing members
- ☐ All valleys

Spray adhesive application shall comply with the manufacturer's installation requirements and the density shall not be less than that required by the manufacturer to meet a minimum design uplift pressure on the sheathing of the following:

For Hurricane designation: 110 psf

For High Wind designation: 80 psf

☐ **EXCEPTION**: If it can be demonstrated through inspection and documentation that the roof sheathing attachment meets or exceeds one of the following requirements AND that a qualified sealed roof deck system is installed, then the installation of closed-cell foam is not required:

1. Wood board roof deck must meet or exceed the requirements of FORTIFIED Standard Detail **F-RS-1** "Roof Deck Attachment – Sawn Lumber or Wood Board Roof Deck with No Gaps" (refer to Appendix A).

2. Structural wood panel sheathing must meet or exceed the requirements of:

   For Hurricane designation: FORTIFIED Standard Detail **F-RS-2** "Hurricane – New Construction Roof Deck Attachment – Structural Wood Panels" (refer to Appendix A)

   For High Wind designation: FORTIFIED Standard Detail **F-RS-3** "High Wind – New Construction Roof Deck Attachment – Structural Wood Panels" (refer to Appendix A)

3. Roof sheathing attachment meets or exceeds the requirements outlined in Appendix B1.

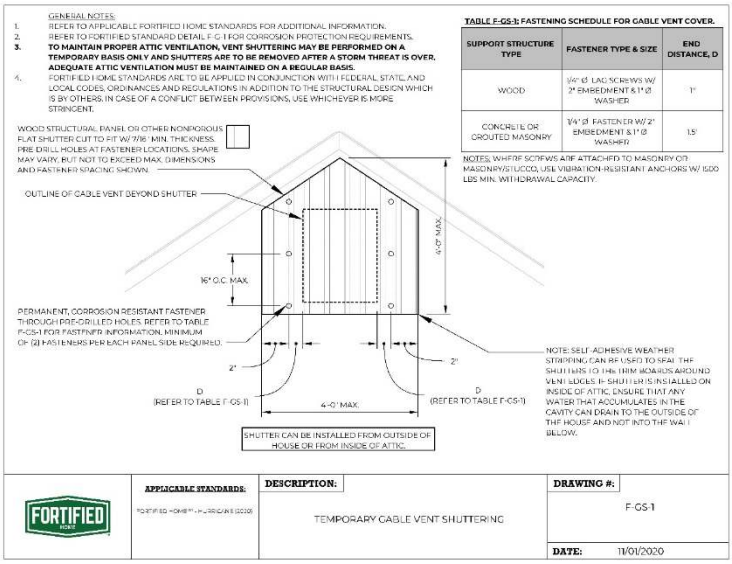
3.3 Attic Vents and Covers (Hurricane Designation Only)

- ☐ Ridge and off-ridge vents must be TAS 100(A) rated and anchored to the roof in compliance with manufacturer recommended installation for high winds.
- ☐ Gable end vents must have removable shutters in accordance with FORTIFIED Standard Detail F-GS-1 "Gable Vent Shuttering" (refer to Appendix A), and homeowner must be made aware that installation of shutters is temporary and that shutters must be removed once the hurricane threat has passed.

Figure 3.2. Example of a gable end vent with Plywood

Figure 3.3. Outside shuttering of a gable end vent

Figure 3.4. Shuttering of gable end vent from inside attic



F-GS-1