



Technical Bulletin FC 2018-01

First Release:

March 27, 2018

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Applicable Standards:

FORTIFIED Commercial™–Hurricane
FORTIFIED Commercial™–High Wind
& Hail

Applicable Designation Level:



Steep-Slope (>10°) Structural Wood Panel (Oriented Strand Board [OSB] or Plywood) Roof Sheathing Attachment

Abstract

This document is intended to provide additional guidance for the attachment of structural sheathing roof deck to wood framing for steep-slope applications.

Introduction

The FORTIFIED Commercial™ program is dedicated to providing stronger, more resilient steep-slope roof systems. The attachment and assessment of the structural wood panel (oriented strand board [OSB] or plywood) roof sheathing shall follow the methods described in this document. The outlined requirements are based on the peak height (highest part) of the roof: 30 ft and below or above 30 ft.

The requirements in this bulletin are to be applied in conjunction with federal, state and local codes, ordinances and regulations. In case of a conflict between provisions, use whichever regulation is more stringent.

General Requirements

1. IBHS reserves the right to request additional calculations as deemed necessary to assess structural design.
2. This bulletin must be used in conjunction with the requirements of the FORTIFIED Commercial standards.
3. Roof sheathing shall be OSB or plywood with a minimum thickness of $\frac{7}{16}$ in.
4. Roof zones shall be designated in accordance with ASCE 7.
5. Roof dimension “a” shall be calculated in accordance with ASCE 7.



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Sheathing Fastening Requirements

Table 1 describes the fastening requirements for OSB and plywood sheathing on steep-sloped (>10°) wood framing members. Calculations for fasteners are not required for buildings with roof peak height less than 30 ft (see table 1 for peak height definition). Provide fastener information and spacing on the FORTIFIED Commercial Project Construction Form & Compliance Checklist.

Table 1: Sheathing Fastening

Roof Peak Height ^A	Max Roof Member Spacing	Sheathing Thickness	Fastener Type	Fastener Spacing Along Structural Members ^C		
				Field	Perimeter	Corner
H ≤ 30 ft	24 in. o.c.	7/16–5/8 in.	8d ring shank nails	6 in.	6 in.	4 in.
		> 5/8 in.	10d ring shank nails	6 in.	6 in.	4 in.
H > 30 ft	24 in. o.c.	7/16–5/8 in.	Fasteners designed by engineer ^B	Must meet the roof design load requirements, §3.1.1.3, of the FORTIFIED Commercial standards and lateral loads provided by ASCE 7. Calculations must be submitted and signed by licensed structural engineer. ^D		
		> 5/8 in.				

- Roof Peak Height refers to the dimension of the tallest part of the roof from grade.
- All fasteners shall be ring shank nails or screws unless otherwise noted and approved by IBHS.
- For roof peak height less than or equal to 30 ft, gable ends shall be treated as a corner condition with dimension “a” from the edge. See figure 1.
- Provide calculations of the sheathing and fasteners for uplift and lateral loads (diaphragm action).



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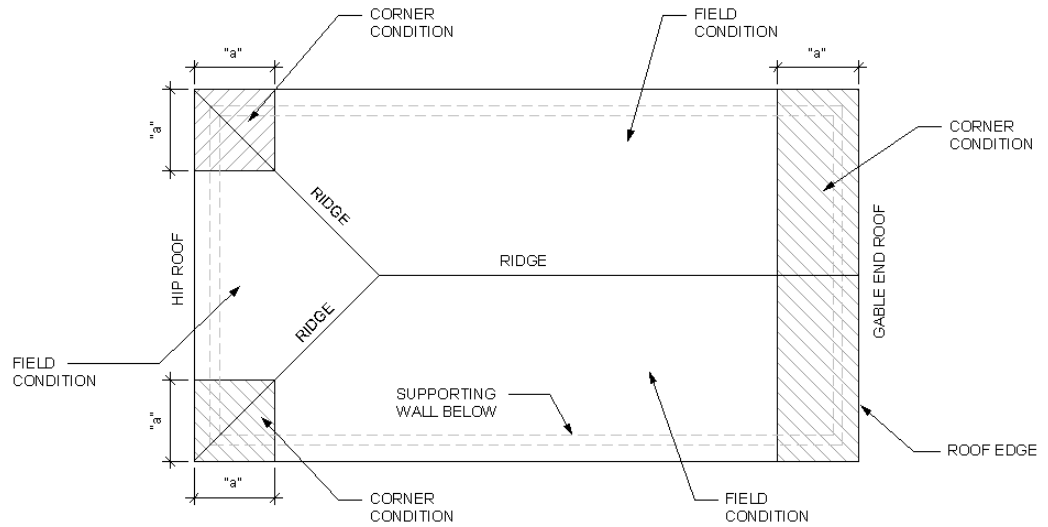
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ROOF PLAN VIEW

Figure 1: Roof Zones for Gable and Hip Roofs ($H \leq 30$ ft)