

Texas Revisions to the International Building Code

Chapter 15
Roof Assemblies and Rooftop Structures

Section 1507.2. 7 Revise section to read as follows:

1507.2.7 Attachment. Asphalt shingles shall have the minimum number of fasteners required by the manufacturer. For normal application, asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle or two fasteners per individual shingle. Where the roof slope exceeds 20 units vertical in 12 units horizontal (166-percent slope), special methods of fastening are required. For roofs located where the basic wind speed per Figure 1609 is 110 mph (177 km/h) or greater, special methods of fastening are required. Special fastening methods shall be tested in accordance with ASTM D 3161, modified to use a wind speed of 110 mph (177 km/h).

~~EXCEPTION: Asphalt strip shingles shall have a minimum of six fasteners per shingle where the roof is in one of the following categories.~~

- ~~1. The basic wind speed per Figure 1609(1) is 110 mph (177 km/h) or greater and the eave is 20 feet (6096 mm) or higher above grade.~~
- ~~2. The basic wind speed per Figure 1609(1) is 110 mph (177 km/h) or greater and the Importance Factor in Table 1609.5 is 1.15.~~
- ~~3. The basic wind speed per Figure 1609(1) is 120 mph (193 km/h) or greater.~~

Chapter 16
Structural Design

Section 1609.1.1 Revise Option No. 3 to read as follows:

3. Subject to the limitations of Section 1609.1.1.1, residential structures using the provisions of the *AF & PA Wood Frame Construction Manual for One- and Two-Family Dwellings, SBC High Wind 2001 Edition*.

Section 1609.1.1.1 Revise section to read as follows:

1609.1.1.1 Applicability. The provisions of SSTD 10 and the AF&PA Wood Frame Construction Manual for One and Two Family Dwellings, ~~SBC High Wind 2001 Edition~~ are applicable only to buildings located within Exposure A, B or C as defined in §1609.4. The provisions shall not apply to buildings sited on the upper half of an isolated hill, ridge or escarpment meeting the following conditions:

1. The hill, ridge or escarpment is 60 feet (18 288 mm) or higher if located in exposure B or 30 feet (9144 mm) or higher if located in exposure C;
2. The maximum average slope of the hill exceeds 10 percent; and
3. The hill, ridge or escarpment is unobstructed upwind by other such topographic features for a distance from the high point of 50 times the height of the hill or 1 mile (1.61 km), whichever is greater.

Section 1609.1.4 Revise section to read as follows:

1609.1.4 Protection of openings. For structures located in the Inland II area as adopted by the Texas Department of Insurance, protection of exterior openings from windborne debris is not required. For structures located in the Inland I area as adopted by the Texas Department of Insurance, glazed exterior openings in the lower 60 feet (18 288 mm) in buildings shall be impact resistant or protected with an impact resistant covering. For structures located in the Seaward area as adopted by the Texas Department of Insurance, in wind-borne debris regions, all exterior openings glazing in the lower 60 feet (18 288 mm) in buildings shall be assumed to be openings unless such glazing is impact resistant or protected with an impact-resistant covering. Exterior openings shall include exterior windows, exterior doors, garage doors, and skylights. Exterior opening protection for windborne debris shall meeting the requirements of an approved impact-resisting standard or ASTM E 1996 and of ASTM E 1886 referenced therein as follows:

1. ~~Glazed Exterior~~ openings located within 30 feet (9144 mm) of grade shall meet the requirements of the Large Missile Test of ASTM E 1996.
2. ~~Glazed Exterior~~ openings located more than 30 feet (9144 mm) above grade shall meet the provisions of the Small Missile Test of ASTM E 1996.

The products for exterior openings shall be installed in accordance with the manufacturer's installation instructions for the manner in which they were tested for uniform static wind pressure resistance and for windborne debris resistance.

Exceptions:

1. For structures located in the Inland I area, wWood structural panels with a minimum thickness of 7/16 inch (11.1 mm) and maximum panel span of 8 feet

(2438 mm) are permitted for opening protection in one-and two-story buildings. Panels shall be precut to cover the glazed openings with attachment hardware provided. Attachments shall be designed to resist the components and cladding loads determined in accordance with the provisions of Section 1609.6.5. Attachment in accordance with Table 1609.1.4 is permitted for buildings with a mean roof height of 33 feet (10 058 mm) or less where wind speeds (3-second gust) do not exceed 130 miles per hour.

TABLE 1609.1.4
 WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE
 FOR WOOD STRUCTURAL PANELS USED IN THE INLAND I AREA^{a,b,c}

FASTENER TYPE	FASTENER SPACING		
	Panel span ≤ 4 foot	4 foot < panel span ≤ 6 foot	6 foot < panel span ≤ 8 foot
2-1/2" #6 Wood screws	16"	12"	9"
2-1/2" #8 Wood screws	16"	16"	12"

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.454 kg,
 1 mile per hour = 0.44 m/s.

- {a} This table is based on a maximum wind speed (3 second gust) of 130 mph and a 33-foot mean roof height.
- {b} Fasteners shall be installed at opposing ends of the wood structural panel.
- {c} Where screws are attached to masonry or masonry/stucco, they shall be attached utilizing vibration-resistant anchors having a minimum ultimate withdrawal capacity of 490 pounds.

2. For structures located in the Seaward area, wood structural panels with a minimum thickness of 15/32 inch (11.9 mm) shall be permitted for opening protection in one-and two-story buildings. Panels shall be precut to cover the exterior openings with attachment hardware provided. The panels and their attachment to the structure shall meet the requirements of the large missile test using either an approved impact-resisting standard or ASTM E 1996 and ASTM E 1886 referenced therein. The panels shall be installed in accordance with the manner in which they were tested for uniform static wind pressure resistance and for windborne debris resistance.

Chapter 35
Referenced Standards

Chapter 35 Revise chapter to read as follows:

AFPA	American Forest and Paper Association 111 19 th Street, NW, #800 Washington, DC 20036
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Standard Reference Number	Title	Referenced in code section number
AF&PA/ASCE 16-95	Standard for Load and Resistance Factor Design (LRFD) for Engineered Wood Construction	2307.1
No. 4-89	Plank and Beam Framing for Residential Buildings	2306.1.2
WFCM	Wood Frame Construction Manual for One- and Two- Family Dwellings 1995 SBC High-wind 2001 Edition, Copyright 2001	1609.1.1, 2308.2
Technical Report 7-87	Basic Requirements for Permanent Wood Foundation System	R401.1
AFPA NDS-2001	Wood Construction-Design Values for Wood Construction	720.6.3.2, 1715.1.1 1715.1.4, 1805.4.5, 1808.1, 2306.2.1, 2306.3.2, Table 2306.3.1, Table 2306.4.1, 2306.3.4, 2306.3.5, 2306.4.1 2308.2.1, Table 2308.9.3(4)
AF&PA	Span Tables for Joists and Rafters	2306.1.1, 2308.8, 2308.10.2, 2308.10.3
