

# Help Weather The Storm With LP® SmartSide®

Wind, rain, snow, sleet, ice and hot weather challenge the siding on any home. LP SmartSide Trim & Siding are made with exterior grade resins that create strong bonds designed to withstand harsh weather elements and offer greater impact resistance than leading fiber cement products and vinyl siding alternatives. This makes it an ideal choice for homeowners who would rather spend time enjoying their home than worrying about it.

### Table 1 — Designing for High Winds

#### A comparison:

- Blind nailed
- 8" or 8-1/4" widths
- 16" o.c. stud application
- All data sourced from Texas Department of Insurance (TDI) Product Evaluation Reports

	TDI Product Evaluation	Allowable Design Pressure	Fastener Blind Nailed	Wood Studs 2x4 at 16" o.c.	
LP SmartSide 8" Precision Series 38 Lap	EC-22	79 psf	8d Box H: 0.297" S: 0.113" L: 2-1/2"	Spruce-Pine-Fir	
Maxi-Plank® 8-1/4" lap	EC-56	31 psf	11 gauge roofing nail H: 3/8" S: 0.120" L: 2"	Douglas Fir-Larch	
CertainTeed 8-1/4" lap	EC-16	40 psf	6d H: 3/8" S: 0.120" L: 2"	Spruce-Pine-Fir	
James Hardie 8-1/4" lap	EC-23	33.7 psf	11 gauge roofing nail H: 3/8" S: 0.120" L:1-3/4"	Douglas Fir-Larch	

This chart reflects information publicly available on the Texas Department of Insurance (TDI) website. TDI has not approved or sanctioned the use of this information for advertising purposes. TDI does not recommend any specific product for use in high wind zones or otherwise. Information on additional exterior siding products can be found at www.tdi.texas.gov.



To choose proper cladding options for high wind zones like those covered by the Texas Department of Insurance's Wind Storm Inspection Program, you'll need a few details:

- Building height
- Exposure category
- Wind speed requirement

Let's locate the pounds per square foot (psf) required for an example home in the TDI Designated Catastrophe Area:

- 30' building height
- Exposure C
- 130 mph 3-second gust required in TDI "Seaward" zone

Table 2, below, is an excerpt from the Engineered Wood Association (APA) Technical Topic TT-109 that summarizes Component and Cladding. Zone 5 suction pressures per ASCE 7. ASCE 7 is a referenced document in the I-codes.

Notice that Table 2 is set for a building height of 30 feet and Exposure B. Since our building is in exposure C, we'll have an additional step.

- 130 mph = 40.7 psf (exposure B)
- For a 30' building height, the adjustment factor from exposure B to exposure C is 1.4
- 40.7 x 1.4 = 56.98 or 57 psf

For this example, siding with a design pressure of 57 psf or greater is required. **LP SmartSide Siding meets this requirement.** 

## Table 2 — Zone 5 Siding Attachment Requirements for Suction Based on the 2006 and 2009

International Residential Codes (IRC) (Based on a mean roof height of 30 feet and located in Exposure B)

Wind Speed (mph)	85	90	100	105	110	120	125	130	140	145	150	170
Withdrawal Requirement (psf)	17.4	19.5	24.1	26.6	29.1	34.7	37.6	40.7	47.2	50.6	54.2	69.6

Footnotes to Table 2:

- (a) An effective wind area of 10 sq. ft. was used in accordance with Footnote (a) to Table R301.2(2) of the 2006 and 2009 IRC.
- (b) For other mean roof heights and wind exposures, values in the table above shall be multiplied by the adjustment factors in Table 3.

\*The example is intended to show a comparison of siding products with similar application attributes. Many factors influence siding design pressure including fastener size, fastener patterns, roof height and siding width among them. Any of the products listed may see an increase or decrease in their allowable design pressure by varying these factors.

#### Table 3 — Adjustment Factors

Mean	Exposure				
Roof Height (ft.)	В	С	D		
15	1.00	1.21	1.47		
20	1.00	1.29	1.55		
25	1.00	1.35	1.61		
30	1.00	1.40	1.66		
35	1.05	1.45	1.70		
40	1.09	1.49	1.75		
45	1.12	1.53	1.78		
50	1.16	1.56	1.81		
55	1.19	1.59	1.84		
60	1.22	1.62	1.87		