

**LP[®] SmartSide[®] Strand Substrate
Soffit and Rated Sheathing/Ceiling Deck
Louisiana-Pacific Corporation**

PR-N117(M)

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Product: LP[®] SmartSide[®] Strand Substrate Soffit and Rated Sheathing/Ceiling Deck
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1. Basis of the product report:
 - 2018, 2015, 2012, and 2009 International Building Code: Section 104.11 Alternative materials
 - 2018, 2015, 2012, and 2009 International Residential Code: Section R104.11 Alternative materials
 - DOC PS 2-18 Performance Standard for Wood Structural Panels
 - APA PRP-108 Performance Standards and Qualification Policy for Structural-Use Panels
 - ANSI/AWC SDPWS-2015 Special Design Provisions for Wind and Seismic
 - ASCE 7-16, ASCE 7-10, and ASCE 7-05 Minimum Design Loads for Buildings and Other Structures
 - APA Reports T92Q-17, T92Q-22, T94Q-17, T2000Q-21, T2007P-37, T2015Q-40, and T2015Q-41, and other qualification data

2. Product description:

Louisiana-Pacific Corporation SmartSide[®] Strand Substrate Soffit and Rated Sheathing/Ceiling Deck panels are made with strands of various wood species and strand classifications in accordance with the in-plant manufacturing standard approved by APA, overlaid with a resin treated paper, and available with either a smooth or embossed surface texture. SmartSide Strand Substrate Soffit panels and Rated Sheathing/Ceiling Deck panels are available in 7/16 and 19/32 Performance Categories, corresponding to nominal 9.5, 11 and 15-mm thicknesses. They are available as 1,220 x 2,440-mm or 1,220 x 2,745-mm panels or cut to 305, 405 or 610-mm widths, and in lengths up to 4.9 m. The panels are treated with Zinc Borate for decay and insect resistance. The efficacy of the preservative treatment is outside the scope of this report and the APA certification program. The soffit panels are intended for use as closed soffits at a 610 mm o.c. span rating with the panel strength axis perpendicular to supports. The Rated Sheathing/Ceiling Deck panels are intended for use as open soffits at a 610 mm (roof)/0 mm (subfloor) or 610 mm (roof)/405 mm (subfloor) span rating with the panel strength axis perpendicular to supports.

Vented soffit products are available in a 3/8 Performance Category (nominal 9.5 mm thickness), widths of 205, 305, 405 or 610-mm and lengths up to 4.9 m. Refer to the manufacturer's literature for details on the configuration of the vented soffits products.

3. Design properties:

Design wind loads for non-vented LP SmartSide Strand Substrate Soffit products are listed in Tables 1 and 2 based on the design procedures in ASCE 7-05, and ASCE 7-10 and ASCE 7-16, respectively.

4. Product installation:

LP SmartSide Strand Substrate Soffit and Rated Sheathing/Ceiling Deck shall be installed in accordance with the recommendations provided by the manufacturer (www.lpcorp.com/products/siding/lp-smartside-trim-siding/) and APA *Engineered Wood Construction Guide*, Form E30 (www.apawood.org/resource-library). The maximum span

for shall be in accordance with the Span Rating (shown in inches) in the trademark the intended application.

5. Fire-resistant construction:
Wood structural panels that are not fire-retardant-treated have been shown to meet a Class III (or C) category for flame spread. Unless otherwise specified, fire-resistant construction shall be in accordance with the recommendations provided in *APA Fire-Rated Systems*, Form W305 (see link above). Vented soffit products shall not be used in fire-resistant construction.
6. Limitations:
 - a) LP SmartSide Strand Substrate Soffit panels shall be used only as closed soffits at a 610 mm o.c. span rating with the panel strength axis perpendicular to supports.
 - b) LP® SmartSide Strand Substrate Rated Sheathing/Ceiling Deck panels shall be used only for open soffits or sheathing at a 610 mm (roof)/0 mm (subfloor) or 610 mm (roof)/405 mm (subfloor) span rating (refer to trademark) with the panel strength axis perpendicular to supports.
 - c) LP® SmartSide Strand Substrate Soffit used outdoors must be finished in accordance with recommendations provided by the manufacturer and *APA Engineered Wood Construction Guide*, Form E30 (see links above).
 - d) LP® SmartSide Strand Substrate Soffit and Rated Sheathing/Ceiling Deck panels are produced at Louisiana-Pacific Corporation facilities in Hayward, WI, Newberry, MI, Tomahawk, WI, Two Harbors, MN, and Swan Valley, MB under a quality assurance program audited by APA. The efficacy of the preservative treatment is outside the scope of this report and the APA certification program
 - e) This report is subject to re-examination in one year.
7. Identification:
LP SmartSide Strand Substrate Soffit and Rated Sheathing/Ceiling Deck panels described in this report are identified by a label bearing the manufacturer's name (Louisiana-Pacific Corporation) and/or trademark, the APA assigned plant number (357 for the Hayward plant, 416 for the Newberry plant, 435 for the Tomahawk plant, 399 for the Two Harbors plant, or 457 for the Swan Valley plant), the Performance Category, the Span Rating, the Exposure Rating, the APA logo, the report number PR-N117, and a means of identifying the date of manufacture.

Table 1. **Maximum nominal (allowable) design wind speed, V_{asd} , (m/s – 3-second gust) permitted for non-vented LP SmartSide Strand Substrate Soffit^(a)**

Minimum Nail Size ^(d)	Performance Category	Minimum Nominal Panel Thickness (mm)	Support Spacing ^(b) (mm)	Panel Nail Spacing		Maximum Allowable Wind Pressure (Pa)	Maximum Nominal (Allowable) Wind Speed, V_{asd} ^(c) (m/s)		
				Edges (mm o.c.)	Field (mm o.c.)		Wind Exposure Category		
							B	C	D
6d nonstaining corrosion-resistant box (2.5 x 51 mm) Min. nail head diameter = 6.8 mm	3/8	9.5	405	150	305	1,485	49	40	38
					150	2,970	67	58	54
			610	150	305	1,005	40	NP ^(e)	NP ^(e)
					150	2,010	58	49	45
8d nonstaining corrosion-resistant box (2.9 x 63.5 mm) Min. nail head diameter = 7.5 mm	3/8	9.5	405	150	305	2,200	58	49	47
					150	4,405	76	67	67
			610	150	305	1,485	49	40	38
					150	2,920	67	58	54
8d nonstaining corrosion-resistant box (2.9 x 63.5 mm) Min. nail head diameter = 7.5 mm	7/16	11	405	150	305	2,155	58	49	47
					150	4,260	76	67	65
			610	150	305	1,435	49	40	38
					150	2,825	67	58	54
8d nonstaining corrosion-resistant box (2.9 x 63.5 mm) Min. nail head diameter = 7.5 mm	19/32	15	405	150	305	1,965	58	49	45
					150	3,925	76	67	63
			610	150	305	1,295	47	40	NP ^(e)
					150	2,635	67	56	49
			405	150	305	2,775	67	58	54
					150	5,555	76	76	67
610	150	305	1,865	56	47	40			
		150	3,685	76	67	58			

For imperial units: 1 mm = 0.039 inch, 1 Pa = 0.021 psf, 1 m/s = 2.24 mph.

- ^(a) Panels shall be applied with strength axis across supports.
- ^(b) Supporting framing must have a minimum specific gravity of 0.42.
- ^(c) Table is based on wind pressures acting toward and away from building surfaces, at 9.1-m height in Zone 5 with smallest effective area per Chapter 6 of ASCE 7-05, Section R301.2.1 of the 2012 and 2009 IRC, and Section 1609.1.1 of the 2009 IBC.
- ^(d) Fasteners shall be a hot-dipped galvanized (ASTM A153) or equivalent, plain (smooth) shank nails. Fastener dimensions are as specified in ASTM F1667.
- ^(e) NP = Not permitted.

Table 2. Maximum ultimate design wind speed, V_{ult} , (m/s – 3-second gust) permitted for non-vented LP SmartSide Strand Substrate Soffit^(a)

Minimum Nail Size ^(e)	Performance Category	Minimum Nominal Panel Thickness (mm)	Support Spacing ^(b) (mm)	Panel Nail Spacing		Maximum Ultimate Wind Pressure (Pa)	Maximum Ultimate Design Wind Speed, V_{ult} ^(c) (m/s)		
				Edges (mm o.c.)	Field (mm o.c.)		Wind Exposure Category		
							B	C	D
6d nonstaining corrosion-resistant box (2.5 x 51 mm) Min. nail head diameter = 6.8 mm	3/8	9.5	405	150	305	2,490	63	54	49
					150	4,980	89 ^(d)	72	72
			610	150	305	1,675	51	NP ^(f)	NP ^(f)
					150	3,305	72	63	58
8d nonstaining corrosion-resistant box (2.9 x 63.5 mm) Min. nail head diameter = 7.5 mm	3/8	9.5	405	150	305	3,685	72	67	58
					150	7,325	89 ^(d)	89 ^(d)	80
			610	150	305	2,440	63	54	49
					150	4,885	89 ^(d)	72	67
8d nonstaining corrosion-resistant box (2.9 x 63.5 mm) Min. nail head diameter = 7.5 mm	7/16	11	405	150	305	3,545	72	63	58
					150	7,135	89 ^(d)	89	80
			610	150	305	2,395	63	54	49
					150	4,740	89 ^(d)	72	67
8d nonstaining corrosion-resistant box (2.9 x 63.5 mm) Min. nail head diameter = 7.5 mm	19/32	15	405	150	305	3,305	72	63	58
					150	6,560	89 ^(d)	89 ^(d)	80
			610	150	305	2,200	58	51	NP ^(f)
					150	4,405	80	72	67
			405	150	305	4,595	80	72	67
					150	9,240	89 ^(d)	89 ^(d)	89 ^(d)
610	150	305	3,065	72	58	54			
		150	6,130	89 ^(d)	80	72			

For imperial units: 1 mm = 0.039 inch, 1 Pa = 0.021 psf, 1 m/s = 2.24 mph.

^(a) Panels shall be applied with strength axis across supports.

^(b) Supporting framing must have a minimum specific gravity of 0.42.

^(c) Table is based on wind pressures acting toward and away from building surfaces, at 9.1-m height in Zone 5 with smallest effective area per Chapter 26 of ASCE 7-16 and ASCE 7-10, Section R301.2.1 of the 2018 and 2015 IRC, and Section 1609.1.1 of the 2018, 2015, and 2012 IBC.

^(d) Table R301.2(2) of the 2018 and 2015 IRC is limited to a maximum ultimate design wind speed, V_{ult} , of 180 mph (80 m/s).

^(e) Fasteners shall be a hot-dipped galvanized (ASTM A153) or equivalent, plain (smooth) shank nails. Fastener dimensions are as specified in ASTM F1667.

^(f) NP = Not permitted.

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