

LP BuilderSeries[®] Treated-Engineered-Wood Lap Siding
Louisiana-Pacific Corporation

PR-N140
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Product: LP BuilderSeries[®] Treated-Engineered-Wood Lap Siding
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1. Basis of the product report:
 - 2021, 2018, 2015, and 2012 International Building Code: Section 104.11 Alternative materials
 - 2021, 2018, 2015, and 2012 International Residential Code: Section R104.11 Alternative materials
 - ASCE 7-16 and ASCE 7-10 Minimum Design Loads for Buildings and Other Structures
 - APA PRP-108 Performance Standards and Qualification Policy for Wood Structural Panels
 - APA Report T2021Q-01 and other qualification data.

2. Product description:

Louisiana-Pacific Corporation LP BuilderSeries[®] Treated-Engineered-Wood Lap Siding is an oriented strand board (OSB) overlaid with a resin-treated paper and contains an embossed surface texture and the SmartLock™ self-aligning feature. The siding is treated with Zinc Borate for decay and insect resistance. The efficacy of the preservative treatment of LP BuilderSeries Treated-Engineered-Wood Lap Siding is outside the scope of this report and the APA certification program. All edges are factory sealed with a primer.

LP BuilderSeries lap siding is available in the 5/16 Performance Category with a nominal width of 8 inches and in lengths up to 12 feet in length. The lap siding shall be installed horizontally.

3. Design properties:

Design wind loads for LP BuilderSeries lap siding when installed over the facer of structural insulated panels (SIPs) or wood structural panel (WSP) sheathing are listed in Tables 1a and 1b for the allowable wind speed and ultimate wind speed, respectively.

Design wind loads for LP BuilderSeries lap siding when installed directly to wood studs with different nail sizes for the allowable wind speed and ultimate wind speed are shown in Tables 2a, 2b, 2c, and 2d, respectively.

4. Product installation:

LP BuilderSeries Lap Siding shall be installed in accordance with recommendations provided by the manufacturer (lpcorp.com/resources/product-literature/installation-instructions/lp-builderseries-lap-siding-application-instructions) and APA *Engineered Wood Construction Guide*, Form E30 (www.apawood.org/resource-library), as applicable. LP BuilderSeries Treated-Engineered-Wood Lap Siding shall be installed directly to wood studs at a stud spacing of 16 inches on center or less, installed over wood structural panel sheathing that is attached to wood studs at a stud spacing of 24 inches on center or less, or installed directly to the facer of SIPs.

5. Fire-resistant construction:

Wood structural panels that are not fire-retardant-treated have been shown to meet Class III (or C) category for flame spread.

6. Limitations:
 - a) LP BuilderSeries Lap Siding used outdoors must be finished in accordance with recommendations provided by the manufacturer and APA *Engineered Wood Construction Guide*, Form E30 (see link above), as applicable.
 - b) LP BuilderSeries Lap Siding shall be installed horizontally.
 - c) LP BuilderSeries Lap Siding shall be installed directly to wood studs at a stud spacing of 16 inches on center or less, installed over wood structural panel sheathing that is attached to wood studs at a stud spacing of 24 inches on center or less, or installed directly to the facer of SIPs.
 - d) The efficacy of the preservative treatment to LP BuilderSeries Lap Siding is outside the scope of this report and the APA certification program.
 - e) LP BuilderSeries Lap Siding is produced at Louisiana-Pacific Corporation facility in Dawson Creek, BC, under a quality assurance program audited by APA.
 - f) This report is subject to re-examination in one year.

7. Identification:

LP BuilderSeries Treated-Engineered-Wood Lap Siding described in this report is identified by a label bearing the manufacturer's name (Louisiana-Pacific Corporation) and/or trademark, the APA assigned plant number (402 for the Dawson Creek, BC plant), the product Performance Category, the Span Rating, the Exposure Rating, the APA logo, the report number PR-N140, and a means of identifying the date of manufacture.

Table 1a. **Maximum $V_{asd}^{(a)}$** for LP BuilderSeries Lap Siding Installed Horizontally to SIPs^(b) or WSP Sheathing^(c)

Minimum Performance Category	Max. Ring Shank Nail Spacing ^(d) (inches)	Siding Width (inches)	Max. Allowable Wind Pressure (psf)	Maximum $V_{asd}^{(e)}$ (mph)		
				Wind Exposure Category		
				B	C	D
5/16	8	8	80	170	150	140
	12	8	62	150	130	120

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

- (a) The tabulated values represent the capacity of the LP BuilderSeries Lap Siding installed in accordance with the requirements of this table. **The tabulated wind speed shall not exceed the SIP capacity for wind load resistance.**
- (b) The facer of the structural insulated panels (SIPs) shall be 7/16 Performance Category or thicker OSB sheathing meeting DOC PS 2 requirements.
- (c) Wood structural panel (WSP) sheathing shall be minimum 7/16 Performance Category OSB or Group 1 plywood meeting DOC PS 1 or DOC PS 2 requirements.
- (d) Fasteners shall be a hot-dip galvanized **ring shank** nail, with a minimum shank diameter of 0.092 inch. Length shall be long enough to fully penetrate wood structural facer panel. **Ring shank** fastener located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch.
- (e) Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area in accordance with Section R301.2.1 of the 2012 IRC.

Table 1b. **Maximum V_{ult} or $V^{(a)}$** for LP BuilderSeries Lap Siding Installed Horizontally to SIPs^(b) or WSP Sheathing^(c)

Minimum Performance Category	Max. Ring Shank Nail Spacing ^(d) (inches)	Siding Width (inches)	Max. Ultimate Wind Pressure (psf)	Maximum V_{ult} or $V^{(e)}$ (mph)		
				Wind Exposure Category		
				B	C	D
5/16	8	8	133	200 ^(f)	180	180
	12	8	104	200 ^(f)	170	160

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

- (a) The tabulated values represent the capacity of the LP BuilderSeries Lap Siding installed in accordance with the requirements of this table. **The tabulated wind speed shall not exceed the SIP capacity for wind load resistance.**
- (b) The facer of the structural insulated panels (SIPs) shall be 7/16 Performance Category or thicker OSB sheathing meeting DOC PS 2 requirements.
- (c) Wood structural panel (WSP) sheathing shall be minimum 7/16 Performance Category OSB or Group 1 plywood meeting DOC PS 1 or DOC PS 2 requirements.
- (d) Fasteners shall be a hot-dip galvanized **ring shank** nail, with a minimum shank diameter of 0.092 inch. Length shall be long enough to fully penetrate wood structural facer panel. **Ring shank** fastener located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch.
- (e) Wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area in accordance with Chapter 26 of ASCE 7-16 and ASCE 7-10, Section R301.2.1 of the 2021, 2018, and 2015 IRC, and Section 1609.1.1 of the 2021, 2018, 2015, and 2012 IBC.
- (f) Table R301.2.1(1) of the 2021 IRC and Table R301.2(2) of the 2018 and 2015 IRC is limited to a maximum ultimate design wind speed, V_{ult} , of 180 mph.

Table 2a. **Maximum $V_{asd}^{(a)}$** for LP BuilderSeries Lap Siding Installed Horizontally Directly to Wood Studs with 0.113-in.-Diameter Nails^(b)

Performance Category	Max. Stud Spacing ^(c) (inches)	Siding Width (inches)	Max. Allowable Wind Pressure (psf)	Maximum $V_{asd}^{(d)}$ (mph)		
				Wind Exposure Category		
				B	C	D
5/16	16	8	73	170	145	130

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

- (a) The tabulated values represent the capacity of the LP BuilderSeries Lap Siding installed in accordance with the requirements of this table. One fastener for each stud located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fasteners shall be a hot-dip galvanized plain (smooth) shank nail, with a minimum shank diameter of 0.113 inch, and long enough to penetrate studs or wood structural panels and studs a minimum of 2 inches. **Lap siding is not a bracing material.**
- (b) Fasteners shall be permitted to be substituted on a one-for-one basis if the fastener has a minimum overall allowable withdrawal capacity and allowable fastener head pull-through capacity of 57.0 lbf/fastener or greater based on the load duration factor of 1.6. The fastener shall meet or exceed the corrosion-resistance of hot-dip galvanized steel wire nails meeting the requirements of ASTM A153, Class D.
- (c) Wall studs must have a minimum specific gravity of 0.42.
- (d) Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area in accordance with Section R301.2.1 of the 2012 IRC.

Table 2b. **Maximum V_{ult} or $V^{(a)}$** for LP BuilderSeries Lap Siding Installed Horizontally Directly to Wood Studs with 0.113-in.-Diameter Nails^(b)

Performance Category	Max. Stud Spacing ^(c) (inches)	Siding Width (inches)	Max. Ultimate Wind Pressure (psf)	Maximum V_{ult} or $V^{(d)}$ (mph)		
				Wind Exposure Category		
				B	C	D
5/16	16	8	122	200 ^(e)	180	170

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

- (a) The tabulated values represent the capacity of the LP BuilderSeries Lap Siding installed in accordance with the requirements of this table. One fastener for each stud located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fasteners shall be a hot-dip galvanized plain (smooth) shank nail, with a minimum shank diameter of 0.113 inch, and long enough to penetrate studs or wood structural panels and studs a minimum of 2 inches. **Lap siding is not a bracing material.**
- (b) Fasteners shall be permitted to be substituted on a one-for-one basis if the fastener has a minimum overall allowable withdrawal capacity and allowable fastener head pull-through capacity of 57.0 lbf/fastener or greater based on the load duration factor of 1.6. The fastener shall meet or exceed the corrosion-resistance of hot-dip galvanized steel wire nails meeting the requirements of ASTM A153, Class D.
- (c) Wall studs must have a minimum specific gravity of 0.42.
- (d) Wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area in accordance with Chapter 26 of ASCE 7-16 and ASCE 7-10, Section R301.2.1 of the 2021, 2018, and 2015 IRC, and Section 1609.1.1 of the 2021, 2018, 2015, and 2012 IBC.
- (e) Table R301.2.1(1) of the 2021 IRC and Table R301.2(2) of the 2018 and 2015 IRC is limited to a maximum ultimate design wind speed, V_{ult} , of 180 mph.

Table 2c. **Maximum $V_{asd}^{(a)}$** for LP BuilderSeries Lap Siding Installed Horizontally Directly to Wood Studs with 0.092-in.-Diameter Nails^(b)

Performance Category	Max. Stud Spacing ^(c) (inches)	Siding Width (inches)	Max. Allowable Wind Pressure (psf)	Maximum $V_{asd}^{(d)}$ (mph)		
				Wind Exposure Category		
				B	C	D
5/16	16	8	45	130	110	105

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

- (a) The tabulated values represent the capacity of the LP BuilderSeries Lap Siding installed in accordance with the requirements of this table. One fastener for each stud located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fasteners shall be a hot-dip galvanized plain (smooth) shank nail, with a minimum shank diameter of 0.092 inch, and long enough to penetrate studs or wood structural panels and studs a minimum of 1.5 inches. **Lap siding is not a bracing material.**
- (b) Fasteners shall be permitted to be substituted on a one-for-one basis if the fastener has a minimum overall allowable withdrawal capacity and allowable fastener head pull-through capacity of 34.8 lbf/fastener or greater based on the load duration factor of 1.6. The fastener shall meet or exceed the corrosion-resistance of hot-dip galvanized steel wire nails meeting the requirements of ASTM A153, Class D.
- (c) Wall studs must have a minimum specific gravity of 0.42.
- (d) Three-second-gust; based on wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area in accordance with Section R301.2.1 of the 2012 IRC.

Table 2d. **Maximum V_{ult} or $V^{(a)}$** for LP BuilderSeries Lap Siding Installed Horizontally Directly to Wood Studs with 0.092in.-Diameter Nails^(b)

Performance Category	Max. Stud Spacing ^(c) (inches)	Siding Width (inches)	Max. Ultimate Wind Pressure (psf)	Maximum V_{ult} or $V^{(d)}$ (mph)		
				Wind Exposure Category		
				B	C	D
5/16	16	8	75	170	140	130

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.88 Pa, 1 mph = 0.447 m/s.

- (a) The tabulated values represent the capacity of the LP BuilderSeries Lap Siding installed in accordance with the requirements of this table. One fastener for each stud located 3/4 inch from the top edge of the siding. Each successive course of lap siding must overlap a minimum of 1 inch. Fasteners shall be a hot-dip galvanized plain (smooth) shank nail, with a minimum shank diameter of 0.092 inch, and long enough to penetrate studs or wood structural panels and studs a minimum of 1.5 inches. **Lap siding is not a bracing material.**
- (b) Fasteners shall be permitted to be substituted on a one-for-one basis if the fastener has a minimum overall allowable withdrawal capacity and allowable fastener head pull-through capacity of 34.8 lbf/fastener or greater based on the load duration factor of 1.6. The fastener shall meet or exceed the corrosion-resistance of hot-dip galvanized steel wire nails meeting the requirements of ASTM A153, Class D.
- (c) Wall studs must have a minimum specific gravity of 0.42.
- (d) Wind pressures acting toward and away from building surfaces, at 30-ft height in Zone 5 with smallest effective area in accordance with Chapter 26 of ASCE 7-16 and ASCE 7-10, Section R301.2.1 of the 2021, 2018, and 2015 IRC, and Section 1609.1.1 of the 2021, 2018, 2015, and 2012 IBC.

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