

LP OSB Sheathing



Manufacturer

LP

Product Description

Basic Uses

- OSB sheathing panels are designed for use in roof, wall and two-layer subfloor systems in commercial and residential projects, maintenance, remodeling or new construction.

Technical Data

Applicable Standards

OSB sheathing panels comply with the following industry standards and certifications.

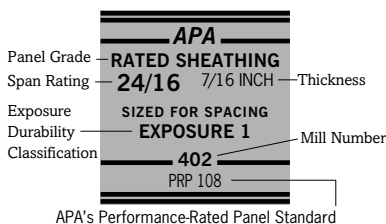
- The panels conform to the ICC Evaluation Service Legacy Report NER-108 for APA® – The Engineered Wood Association Performance Rating Standard PRP 108, and are approved under the APA Rated Sheathing Standard as follows:

Rated OSB Sheathing Roof Panels APA Span Ratings

Thickness	APA Span Rating	Max. Live Load for Roofs (lbs)**
3/8"	24/0	30
7/16"	24/16	40
15/32"	32/16	70
1/2"	32/16	70
19/32"	40/20	130
23/32"	48/24	175
1-1/8"	48 oc	290

** Live load for 24" oc span conditions. 10lb psf dead load assumed.

- The panels also conform to HUD "Use of Materials" Bulletin No. UM-40c. The panels carry the APA trademark:

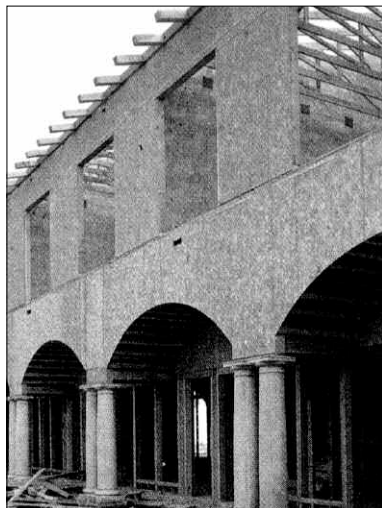


- Wall panels 7/16" thick may be used on studs spaced up to 24" oc.
- Some OSB sheathing panels 3/8" thick are available that carry APA Series Mobile Home Roof Sheathing Rating N-216R.
- OSB sheathing panels sold by LP in Canada meet or exceed the requirements established by the Canadian Standard Association CSA 0437 and/or CSA 0325.

Manufactured Home Installation

- Panels are available that carry APA Series Mobile Home Roof Sheathing Rating N-216R. Sheathing panels 3/8" thick may be installed perpendicular or parallel to supports, spaced a maximum of 16" oc, and will support a 30 psf live load without exceeding a deflection limit of 1/180. No edge support is required when applied with strength axis perpendicular to supports.

ORIENTED STRAND BOARD STRUCTURAL 1 SHEATHING PANELS



Manufacturer

LP

Product Description

Basic Uses

- LP's OSB Structural 1 sheathing panels are designed to perform as roof, sidewall and floor systems, where high wind or earthquake conditions may occur.
- OSB Structural 1 sheathing panels are equally suited for pitched or flat roof applications.
- OSB Structural 1 sheathing panels can be used in commercial and residential projects, such as industrial buildings, mobile and modular home construction or in any application requiring high strength and superior shear values.

Technical Properties

Top Notch OSB Sheathing complies with the following industry standards and certifications:

- LP OSB panels are APA-certified (The Engineered Wood Association), and are manufactured in conformance with APA PRP-108 and U.S. Voluntary Product Standard PS2. These standards are recognized in the Uniform Building Code, the International Building Code and the International Residential Code, and by the ICC Evaluation Legacy Report NER-108 and by HUD Use of Materials Bulletin No. 40c.
- LP OSB panels sold in Canada are also manufactured in conformance with CAN/CSA-0325, which is recognized in the National Building Code of Canada.

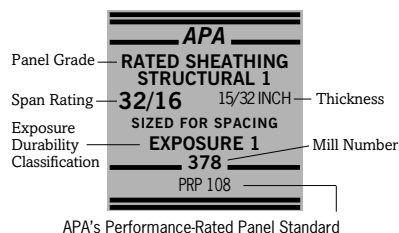
NOTE: Material Safety Data Sheets are available from the LP website: www.lpcorp.com.

OSB Structural 1 Rated Sheathing Roof Panels APA Span Ratings

Thickness	APA Span Rating	Max Live Load for Roofs (lbs)**
3/8"	24/0	30
7/16"	24/16	40
15/32"	32/16	70
1/2"	32/16	70

** Live load for 24" oc span conditions. 10lb psf dead load assumed.

- Wall panels 7/16" thick may be used in studs spaced up to 24" oc.
- Structural 1 OSB panels have superior maximum live load over standard OSB when installed with the long axis parallel to the structural supports.
- OSB sheathing panels sold by LP in Canada meet or exceed the requirements established by the Canadian Standard Association CSA 0325 and/or CSA 0427.



APA's Performance-Rated Panel Standard

- The panels also conform to HUD "Use of Materials" Bulletin No. UM-40c.

Fire Performance

- The surface burning characteristics of unfinished OSB panels have a Class C or Class 3 rating based on U.L. Control No. 11H7.

LP OSB Sheathing & Structural 1 Sheathing

ALLOWABLE SHEAR (POUNDS PER FOOT) FOR APA PANEL SHEAR WALLS WITH FRAMING OF DOUGLAS-FIR, LARCH, OR SOUTHERN PINE^(a) FOR WIND OR SEISMIC LOADING ^(b,h,i,j) (See also IBC table 2306.4.1)

Panel Grade	Minimum Nominal Panel Thickness (in.)	Minimum Nail Penetration in Framing (in.)	Panels Applied Direct to Framing				Panels Applied Over 1/2" or 5/8" Gypsum Sheathing					
			Nail Size (Common or Galvanized Box) (k)	Nail Spacing at Panel Edge (in.)				Nail Size (common or Galvanized Box) ^(k)	Nail Spacing at Panel Edges (in.)			
				6	4	3	2 ^(e)		6	4	3	2 ^(e)
APA	5/16	1-1/4	6d	200	300	390	510	8d	200	300	390	510
	3/8			230 ^(d)	360 ^(d)	460 ^(d)	610 ^(d)					
Structural I Grades	7/16	1-3/8	8d	255 ^(d)	395 ^(d)	505 ^(d)	670 ^(d)	10d	280	430	550 ^(f)	730
	15/32			280	430	550	730					
	15/32	1-1/2	10d	340	510	665 ^(f)	870	—	—	—	—	—

- (a) For framing of other species: (1) Find specific gravity for species of lumber in the AF&PA National Design Specification. (2) For common or galvanized box nails, find shear value from table above for nail size for actual grade. (3) Multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1 - (0.5-SG)], where SG = specific gravity of the framing. This adjustment shall not be greater than 1.
- (b) All panel edges backed with 2-inch nominal or wider framing. Install panels either horizontally or vertically. Space nails maximum 6 inches o.c. along intermediate framing members for 3/8-inch and 7/16-inch panels installed on studs spaced 24 inches o.c. For other conditions and panel thicknesses, space nails maximum 12 inches o.c. on intermediate supports. Fasteners shall be located 3/8 inch from panel edges.
- (c) 3/8-inch or APA RATED SIDING 16 o.c. is minimum recommended when applied direct to framing as exterior siding.
- (d) Shears may be increased to values shown for 15/32-inch sheathing with same nailing provided (1) studs are spaced a maximum of 16 inches o.c., or (2) if panels are applied with strength axis across studs.
- (e) Framing at adjoining panel edges shall be 3-inch nominal or wider, and nails shall be staggered where nails are spaced 2 inches o.c. Check local code for variations of these requirements.
- (f) Framing at adjoining panel edges shall be 3-inch nominal or wider, and nails shall be staggered where 10d nails (3" x 0.148") having penetration into framing of more than 1-1/2 inches are spaced 3 inches o.c. Check local code for variations of these requirements.

RECOMMENDED ROOF LOADS (PSF) FOR APA RATED SHEATHING WITH STRENGTH AXIS PARALLEL TO SUPPORTS ^{(e),(f)} (OSB, composite and 5-ply/5-layer plywood panels unless otherwise noted)

Panel Grade	Thickness (in.)	Span Rating	Maximum Span (in.)	Load at Maximum Span	
				Live	Total
APA Structural I Rated Sheathing	7/16	24/0, 24/16	24 ^(d)	20	30
	15/32	32/16	24	35 ^(e)	45 ^(e)
	1/2	32/16	24	40 ^(e)	50 ^(e)
	19/32, 5/8	40/20	24	70	80
	23/32, 3/4	48/24	24	90	100
APA Rated Sheathing	7/16 ^(b)	24/0, 24/16	16	40	50
	15/32 ^(b)	32/16	24 ^(d)	20	25
	1/2 ^(b)	24/0, 32/16	24 ^(d)	25	30
	19/32	40/20	24	40 ^(e)	50 ^(e)
	5/8	32/16, 40/20	24	45 ^(e)	55 ^(e)
	23/32, 3/4	40/20, 48/24	24	60 ^(e)	65 ^(e)

- (a) For 4-ply plywood marked PS 1, reduce load by 15 psf.
- (b) Composite panels must be 19/32 inch or thicker.
- (c) For composite and 4-ply plywood panels, reduce load by 15 psf.
- (d) Solid blocking recommended at panel ends for 24-inch span.
- (e) For guaranteed or warranted roofs, contact membrane manufacturer for acceptable deck.
- (f) Provide edge support.

LP OSB Sheathing & Structural 1 Sheathing

RECOMMENDED SHEAR (POUNDS PER FOOT) FOR HORIZONTAL APA PANEL DIAPHRAGMS WITH FRAMING OF DOUGLAS-FIR, LARCH OR SOUTHERN PINE^(a) FOR WIND OR SEISMIC LOADING

Panel Grade	Common Nail Size ^(b)	Minimum Nail Penetration in Framing (in.)	Minimum Nominal Panel Thickness (in.)	Minimum Nominal Width of Framing Member (in.)	Blocked Diaphragms				Unblocked Diaphragms		
					Nail Spacing (in.) at Diaphragm Boundaries at Continuous Panel Edges Parallel to Load and at All Panel Edges				Nails Spaced 6" Max. at Supported Edges ^(b)		
					6	4	2-1/2 ^(c)	2 ^(c)	Case 1 (No Unblocked Edges or Continuous Joints Parallel to Load)		All Other Configurations
					Nail Spacing (in.) at Other Panel Edges						
					6	6	4	3			
APA	8d	1-3/8	3/8	2	270	360	530	600	240	180	
				3	300	400	600	675	265	200	
Structural 1											
Grades	10d ^(e)	1-1/2	15/32	2	320	425	640	730	285	215	
				3	360	480	720	820	320	240	

- (a) For framing of other species: (1) Find specific gravity for species of lumber in the AFPA National Design Specification. (2) Find shear value from table above for nail size for actual grade. (3) Multiply value by the following adjustment factor: Specific Gravity Adjustment Factor = [1 - (0.5 - SG)], where SG = specific gravity of the framing. This adjustment shall not be greater than 1.
- (b) Space nails maximum 12 inches o.c. along intermediate framing members (6 in. o.c. when supports are spaced 48 in. o.c. or greater). Fasteners shall be located 3/8 inch from panel edges.
- (c) Framing at adjoining panel edges shall be 3-in. nominal or wider, and nails shall be staggered where nails are spaced 2 inches o.c. or 2-1/2 inches o.c.
- (d) Framing at adjoining panel edges shall be 3-in. nominal or wider, and nails shall be staggered where 10d nails having penetration into framing of more than 1-5/8 inches are spaced 3 inches o.c.
- (e) 8d is recommended minimum for roofs due to negative pressures of high winds.

Notes: Design for diaphragm stresses depends on direction of continuous panel joints with reference to load, not on direction of long dimension or strength axis of sheet. Continuous framing may be in either direction for blocked diaphragms

SHEATHING PANELS & ORIENTED STRAND BOARD STRUCTURAL 1 SHEATHING PANELS

Materials and Fabrication

- OSB sheathing panels are manufactured to be free of knots, grain defects, splits and other irregularities. The wood strands are mixed with binder, arranged in layers for maximum strength and stability and bonded under heat and pressure.
- OSB sheathing panels are of a consistent composition, easily handled, sound on both sides, and free of knots, core voids, splits and checks. They are coated on all four edges for added moisture resistance and dimensional stability.
- OSB sheathing roof panels have a coarse-textured surface that helps provide safe footing on pitched roofs.

Workability

- The panel may be fastened with nails, screws, adhesive or staples.
- NOTE: Consult your local building authorities regarding acceptability of fastening techniques.*
- The panels may be sawn cleanly, and may be routed or drilled with standard woodworking tools.

Sizes

- OSB sheathing panels are fabricated in standard 4' x 8' size, and in thicknesses ranging from 3/8" to 1-1/8". Sizes 4' x 9' and 4' x 10', and oversized panels are subject to availability.

LP OSB Sheathing & Structural 1 Sheathing

Limitations

- OSB SHEATHING PANELS ARE NOT FOR UNPROTECTED EXTERIOR USE; they must be covered with siding panels or other type of exterior wall cladding or roofing material. Normal exposure to weather during ordinary construction delays will not damage the panels. ADDITIONAL PROTECTIVE MEASURES ARE RECOMMENDED FOR EXTENDED ADVERSE WEATHER CONDITIONS.
EXCEPTION: Panels identified as Exposure 1 are designed to be used for roof sheathing where exposed on the underside such as on eaves.
- Slight surface flaking or thickness swells caused by excessive rain or brief exposure to standing water will not affect the panels' structural performance.

Physical Properties

- OSB sheathing wall panels provide sufficient racking strength to meet corner bracing requirements.
- Panels are stiff and strong and have a low coefficient of lineal expansion.
- For further technical and engineering information and Material Safety Data Sheets, contact your LP sales office listed under the Technical Services/ Sales Information section.

Environmental Impact

- LP building products are manufactured in accordance with the company's policy on protection of the environment which includes:
- Use of environmental control technology and energy efficient equipment to conserve resources.
 - Using process by-products to produce heat and electricity, thereby conserving nonrenewable energy sources.
 - Harvesting timberland following the soundest practices dictated by the ecological requirements of the specific type of forest.
 - Managing forests for fiber growth while also promoting biodiversity.
 - Developing and marketing products which do not require material from sensitive environments such as old growth forests.

Installation

General Requirements

- Comply with local safety regulations when installing roof, wall or subfloor sheathing.
- Comply with the following manufacturer's instructions and with APA's "Engineered Wood Construction Guide," Form No. E30T/Revised March 2005.

Storage and Handling

- Store panels in clean, dry areas off the ground. If possible, store indoors. If stored outside, cover with plastic sheets or tarps. Keep cover open and away from the sides and bottom of panels to allow for air circulation.
- Additional protective measures may be necessary during extended adverse weather conditions.

Roof Installation

- Install with the long dimension or strength axis of the panel across supports, and with the panel continuous over two or more spans.
- **Place skid-resistant side up. Wear skid-resistant shoes when installing roof sheathing.**
- Suitable edge support shall be provided where indicated on drawings by use of panel clips. Panel end joints shall occur over framing. Provide 1/8" minimum space at panel ends and edges.
- Nail 6" oc along supported panel edges and 12" oc at intermediate supports. Use 8d common nails for panels up to 1." For panels over 1," use 8d ring-shank or 10d common nails. Other code-approved fasteners may be used.
- Cover roof sheathing as soon as possible with roofing felt or shingle underlayment for protection against excessive moisture prior to roofing.
- Allow OSB sheathing to dry before installing roofing materials. Do not install roofing materials over wet substrate.

NOTE: Check with your local building department before deciding on an installation method.

Wall Installation

- OSB sheathing wall panels may be installed vertically or horizontally. In horizontal installations, stagger joints a minimum of one stud space.
- Provide 1/8" minimum space between panel ends and edges.
- Unless otherwise specified, for panels up to 1/2" thick, fasten with 6d common nails located 6" oc along supported panel edges, and 12" oc over intermediate supports. For panels 1" and thicker, fasten with 8d common smooth or ring-shank nails, spaced 6" along supported panel edges and ends and 12" oc over intermediate supports. Other code-approved fasteners may be used.
- In interior installation – garages or interior wall paneling – 3/8" thick panels may be applied to studs installed 24" oc. Provide a minimum 1/8" spacing between panel ends and edges.
- For further installation instructions refer to the APA "Engineered Wood Construction Guide." This publication is available from APA (253) 565-6600.

Availability

- OSB sheathing panels are available directly from LP's manufacturing plants by railcar, as well as piggyback and truckload shipment.

Call LP customer service or visit our web site for more information on OSB structural panels and other LP products.

Customer Service: 800.648.6893 www.lpcorp.com

Sales Offices:
Conroe, Texas 800.964.6310

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NOTE: LP periodically updates and revises its product information. To verify that this version is current, please contact the sales office listed above.

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