
Product Information & Installation Instructions

TuffStrand® OSB Sheathing

OSB Structural Panels from RoyOMartin

Installation Instructions: Site-Built and Modular Construction

Important notice to buyers and users of RoyOMartin OSB: These instructions are not intended to cover every installation contingency. If any questions or problems arise concerning the installation of this product or its suitability for the purchaser's particular use, inquiries should be made to RoyOMartin (www.royomartin.com).

The information about the products and application instructions printed herein is current at the time of publication; however, in accordance with RoyOMartin's policy of constant product improvement, the right is reserved to vary these application instructions and product specifications without notice. Please ask for the most recent product information when placing your order.

DESCRIPTION

TuffStrand® is an oriented strand board (OSB) structural panel made of wood strands aligned in three layers. Alternate layers are positioned at approximately right angles to one another. The layers are blended with resins and formed into continuous mats and bonded by heat and pressure. The orientation of strands creates a stable panel with greater strength in the long panel dimension than across the width. OSB sheathing panels are manufactured to be free of knots, core voids, grain defects, splits, and other irregularities. The panels are coated with a seal on all four (4) edges for added moisture resistance and dimensional stability. The panels also feature a coarse or rough textured surface that provides safer footing on pitched roofs.

STORAGE AND HANDLING

All OSB materials should be stored to avoid excessive moisture pick-up and must be covered and kept free from construction dust and moisture during storage and installation. Inspect the protective bag when received, if provided, for tears and repair with staples and/or tape before storing. Store in a warehouse under cover of a roof or on concrete floors three (3) inches off the ground, remembering to rotate unit inventories frequently. When stored outdoors, cover panels loosely with a protective material. Clear or similar-type plastic covering is not recommended. If plastic or tarps are used, anchor them on top of the unit, keeping them away from the sides and bottom to ensure good air circulation and ventilation around the panels. Cut the banding on the unit to prevent edge damage. Allow 24 hours for panels to acclimatize to the surrounding environmental conditions prior to installation. Exposure to rain, snow or similar elements compromises product performance and may void the warranty.

TuffStrand® OSB structural panels are intended for protected construction applications. If subjected to rain or standing water during normal construction, the panel edges may swell, and mild surface roughening may occur. These reactions are normal when compressed wood products are exposed to water. If edge swelling and surface roughening are encountered, touch-sand panels where necessary after they dry.

Use reasonable care to avoid dropping panels on the edges, as chipping and damage to corners may occur. If you expect to transport the panels with a forklift, put the product on a pallet or supports to minimize panel damage from fork tines.

WORKABILITY

Utilize standard woodworking tools to saw, drill, and rout TuffStrand® OSB structural panels.

CERTIFICATION

TuffStrand® OSB structural panels are certified by APA-The Engineered Wood Association and are manufactured in conformance with APA PRP-108 and U.S. Voluntary Product Standard PS2. The panels conform to the ICC Evaluation Service Legacy Report NER-108 for APA and are approved under the APA Rated Sheathing Standard.

FIRE RATING

TuffStrand® OSB is generically recognized as having a Class C or Class 3 fire rating without need for test or label by: HUD/FHA Manual of Acceptable Practices, Section 405-8 to the Minimum Property Standards. Interpretive Bulletin C-1-76 to the HUD Manufactured Home Construction and Safety Standards.

APPLICATIONS

TuffStrand® OSB structural panels are ideally suited for roof sheathing, wall sheathing, and two-layer sub-floor systems in commercial and residential building projects, and some utility applications.

CODE COMPLIANCE

TuffStrand® OSB structural panels meet or exceed APA requirements and are recognized in the Uniform Building Code, the International Building Code, and the International Residential Code, and by the HUD Use of Materials Bulletin Number UM-40c.

AVAILABLE SIZES AND THICKNESSES

Thickness (product classes)		Width (nominal inches)	Length (nominal inches)	Pieces (unit)
7/16	11mm	48"	96"	84
7/16	11mm	48"	97 1/8'	84
7/16	11mm	48"	108"	82
7/16	11mm	48"	109 1/8"	82
7/16	11mm	48"	120"	87
7/16	11mm	48"	121 1/8"	87
7/16	11mm	48"	145 1/8"	62
15/32	12mm	48"	96"	74
15/32	12mm	48"	108"	74
15/32	12mm	48"	120"	76
19/32	15mm	48"	All	63

*Eclipse™ piece count varies, please ask your sales representative.

SPAN RATING

7/16	(11 mm)	24/16
15/32	(12 mm)	32/16
19/32	(15 mm)	40/20

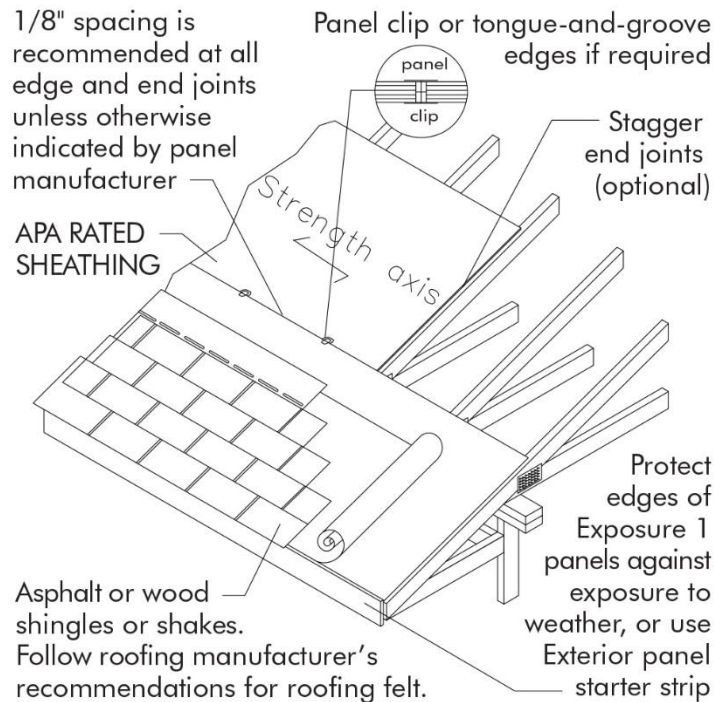
INSTALLATION

Roof Sheathing Installation

- Install with the long dimension or strength axis perpendicular to framing member and with the panel continuous over two or more spans.
- Edge support shall be provided where indicated on drawings by use of panel clips.
- Panel end joints shall occur over framing member. Provide 1/8" minimum gap along the 8' edge and 1/8" minimum gap along the 4' end (See APA Panel Roof Sheathing diagram on the following page).
- Stagger end joints in succeeding panel rows a minimum of one support spacing.
- Nail 6" O.C. along supported panel edges and 12" O.C. at intermediate supports. Use 8d common nails for panels up to 1". For panels exceeding 1", use 8d ring shank or 10d common nails. Other code-approved fasteners may be used.
- Panels must be protected upon installation by an approved weatherproof material. An "approved weatherproof material" is material or a combination of materials such as asphalt-impregnated felt and asphalt shingles or similar materials currently accepted by model code authorities and existing standards for the intended application.
- TuffStrand® OSB may be extremely slippery when wet, covered with frost, ice or snow or when covered with sawdust. Installers should always place the skid-resistant side up, wear rubber soled or skid-resistant shoes, and exercise extreme caution when installing roof sheathing.
- For more information, visit www.apawood.org.

**If OSB is exposed to moisture, allow all the panels to dry before installing roofing materials. Do not install roofing materials over wet substrate.*

APA PANEL ROOF SHEATHING



Notes:

1. Cover sheathing as soon as possible with roofing felt for extra protection against excessive moisture prior to roofing application.
2. For pitched roofs, place screened surface or side with skid-resistant coating up if OSB panels are used. Keep roof surface free of dirt, sawdust and debris, and wear skid-resistant shoes when installing roof sheathing.
3. For buildings with conventionally framed roofs (trusses or rafters), limit the length of continuous sections of roof area to 80 feet maximum during construction to allow for accumulated expansion in wet weather conditions. Omit roof sheathing panels in each course of sheathing between sections and install "fill in" panels later to complete roof deck installation prior to applying roofing.

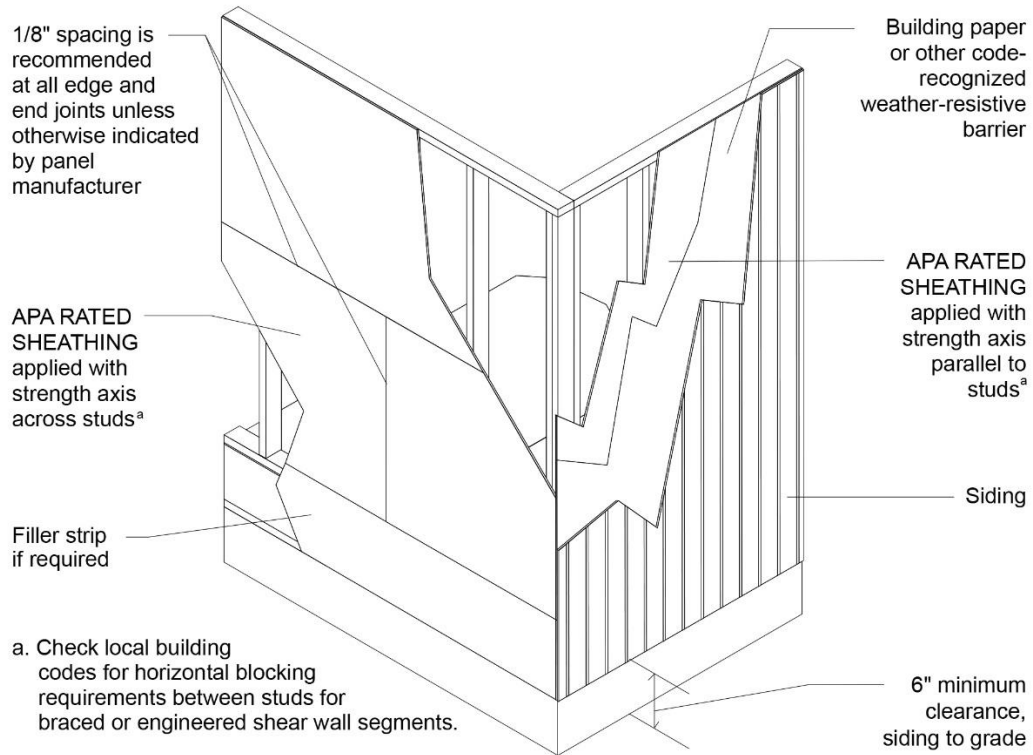
Wall Sheathing Installation

- OSB sheathing wall panels may be installed vertically or horizontally. In horizontal installations, stagger joints a minimum of one stud space.
- TuffStrand® OSB wall sheathing may be applied directly to studs without the need for corner bracing to resist racking loads.
- Provide a minimum 1/8" gap between panel edges. Provide a minimum 3/4" expansion joint where panels run continuous for 80' or more.
- Unless otherwise stated, for panels up to 1/2" thick, fasten with 6d common nails located 6" O.C. along supported panel edges, and 12" O.C. over intermediate supports. For panels 1" and thicker, fasten with 8d common or ring shank nails spaced 6" O.C. along supported panel edges and ends and 12" O.C. over intermediate supports. Other code approved fasteners may be used.
- Sheathing must be covered with a weather-resistant cladding, such as any commercially available exterior grade siding.

- A 3/4" space is required on the bottom edge or end of the panel, not allowing panel to rest directly on the floor.
- The bottom of the panel should be a minimum of 6" off the ground.
- For more information, visit www.apawood.org.

**TuffStrand® OSB structural panels are not recommended for residential siding or applications requiring surface primers or paint.*

APA PANEL WALL SHEATHING



UTILITY

TuffStrand® OSB structural panels may be used for interior paneling and a wide range of non-code compliance applications. Use a fastener whose length will penetrate the framing member by at least 1". Space fasteners 6" O.C. at the perimeter and 12" O.C. at intermediate locations. Provide 1/8" minimum gap along the supported panel edges and ends.

Cutouts

Cutouts for plumbing and electrical components shall be oversized by at least 1/4" to avoid a force fit. DO NOT PUNCH HOLES in TuffStrand® OSB.

Fastening

Fasten panels to within 3/8" of panel edges using the fastener size and spacing recommended in the application tables. See APA tables on the following pages for additional information or visit www.apawood.org.

TABLE 34
Recommended Uniform Roof Live Loads for APA RATED SHEATHING^a and
APA RATED STURD-I-FLOOR With Strength Axis Perpendicular to Supports^b

Panel Span Rating	Minimum Panel Performance Category	Maximum Span (in.)		Allowable Live Loads (psf) ^d							
		With Edge Support ^c	Without Edge Support	Spacing of Supports Center-to-Center (in.)							
				12	16	20	24	32	40	48	60
APA RATED SHEATHING ^A											
12/0	3/8	12	12	30							
16/0	3/8	16	16	70	30						
20/0	3/8	19.2	19.2	120	50	30					
24/0	3/8	24	19.2 ^e	190	100	60	30				
24/16	7/16	24	24	190	100	65	40				
32/16	15/32	32	28	300	165	110	65	30			
40/20	19/32	40	32	—	275	195	120	60	30		
48/24	23/32	48	36	—	—	270	175	95	45	30	
60/32 ^f	7/8	60	40	—	—	—	305	165	100	70	35
60/48 ^f	1-1/8	60	48	—	—	—	305	165	100	70	35
APA RATED STURD-I-FLOOR ^g											
16 oc	19/32	24	24	185	100	65	40				
20 oc	19/32	32	32	270	150	100	60	30			
24 oc	23/32	48	36	—	240	160	100	50	30	20	
32 oc	7/8	48	40	—	—	295	185	100	55	35	
48 oc	1-3/32	60	48	—	—	—	290	160	100	65	40

- a. Includes APA RATED SHEATHING/CEILING DECK.
- b. Applies to APA RATED SHEATHING and APA RATED STURD-I-FLOOR panels 24 inches or wider applied over two or more spans.
- c. Tongue-and-groove edges, panel edge clips (one midway* between each support, except two equally spaced between supports 48 inches on center or greater), lumber blocking, or other. For low slope roofs, see Table 35. *No established tolerance.
- d. 10 psf dead load assumed.
- e. 19.2 inches for Performance Category 3/8 and 7/16 panels. 24 inches for Performance Category 15/32 and 1/2 panels.
- f. Check with supplier for availability.
- g. Also applies to C-C Plugged grade plywood.

Table 22
APA Rated Sheathing Applied Direct-to-Studs^{A,B,C}

Minimum Nail ^d		Minimum Wood Structural Panel Span Rating	Minimum Panel Performance Category	Wall Stud Spacing (in.)	Panel Nail Spacing		Ultimate Design Wind Speed (mph)		
Shank Diameter (in.)	Minimum Penetration (in.)				Edges (in. o.c.)	Field (in. o.c.)	Wind Exposure Category		
						B	C	D	
0.113	1.5	24/0, Wall-16 and Wall-24	3/8	16	6	12	140	115	110
						12	140	130	115
		24/16, Wall-24	7/16	16	6	6	190	160	140
0.131	1.75	24/16, Wall-24	7/16	16	6	12	170	140	135
				6		6	190	160	140
				24 or less	6	12	140	115	110

- Panel strength axis parallel or perpendicular to supports. Three-ply plywood sheathing with studs spaced more than 16 inches on center shall be applied with panel strength axis perpendicular to supports.
- Table is based on wind pressures acting toward and away from building surfaces, at 30-ft height in wall Zone 5 (corners) with smallest effective area, per Chapter 30 of ASCE 7-10 and Section R301.2 of the 2015 IRC, stud specific gravity = 0.42.
- Supported panel joints shall occur approximately along the center line of framing with a minimum bearing of 1/2 inch.
- See Table 6, page 14, for nail dimensions.

TABLE 36
RECOMMENDED MINIMUM FASTENING SCHEDULE FOR APA PANEL ROOF SHEATHING
(Increased nail schedules may be required in high wind zones and where roof is engineered as a diaphragm.)

Panel Performance Category ^c	Size ^d	Nailing ^{a,b}	
		Maximum Spacing (in.)	
		Supported Panel Edges ^e	Intermediate
3/8 – 1	8d	6	12 ^f
1-1/8	8d or 10d	6	12 ^f

- Use common smooth or deformed shank nails for panels with Performance Category 1 or smaller. For 1-1/8 Performance Category panels, use 8d ring- or screw-shank or 10d common smooth-shank nails.
- Other code-approved fasteners may be used.
- For stapling asphalt shingles to Performance Category 3/8 and thicker panels, use staples with a 15/16-inch minimum crown width and a 1-inch leg length. Space according to shingle manufacturer's recommendations.
- See Table 6, page 14, for nail dimensions.
- Supported panel joints shall occur approximately along the centerline of framing with a minimum bearing of 1/2". Fasteners shall be located 3/8 inch from panel edges.
- For spans 48 inches or greater, space nails 6 inches at all supports.

ADDITIONAL INFORMATION

Visit APA - The Engineered Wood Association (www.apawood.org) for additional instructions and recommendations on more aggressive nailing patterns to minimize buckling of wood structural panels. RoyOMartin's products are strength designed to work best with nailing patterns 6" on center on all panel edges and 12" in the intermediate portion of the panel. If local code nailing patterns require a tighter nailing pattern, please refer to APA's suggested nailing instructions. Nail to 12" or 24" on center at ends, edges and intermediate supports, allow panels to acclimate to normal local conditions and just before the finish wall covering is applied, then nail to local code's tighter nailing pattern. Failure to follow these guidelines will most commonly result in severe buckling and is not a result of manufacturing or product performance. In the case where these instructions cannot be followed, RoyOMartin recommends its 7/16" panel with a 24/16 span rating.

Always nail panel edges 3/8" from panel edges. Failure to nail to this requirement will result in a highlighted edge raising, and in the case of more than normal wetting, severe edge swell and is not a result of manufacturing or product performance.

RoyOMartin OSB is a wood-based product and caution should be used in storage of these products, as wetting will cause wood to swell. RoyOMartin's OSB is shipped, when provided, to these areas individually bagged; we suggest RoyOMartin panels be kept covered until point of installation.

Failure to follow responsible installation and handling instructions is not a manufacturing issue. If proper installation and/or handling procedures are not followed, it is not the responsibility of the manufacturer.

California Prop 65 Warning: Drilling, sawing, sanding or machining wood products generates wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or otherwise determine what safeguards or personal protection equipment may be necessary to prevent inhaling wood dust.