

**PWT
TREATED™**
TREATED RIGHT™
BY PWT™

INSTALLATION GUIDE

TREATED
ENGINEERED
WOOD PRODUCTS

PWT FOCUSED ON EWP

PWT
pwtewp.com/treated

IMPORTANT NOTE: PWT Treated is Laminated Veneer Lumber rated for exterior use (UC3B— non-ground contact). PWT Treated LVL has a moisture content of 6-8% when it leaves the factory. It is imperative that PWT Treated LVL remains protected from precipitation and high humidity until it is installed. Once installed and flashed as stated in the installation guidelines, it will remain dimensionally stable for many years to come.

PWT5038 24-0314

Limited 25-Year Warranty

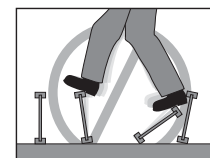
PWT Treated™ LVL is covered by our Limited 25-year transferable warranty, which is available at pwtewp.com. The warranty requires the installation of flashing tape at the time of installation. For the product catalog, complete warranty details, or more information on the full line of PWT products or the nearest distributor, visit pwtewp.com.

Safety and Construction Precautions

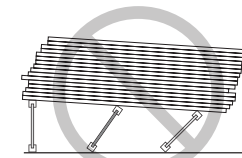
Failure to follow proper procedures for handling, storage and installation could result in unsatisfactory performance, unsafe structures and possible collapse.

These instructions are offered as a guide to good practice in the handling, storage and installation of PWT Treated LVL. They are, however, solely general recommendations and, in some instances, other or additional precautions may be desirable. In all cases, the procedures used should be as specified by the architect/engineer responsible for the entire building.

- This guide is not intended for product selection, and assumes that all components and details have been correctly specified.
- Consult the PWT Treated LVL brochures, technical guides, or contact your PWT products distributor for assistance.
- All rim joists, blocking, connections, and temporary bracing must be installed before workers are allowed on the structure.
- During installation, a minimum of 1 x 4 temporary bracing is required.
- Bracing members should be spaced at 8'-0" o.c. and nailed to each joist with two 8d nails (10d box nails if bracing thickness exceeds 1").
- Lap bracing ends and anchor them to temporary or permanent sheathing or decking nailed to the first 4' of joists at the end of the bay or a braced end wall.
- The ends of cantilevers must be temporarily braced on both the top and bottom of joist.
- Only remove the bracing as the sheathing or decking is attached.
- No loads other than the weight of the workers are to be imposed on the structure before it is permanently and completely assembled including the decking.
- After the installation of the decking, do not overload joists with construction materials exceeding design loads.



Do not allow workers to walk on joists until joists are fully installed and braced, or serious injuries can result.

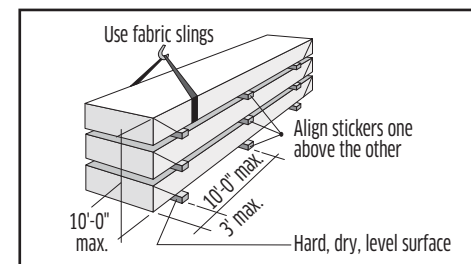


Never stack building materials over unsheathed joists. Stack only over joists or walls.

Storage Guidelines

- **KEEP PWT TREATED LVL DRY.**
- Unload products carefully by lifting. Support the bundles to reduce excessive bowing. Individual products should be handled in a manner which prevents physical damage during measuring, cutting, erection, etc.
- Keep stored in wrapped and strapped bundles, stacked no more than 10' high. Support and separate bundles with 2 x 4 (or larger) stickers spaced no more than 10' apart. Keep stickers in line vertically.
- Product must not be stored in contact with the ground, or have prolonged exposure to the weather during storage.
- Use forklifts and cranes carefully to avoid damaging product.
- Do not use visually damaged product. Call your local PWT distributor, or call (800) 515-7570 for assistance when damaged products are encountered.

Bundles must be protected from moisture by remaining strapped, wrapped, or stored under cover until installed.



Maintenance in Exterior Applications (including, but not limited to, deck substructures)

- PWT Treated LVL must not be installed or become in contact with the ground. Regular efforts must be made to remove debris buildup around wood members, metal connectors, and fasteners. Mold, fungi, and mildew cause discoloration of the wood surface (commonly appearing as a colored, fuzzy, or powdery surface growth) that can quickly spread over surfaces with high moisture levels. Mold and mildew will not impact the strength or stiffness of a wood member, but the presence of mold indicates a high moisture condition.
- Excessive moisture content for long periods can cause damage to any exterior-use wood product.

Installation and Maintenance Requirements

Do not use visually damaged products without first checking with your local PWT distributor or call (800) 515-7570.

Except for sill plates, stair stringers, and ledgers, the LVL must be used for permanent construction applications only, above ground, at least 8 inches above the ground and/or ground cover and/or ground vegetation and/or splash zone, completely separated from concrete and other porous materials by using a barrier material impermeable to water in accordance with this Installation Guide. Sill plates must be separated by a sill plate gasket in proper installations to avoid direct contact with concrete and the ground. Ledger must be separated from concrete by sill gasket or self-adhering butyl or rubberized-asphalt flashing. Stair stringers must be installed with a 1" standoff or uplift post base to avoid direct contact with concrete and the ground.

Preventing trapped moisture:

PWT Treated LVL must be installed such that moisture is not trapped against it, and if exposed to moisture the moisture is allowed to escape through proper ventilation.

DO NOT wrap exterior PWT Treated LVL with materials that may trap moisture, such as wood, metal, or plastic trim without proper ventilation and drainage.

Flashing in exterior applications, including, but not limited to, deck substructures:

Flashing or approved **flashing tape is required** on any upward horizontal surfaces of the PWT Treated™ LVL. Flashing tape must have passed design standard AAMA 711-13, Level 3, Class A; perform in high- and low-temperature extremes; and have minimum UV protection of 90 days exposure.

Deck drainage systems or waterproof membranes that cover upward horizontal surfaces of PWT Treated™ LVL joists and beams, and preventing wetting from occurring, are acceptable substitutions for flashing on the joists and beams.

Proper flashing is required over ledger boards to meet code. Failure to use proper flashing, approved flashing tape, and/or proper deck drainage systems will void the warranty.

Failure to apply flashing in accordance with the manufacturers’ installation instructions and as required by code will void the warranty. Product installed within a permanently covered structure that is not exposed to direct sources of moisture do not require flashing.

Warranty requires the installation of flashing tape at the time of installation.

Examples of flashing that meet the requirements:

Manufacturer	Product	Material Type
Huber	Zip Systems Flashing Tape	Acrylic
Nichigo	G-Tape 3040BK	Acrylic
Deckorators	Joist & Flashing Tape	Butyl
Henry	FortiFlash Joist Guard	Butyl
Imus Industries	Imus Seal	Butyl
Nashua	Window & Door Flashing Tape	Butyl
SPAX	Deck Joist Tape and Deck Beam Tape	Butyl
Tite-Seal	Deck Flash Barrier	Butyl
Trex	Trex Protect	Butyl
3M	3M All Weather Flashing Tape	Film
DeckWise	WiseWrap Joist Tape	Rubberized Asphalt
Grace	Vycor	Rubberized Asphalt
MFM	DeckWrap	Rubberized Asphalt
Resisto	Joist Guard	SBS Modified Bitumen

Sealing Recommendations

Since PWT Treated LVL is treated throughout the piece (no gradient), “retreatment” is not necessary.
Coat holes with a sealer or paint in applications where swelling due to exposure is a concern,
as moisture will wick into end-grain fibers more quickly than edges and faces.
ANCHOR SEAL® is an example of product specifically designed for sealing end cuts.

Approved flashing tape must be adhered at the time of installation.

Proper connectors and fasteners:

Appropriate connectors and fasteners must be used for the conditions-of-use to avoid failure due to corrosion or overloading. In all exterior applications or any other conditions where excess moisture is present, high quality, exterior grade, stainless steel or hot dipped galvanized or durable grade fasteners are required.

PWT Treated LVL used in a way that does not satisfy all the above requirements is not covered by the PWT Treated LVL limited warranty.

SCREWS

LVL Thickness	LVL Depth	LVL Orientation	Screw Size	Shank Diameter [in]	Minimum End Distance [in]	Minimum Screw Spacing [in]
1-1/2" Minimum	All	Edge	#7	0.128	0.5	1
			#8	0.130	0.75	1.5
			#9	0.134	1.75	3
			#10 SD Connector*	0.169	0.75	2
			#12 and larger sizes not recommended			
1-3/4" Minimum	7-1/4" Minimum	Edge	#10 SD Connector	0.169	3	3
			#12	0.175	3	3
			LedgerLOK	0.230	3	3
			0.25"	0.250	3	3
			0.27"	0.270	3	3
			3/8 x 4" Lag*	0.375	3	3
1-1/2" Minimum	All	Face	#8	0.130	0.75	2
			#9	0.134	1.75	3
			#10 SD Connector	0.169	2.5	5
			#12	0.175	2.5	4
			predrilling recommended for larger sizes			
1-3/4" Minimum	All	Face	LedgerLOK	0.230	2.5	3
			0.25"	0.250	2.5	2
			0.27"	0.276	2.5	3
			3/8 x 4" Lag*	0.375	3	4

Notes:

- Edge distance shall be sufficient to prevent splitting.
- Fastener sizes and closest on-center spacing not specifically described above are beyond the scope of this publication.
- Assumes self-tapping heads.

*predrilling required

NAILS

LVL Thickness	LVL Depth	LVL Orientation	Nail Size	Nail Diameter [in]	Minimum End Distance [in]	Minimum Nail Spacing [in]
1-1/2" Minimum	7-1/4" Minimum	Edge	8d & smaller	0.131	2.5	3
			10d & 12d	0.148	3.5	4
			16d	0.162	3.5	5
	All	Face	12d & smaller	0.148	1.5	3
			16d	0.162	1.5	5

Notes:

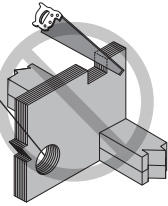
- Minimum fastener spacing values apply to a single row of nails driven into the edge of LVL.
- Edge distance shall be sufficient to prevent splitting
- Fastener sizes and closest on-center spacing not specifically described above are beyond the scope of this publication.
- Tabulated closest on-center spacing for face orientation is applicable to nails that are installed in rows parallel to the grain (length) of the LVL. For nails installed in rows perpendicular to the direction of grain (width/depth) of the LVL, the closest on-center spacing for face orientation shall be sufficient to prevent splitting of the LVL.

Warnings The following conditions are NOT permitted!

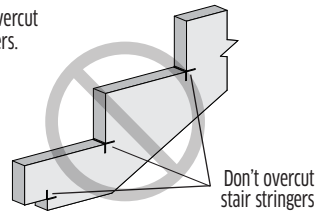
Do not use visually damaged products without first checking with your local PWT distributor or call (800) 515-7570.

R9 DON'T bore holes or notch unless reviewed by a design professional.

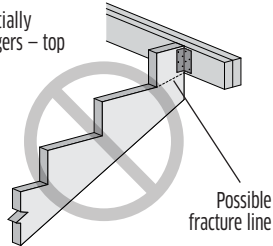
Exception: small holes may be drilled in accordance with the Beam Hole Details.



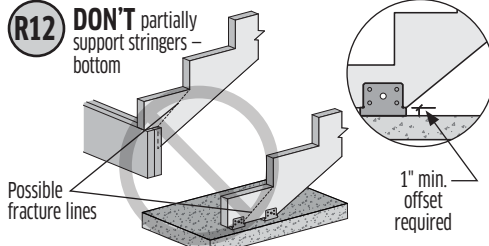
R10 DON'T overcut stair stringers.



R11 DON'T partially support stringers – top

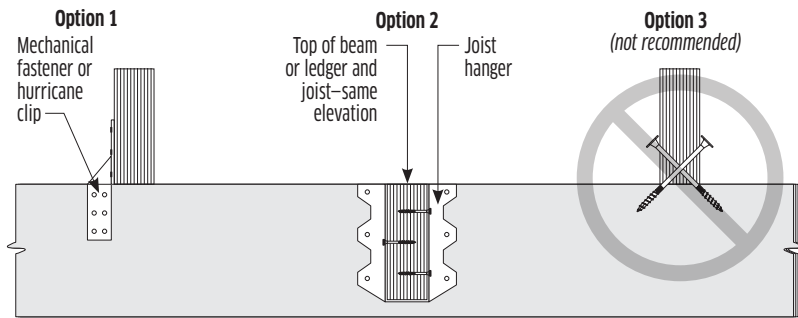


R12 DON'T partially support stringers – bottom



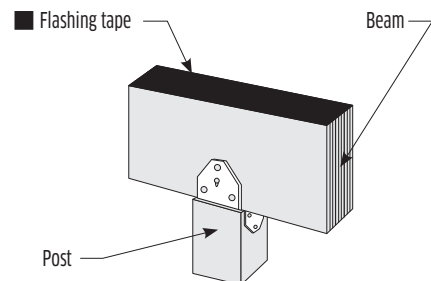
PWT Treated LVL

FIGURE 1. Joist-to-Beam Detail



Place blocking over beams when joists are cantilevered or as required by design

FIGURE 2A. Approved Post-to Beam Post Cap Attachment



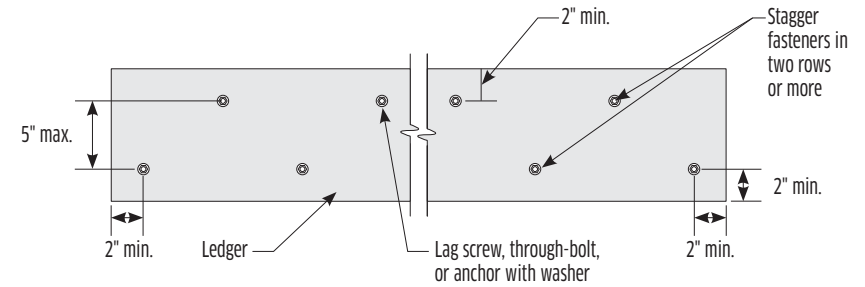
Stair Stringers: Stair stringer design is often controlled by the maximum span of the treads. Consult with the Stair Tread Manufacturer for maximum stringer spacing. Refer to the Treated LVL User Guide for more information.

General Notes:

- It is the responsibility of the designer to provide hardware and fastener installation requirements.
- See *Deck Construction Guide* at awc.org for helpful installation information.
- Be sure to review this guide carefully for recommended attachments and fastener requirements specific to PWT Treated LVL.

PWT Treated LVL

FIGURE 3. Ledger Board Fastener Spacing and Clearances



- Use hanger to connect joists to ledger. The top of the hanger must extend to the upper 1/3 of the depth of the ledger.
- Predrill all through-bolts and lags.
- Predrill all holes within 2" of edge/end.
- Fasteners: use approved throughbolts, anchors, lags (quantity and diameter) as required per code.

FIGURE 4. Blocking Installation

■ Flashing tape required to meet PWT installation and warranty guidelines.

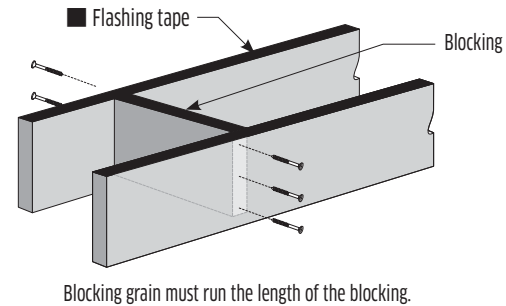


FIGURE 5. Guard Post Fasteners

Do NOT fasten guard posts into the edge of LVL

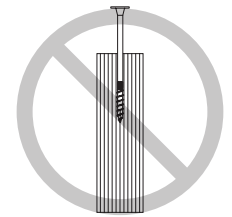
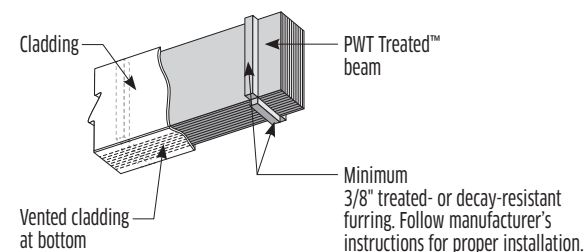
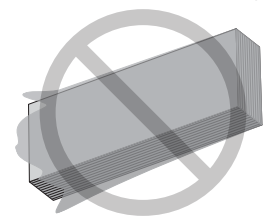


FIGURE 6. Cladding

Cladding on Beams



Do not wrap PWT Treated with moisture-trapping materials, such as plastic, wood, or metal that does not allow for ventilation and drainage.



PWT Treated LVL Details

P1 TOP LOADED BEAM – NAILED CONNECTION
(SEE CONNECTION ASSEMBLIES FOR MORE DETAILS)

Flashing is not shown for clarity. Install flashing as required.

Minimum nail sizes:
1-3/4" plies – 16d box (3.25" x 0.131"Ø)
1-1/2" plies – 10d box (3" x 0.128"Ø)

Two rows for depths up to 12"
Three rows for depths up to 18"
Min. 4 rows for depths greater than 18"

All loads must be applied to top of the beam such that each ply carries an equal portion of the load

P2 TOP LOADED BEAM – BOLTED CONNECTION
(SEE CONNECTION ASSEMBLIES FOR MORE DETAILS)

Flashing is not shown for clarity. Install flashing when required.
Reference User Guide or Detail "C" below for other conditions.

Nails are permissible but NOT required. See notes for Connection Assemblies.

1/2" – diameter ASTM grade A307 (or better) bolts. Use washers on both faces.

Framing is applied to top of the beam so that each ply carries an equal load.

Side-Loaded Connections

Face-Mount Hangers attached to Multi-Ply Beams:

Use the nailing defined in Detail P1 to hold the plies together during assembly.
Use hanger nails that are a minimum of 3-1/4" long to attach the hangers and ensure loads get transferred to the second ply.
3-ply beams: On the opposite side of the beam, within 12" of the hanger, install the same number of nails as required by the hanger.
Use the Exacte by PWT design software to specify the multi-ply connections for all other cases.

DETAIL A max. 3-1/2" wide 2-ply beams 1-1/2" 1-3/4" max. ply thickness	DETAIL B max. 5-1/4" wide 3-ply beams 1-1/2" 1-3/4" max. ply thickness	DETAIL C max. 7" wide 2-, 3- or 4-ply beams 2" 1-3/4" max. ply thickness Simpson® SDWS 1/4" x 6" Simpson® SDWS 1/4" x 6-3/4" or equal Simpson SDWS may be driven from one side
Use the Exacte by PWT design software for all loads and applications notcovered by this document.		

Appropriate connectors and fasteners must be used for the conditions-of use to avoid failure due to corrosion or overloading.

Refer to the AWC's *Prescriptive Residential Wood Deck Construction Guide* for general deck guidelines and details.

Refer to a fastener manufacturer's guide for information on hangers and other connectors like the Simpson document listed below.

Refer to a the North American Deck & Railing Association for information on decks and railing safety.



- Notes**
- Use 2 rows of nails for depths to 12." Use 3 rows of nails for depths greater than 12," up to 18." Use 4 rows of nails for depths greater than 18," up to 24."
 - 16d box (3-1/4" x 0.131"Ø) or common (3-1/2" x 0.162"Ø) nails shall be used for 1-3/4" thick plies. 10d box (3" x 0.128"Ø) or common (3" x 0.148"Ø) nails shall be used for 1-1/2" thick plies. 16d sinkers (3-1/4" x 0.148"Ø) may be used for 1-3/4" plies provided the nails are driven alternating from each face (see note 3).
 - For detail **A** the nails may be driven all from one face or alternating from both faces. If the nails do not fully penetrate the second ply, then the nails shall be driven from both faces.
 - When driving nails from each face, alternate every other nail in each row.
 - For detail **C**, it is permissible to nail the plies together before bolting or driving Simpson SDWS (or equal) screws. Nail two plies together then nail one additional ply to each side.
 - Beams wider than 5-1/4" shall be top-loaded or side-loaded from both sides to prevent rotation. Consult a professional engineer for other options.
 - Minimum of 2" or the screw manufacturer's edge distance.

Prescriptive Beam Holes

Use the Exacte by PWT software to design holes outside the scope of this section.

Minimum 2 x diameter of larger hole

1 foot

1/2 beam depth

Area B

Area A

Area B

1/3 span length

Clear span

Notes

- These guidelines apply to uniformly loaded beams. For all other applications, such as beams with concentrated loads, please use Exacte by PWT design software or contact your PWT distributor for assistance.
- Up to three round holes can be drilled anywhere in "Area A" provided that: no more than four holes are cut, with the minimum spacing described in the diagram. The maximum hole size is 1-1/8" for 5-1/2" depth, 1-1/2" for 7-1/4" depth, and 2" for depths greater than or equal to 9-1/4."
- Up to three 3/4" round holes may be drilled in "Area B", and must be at least 12" apart.
- The holes to be located in the middle third of the depth, or a minimum of 3" from the bottom and top of the beam. For beams shallower than 9-1/4," locate holes at mid-depth.
- Square or rectangular holes are not allowed.
- DO NOT drill holes in cantilevers without prior approval from the project engineer/architect.
- Protect (seal) all hole surfaces from moisture.

ENGINEERED WOOD PRODUCTS

PWT TREATED
TREATED RIGHT™
BY PWT™

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pwtewp.com/treated

For product catalog and complete warranty details or for more information on the full line of PWT products or the nearest distributor, visit pwtewp.com.

PWT Treated LVL is manufactured in Burlington WA, United States.

CAL. PROP 65 WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

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PWT5038 24-0314