



## Installation & Maintenance Requirements

## PWT Treated LVL Limited 25-Year Transferrable Warranty

**Limited Warranty.** Subject to the terms and conditions of this limited warranty, Pacific Woodtech Corporation ("PWT") warrants to the original purchaser or a permitted transferee (the "Purchaser") that, during the warranty period, and when used under normal use and service conditions in connection with (1) above ground, interior or exterior LVL applications for permanent use in structures (residential, multifamily, or commercial) in the United States of America or Canada, and/or (2) for the adequacy of design values as published by PWT, PWT Treated™ LVL framing components shall be free from material defects in workmanship and materials and will not become structurally unfit for the intended applications due to damage caused by termites or as a result of fungal rot, decay, or damage from wood destroying insects. The term of this limited warranty shall be twenty-five (25) years from the date of original purchase for permanent use in or attached to a house or other building structure.

With respect to a residential application, this warranty may be transferred within the warranty period beginning from the date of original purchase by the original Purchaser, to a subsequent buyer of the property upon which the PWT Treated™ LVL was originally installed. Except as set forth in the preceding sentence, this limited warranty is provided to the original purchaser only and is non-transferrable and may not be relied on and will not inure to the benefit of, any other person, firm or entity.

**Remedy.** If any breach of this limited warranty occurs within the warranty period, Purchaser shall notify PWT in writing and, upon confirmation by an authorized PWT representative of the breach, PWT's sole responsibility shall be, at its option, to either replace the PWT Treated™ LVL which is materially defective or which has become structurally unfit as a result of fungal rot, decay, or damage from wood destroying insects, or refund the portion of the purchase price paid by Purchaser for such PWT Treated™ LVL (not including the cost of its initial installation).

PWT shall have the right to inspect, test and/or evaluate the warranty claim and Purchaser shall reasonably cooperate with PWT in connection with such inspection, testing and/or evaluation. Purchaser further agrees to comply with any all processes and/or procedures adopted by PWT with respect to evaluating, processing and/or responding to warranty claims. As a condition to evaluating, processing and/or responding to warranty claims, PWT may further require that the Purchaser provide the first purchaser's proof of purchase and/or pictures or samples of the PWT Treated™ LVL at issue.

To make a claim under this limited warranty, Purchaser, or a permitted transferee (as authorized above), within the warranty period referred to above and within thirty (30) days of discovery of a breach, shall send to PWT picture(s), a description of the claimed breach, and proof of purchase, to the following address:

Pacific Woodtech Corporation, Customer Relations  
1850 Park Lane | Burlington, WA 98233-4630  
E-mail: warranty@pacificwoodtech.com

**Exclusions.** Purchaser acknowledges and agrees that PWT does not warrant against and is not responsible for any condition attributable to: (1) non-compliance with any requirements published in the PWT Treated™ LVL guides (See PWT website for current requirements) for handling, structural design specifications, installation and maintenance, including the requirements listed in the following items 2 through 14 (2) defects caused by improper installation or damage caused by improper fastener installation, including, but not limited to, ground contact; (3) use of PWT Treated™ LVL beyond normal use or service conditions, or in an application not recommended by PWT's guidelines and local building codes; (4) damage caused by overloading of PWT Treated™ LVL members or structural connectors and fasteners; (5) damage caused by failure to use appropriate connectors and fasteners or as a result of the failure of connectors or fasteners due to corrosion; (6) damage caused by factors other than environmental or atmospheric processes; (7) failure to strictly abide by PWT Treated™ LVL standard installation and maintenance practices, including as described below; (8) movement, distortion, collapse, settling of the ground, or other defects in the structure; (9) any act of God (such as flooding, hurricane, earthquake, lightning, etc.);

(10) improper handling, storage, abuse or neglect of PWT Treated™ LVL products by Purchaser, the permitted transferee or third parties; (11) any alterations to the PWT Treated™ LVL after the original installation; (12) improper storage, installation, maintenance; (13) weathering of wood, including by not limited to raised grain, minor localized edge checking, loose strands on the surface, warping, shrinkage, swelling, other physical or aesthetic property of wood; or (14) ordinary wear and tear.

**NO GROUND WATER OR WATER APPLICATIONS PERMITTED.** PWT Treated™ LVL may not be installed in contact with the ground and a clearance from debris buildup must be maintained. PWT Treated™ LVL may not be installed under the surface or within the splash zone of any body of water due to effects caused by constant saturation. Any such installations shall void this limited warranty.

TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, THIS LIMITED WARRANTY SHALL NOT COVER AND PWT SHALL NOT BE RESPONSIBLE FOR COSTS AND EXPENSES INCURRED WITH RESPECT TO THE REMOVAL OF ANY PWT PRODUCTS OR THE INSTALLATION OF REPLACEMENT MATERIALS, INCLUDING BUT NOT LIMITED TO LABOR AND FREIGHT.

This limited warranty only applies to PWT Treated™ LVL that is protected, installed, used and maintained in accordance with the PWT Treated™ LVL Installation and Maintenance Requirements set forth below.

No person or entity is authorized by PWT to make and PWT shall not be bound by any statement or representation as to the quality or performance of PWT Treated™ LVL other than as contained in this limited warranty. This limited warranty may not be altered or amended except in a written instrument signed by PWT and Purchaser.

### PWT Treated™ LVL INSTALLATION AND MAINTENANCE REQUIREMENTS:

1. Observation and installation: During construction, inspect all components for damage and improper installation required by code and required in the PWT Treated™ LVL Installation Guide. Except for sill plates, stair stringers, and columns, 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 PWT's Installation Guide. Sill plates must be separated by a sill plate gasket in proper installations to avoid direct contact with concrete and the ground. Columns and stair stringers must be installed with a 1" standoff or uplift post base to avoid direct contact with concrete and the ground.
2. Preventing trapped moisture: Fully enclosed exterior structures or assemblies must allow for moisture 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. Refer to PWT's Installation Guide for cladding details.
3. 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, and have minimum UV protection of 90 days exposure - or be on PWT's list of approved tapes. Deck drainage systems that cover upward horizontal surfaces of PWT Treated™ LVL joists and beams, 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 limited warranty. Failure to apply flashing in accordance to the manufacturers' written installation instructions and as required by code will void the limited warranty.
4. 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 in use in a structure. Regular efforts must be made to remove debris buildup around wood members and 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 where, without preservative treatment and proper maintenance, decay or deterioration would likely develop.
5. 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.
6. Refer to the current published PWT Treated LVL guides for handling, structural design specifications, installation and maintenance requirements available on the PWT website.
7. PWT Treated™ LVL that is used in a way that does not satisfy all the above requirements is not covered by this limited warranty.

**Disclaimers; Limitations of Liability.** EXCEPT FOR THE REMEDIES SPECIFICALLY PROVIDED IN THIS LIMITED WARRANTY, UNDER NO CIRCUMSTANCES SHALL PWT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES BECAUSE OF THE FAILURE OF PWT TREATED™ LVL, OR FOR ANY CLAIMED DEFECT IN CONNECTION THEREWITH, INCLUDING BUT NOT LIMITED TO ANY DAMAGES BECAUSE OF DAMAGE OR HARM TO OR LOSS OF OTHER PROPERTY, LOSS OF TIME, LOSS OF USE, LOST PROFITS, LOST REVENUE, LOST GOODWILL, BUSINESS INTERRUPTION, LABOR COSTS, MATERIAL COSTS, INVESTIGATION COSTS, TESTING COSTS, COSTS OF INSTALLATION OR REINSTALLATION, ATTORNEYS' FEES, EXPERT FEES, PERSONAL INJURY (INCLUDING BUT NOT LIMITED TO DEATH), DAMAGE TO REAL OR PERSONAL PROPERTY, TEMPORARY LIVING EXPENSES, AND ANY AND ALL OTHER SIMILAR COSTS AND EXPENSES, WHETHER SUCH DAMAGES ARE SOUGHT IN CONTRACT, IN TORT OR OTHERWISE. EXCEPT FOR THE SPECIFIC WARRANTY COVERAGE SET FORTH IN THIS LIMITED WARRANTY, PWT DOES NOT MAKE, AND HEREBY EXPRESSLY DISCLAIMS, ANY AND ALL REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, WITH REGARD TO PWT TREATED™ LVL, AND/OR THE PERFORMANCE, APPLICATION OR USE THEREOF, AND ALL SUCH OTHER REPRESENTATIONS AND WARRANTIES, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.

Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to Purchaser. This warranty gives Purchaser specific legal rights, and Purchaser may also have other rights that vary from State to State or Province to Province.

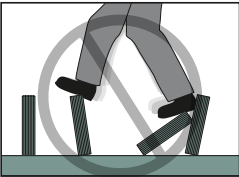
**IMPORTANT NOTE:** PWT Treated is Laminated Veneer Lumber rated for exterior use (UC3B-non-ground contact). PWT Treated LVL has a moisture content of 6-8% when it leaves the factory. It is imperative that PWT Treated LVL remains protected from precipitation and high humidity until it is installed. Once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

[pacificwoodtech.com/treated](http://pacificwoodtech.com/treated)

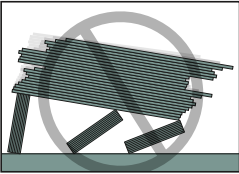
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[www.sifprogram.org](http://www.sifprogram.org)



# Safety and Construction Precautions



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.

These are general recommendations and in some cases, additional precautions may be required.

## Installation

- Walking on the joists should not be permitted until they are properly braced.
- All hangers, rim boards, rim joists and blocking at the end supports of the joists must be installed and nailed properly.
- 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.
- Never overload joists with loads that exceed design loads.
- Only remove the bracing as the sheathing or decking is attached.
- When stacking construction material, stack only over beams or walls, NOT on unsheathed or decked joists.

# Storage and Handling Guidelines

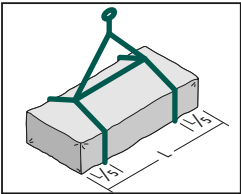
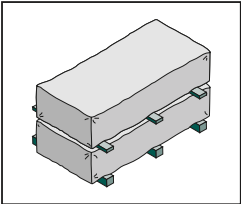
## Storage

- Store bundles with wood lying in flat orientation on a smooth, level, well-drained and supportive surface.
- Bundles should not be in contact with the ground.
- Place 2x or LVL spacers (at a maximum of 10' apart) between bundles and the ground and bundles stored on top of one another.

**Bundles should remain wrapped, strapped and protected from the weather until time of installation.**

## Handling

- Avoid excessive bowing during all phases of handling and installation (i.e. measuring, sawing or placement).
- Damage may result if the beam is twisted or a load is applied to it while it is lying flat.



# FAQ: Is it necessary to retreat cut ends, notches and holes?

No, since PWT Treated LVL is treated throughout the piece (no gradient), retreatment is not necessary. *However, it is recommended to recoat end cuts with a sealer or paint to minimize swelling, as moisture will wick into end-grain fibers more quickly than edges and faces.*

# Installation and Maintenance Requirements

## Observation and installation:

Before and during construction inspect all components for damage or improper installation.

Except for sill plates, stair stringers, ledgers and columns, 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 PWT's 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. Columns and 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:

Fully enclosed exterior structures or assemblies must allow for moisture 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 to the manufacturers' written installation instructions and as required by code will void the warranty. Product installed within a permanently covered structure does not require flashing.

The following list of tapes qualify:

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
Tite-Seal	Deck Flash Barrier	Butyl
Trex	Trex Protect	Butyl
Protecto	Wrap	Deck Joist Tape
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



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 in use in a structure. 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.

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 that is 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]
1½" 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
1¾" Minimum	7¼" Minimum	Edge	#12 and larger sizes not recommended			
			#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
1½" Minimum	All	Face	¾ x 4" Lag"	0.375	3	3
			#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			
1¾" Minimum	All	Face	LedgerLOK	0.230	2.5	3
			0.25"	0.250	2.5	2
			0.27"	0.276	2.5	3
			¾ x 4" Lag"	0.375	3	4

- Notes:  
1. Edge distance shall be sufficient to prevent splitting.  
2. Fastener sizes and closest on-center spacing not specifically described above are beyond the scope of this publication.
3. 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]
1½" Minimum	7¼" 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:  
1. Minimum fastener spacing values apply to a single row of nails driven into the edge of LVL.  
2. Edge distance shall be sufficient to prevent splitting.  
3. Fastener sizes and closest on-center spacing not specifically described above are beyond the scope of this publication.
4. 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.

PWT Treated LVL Stair Stringers

Improved Performance

TABLE 2A. MAXIMUM STRINGER RUN  
DRY USE – 40 PSF LIVE LOAD AND 12 PSF DEAD LOAD

Tread Width	36"	42"	44"	48"
Stringer Depth	Number of Stringers:			
	2	3	3	3
2-ply 1½" x 11¼"	10'-10"	12'-6"	11'-8"	11'-8"
2-ply 1¾" x 11½"	12'-6"	14'-2"	14'-2"	13'-4"
2-ply 1¾" x 14"	14'-2"	14'-2"	14'-2"	14'-2"

Code Minimums

TABLE 2C. MAXIMUM STRINGER RUN  
DRY USE – 40 PSF LIVE LOAD AND 12 PSF DEAD LOAD

Tread Width	36"	42"	44"	48"
Stringer Depth	Number of Stringers:			
	2	3	3	3
1½" x 11¼"	8'-4"	10'-0"	9'-2"	9'-2"
1¾" x 11½"	10'-0"	11'-8"	10'-10"	10'-10"
1¾" x 14"	14'-2"	14'-2"	14'-2"	14'-2"

- Notes:
- Table values are based on a maximum step rise of 7¼" and a minimum step run of 10".
  - Verify compliance with the local building code.
  - Table values are limited by deflection equal to L/360 at live load or L/240 at total load.
  - Stringer runs are based on 100% duration of load.
  - For other design loads, stair constructions, or attachment details, consult with the design professional.
  - Stringers are unstable until treads are installed.

TABLE 2B. MAXIMUM STRINGER RUN  
DRY USE – 60 PSF LIVE LOAD AND 12 PSF DEAD LOAD

Tread Width	36"	42"	44"	48"
Stringer Depth	Number of Stringers:			
	2	3	3	3
2-ply 1½" x 11¼"	9'-2"	10'-10"	10'-0"	10'-0"
2-ply 1¾" x 11½"	10'-10"	12'-6"	12'-6"	11'-8"
2-ply 1¾" x 14"	14'-2"	14'-2"	14'-2"	14'-2"

TABLE 2D. MAXIMUM STRINGER RUN  
DRY USE – 60 PSF LIVE LOAD AND 12 PSF DEAD LOAD

Tread Width	36"	42"	44"	48"
Stringer Depth	Number of Stringers:			
	2	3	3	3
1½" x 11¼"	7'-6"	8'-4"	8'-4"	7'-6"
1¾" x 11½"	9'-2"	10'-0"	10'-0"	9'-2"
1¾" x 14"	12'-6"	14'-2"	13'-4"	13'-4"

- To minimize squeaks, install treads with panel adhesive in addition to nails or screws.
- Stringers shall be separated from concrete or masonry with 1" stand-off.
- If only cut stringers are used, a minimum of three stringers are required.
- Stringer run refers to the horizontal projection of the stairs.
- Single ply stringers are acceptable; however, however, 3" minimum stringer width is recommended. Use appropriate thickness based upon in-use exposure and climate.

Laying out the bottom of a stair stringer with building hardware

Installation recommendations:

- Place the finished stair stringer into its proper position, without nailing it (this may require two or more people or in some cases, a crane, to lift the heavy objects).
- Place the hardware or base plate below the stringer and mark its exact location.
- Remove the stair stringer and fasten the base plate securely to the concrete foundation.
- Install stair stringer.

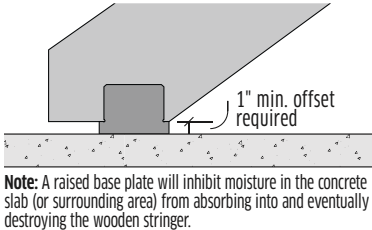
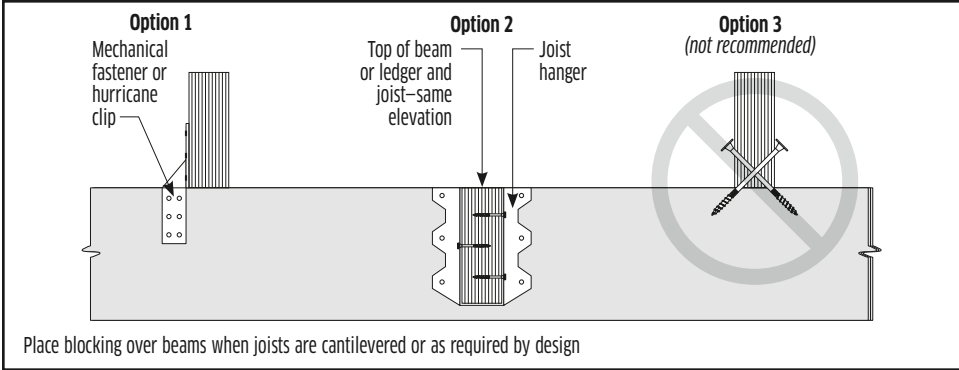
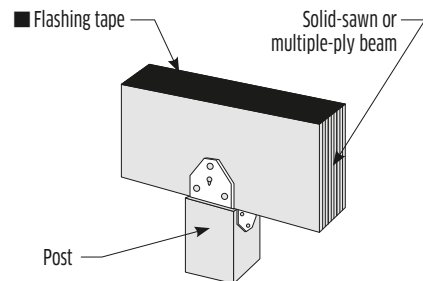


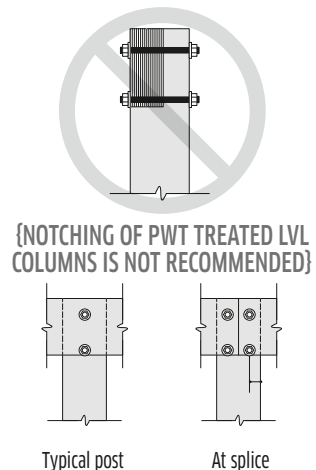
FIGURE 1. Joist-to-Beam Detail



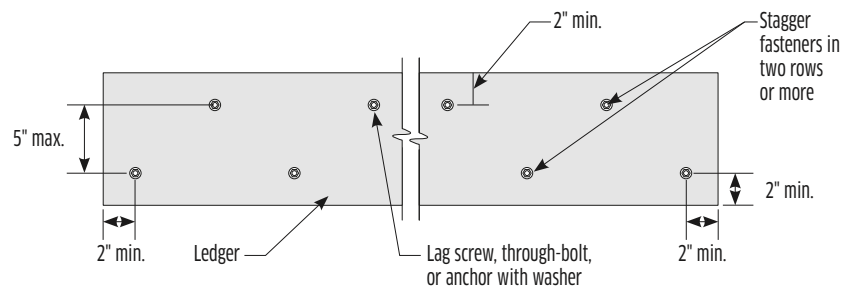
**FIGURE 2A. Approved Post-to Beam Post Cap Attachment**



**FIGURE 2B. Post-to-Beam Attachment (not recommended)**



**FIGURE 3. Ledger Board Fastener Spacing and Clearances**

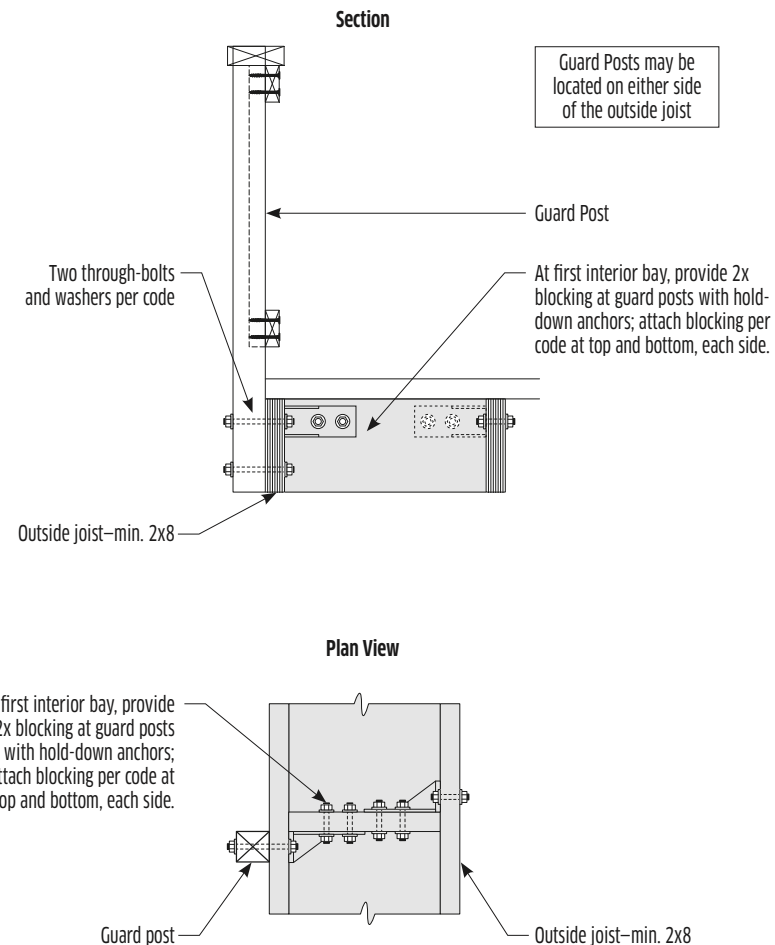


- Pre-drill all through-bolts and lags
- Pre-drill all holes within 2" of edge/end
- Fasteners: use approved throughbolts, anchors, lags (quantity and diameter) as required per code

**General Notes:**

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

**FIGURE 4. Guard Post to Outside – Joist/Rim Board Example – Recommended Attachment**



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

Diagram illustrating the cross-bracing frame. The frame is shown in a perspective view, highlighting the cross-bracing members and the 7 1/4" dimension.

Blocking boards

It is the responsibility of the designer to verify/provide all fastener information.  
Details in figures are recommendations that should be verified.

## Cladding on Beams

Cladding


PWT Treated™ beam

Vented cladding at bottom

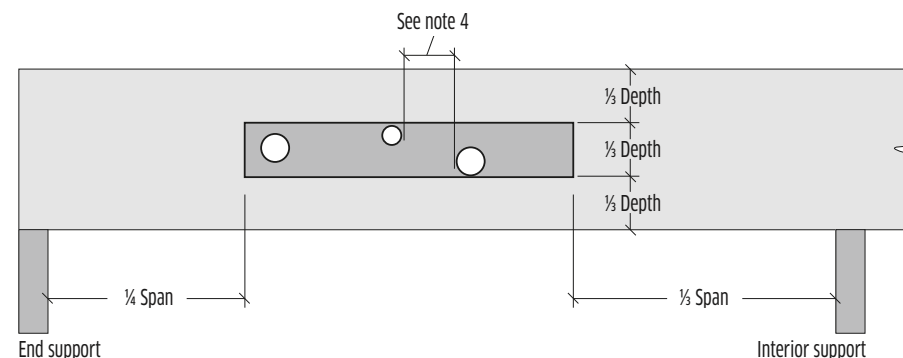
Minimum 3/8" treated- or decay-resistant furring. Follow manufacturer's instructions for proper installation.

Cladding

For proper ventilation and drainage, maintain gap at bottom



## Holes in LVL Beams



1. This detail applies only to uniformly loaded, simple and multiple span beams. Cantilevered beams and beams that carry concentrated loads are outside the scope of this detail.
2. Square and rectangular holes are not permitted.
3. Round holes may be drilled or cut with a hole saw anywhere within the shaded area of the beam.
4. The horizontal distance between adjacent holes must be at least two times the size of the larger hole. This restriction also applies to the location of access holes relative to bolt holes in multi-ply beams.
5. Do not drill more than three access holes in any four foot long section of beam.
6. The maximum round hole diameter permitted is:

<b>LVL Beam Depth</b>	5½"	7¼"	9½" to 24"
<b>Maximum Hole Diameter</b>	1½"	1½"	2"

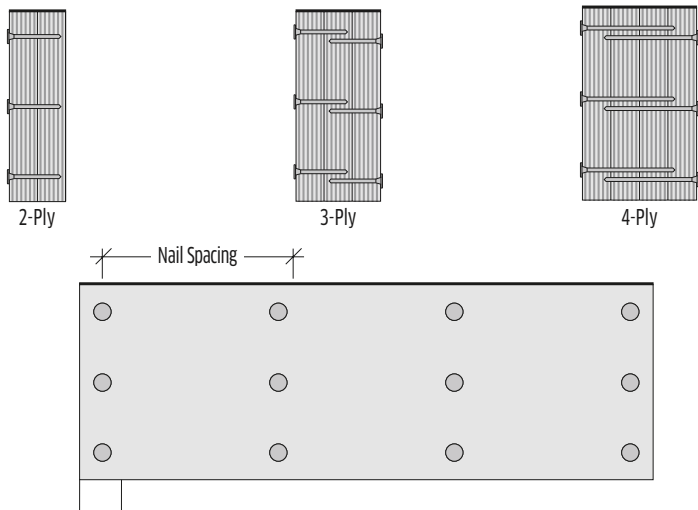
7. These limitations apply to holes drilled for plumbing or wiring access only. The size and location of holes drilled for fasteners are governed by the provisions of the *National Design Specification® for Wood Construction*.
8. Beams deflect under load. Size holes to provide clearance where required.

# PWT Treated Multiple-Ply Beam Assembly

All fasteners and carrying hardware must be exterior type and code accepted. See [strongtie.com/deckcenter](http://strongtie.com/deckcenter) for more information.

## Combinations of 1 3/4" Plies

### NAILS



### ALLOWABLE UNIFORM SIDE LOAD (PLF)

	3/4" x 0.131" Nails		16d Common Nails 3/8" x 0.162"	
	2 Rows at 12" o.c.	3 Rows at 12" o.c.	2 Rows at 12" o.c.	3 Rows at 12" o.c.
2-Ply (2-1 3/4")	390	585	565	845
3-Ply (3-1 3/4")	290	435	425	635
4-Ply (4-1 3/4")	Use bolts for this condition (see note 1).			

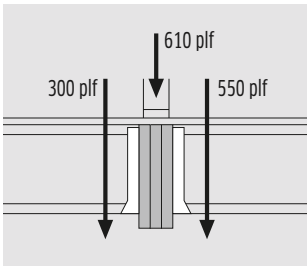
#### Notes:

- Minimum fastener schedule for smaller side loads and top-loaded beams: 2-ply and 3-ply beams 12" deep or less: 2 rows 3/4" x 0.131" at 12" o.c. 2-ply and 3-ply beams deeper than 12": 3 rows 3/4" x 0.131" at 12" o.c. 4-ply, all beam depths 2 rows 1/2" bolts at 24" o.c.
- The table values for nails may be doubled for 6" o.c. and tripled for 4" o.c. nail spacings.
- The nail schedules shown apply to both sides of a three-ply beam.
- The table values apply to bolts meeting the requirements of *ANSI/ASME Standard B18.2.1*. A standard cut washer, or metal plate or strap of equal or greater dimensions, shall be provided between the wood and the bolt head, and between the wood and the nut. The distance from the edge of the beam to the bolt holes must be at least 2" for 1/2" bolts. Bolt holes shall be the same diameter as the bolt.
- 7" wide beams must be loaded from both sides and/or top-loaded.
- Beams wider than 7" must be designed by the engineer of record.
- Load duration factors may be applied to the table values.
- For proprietary fastener alternatives, consult the manufacturer's literature.

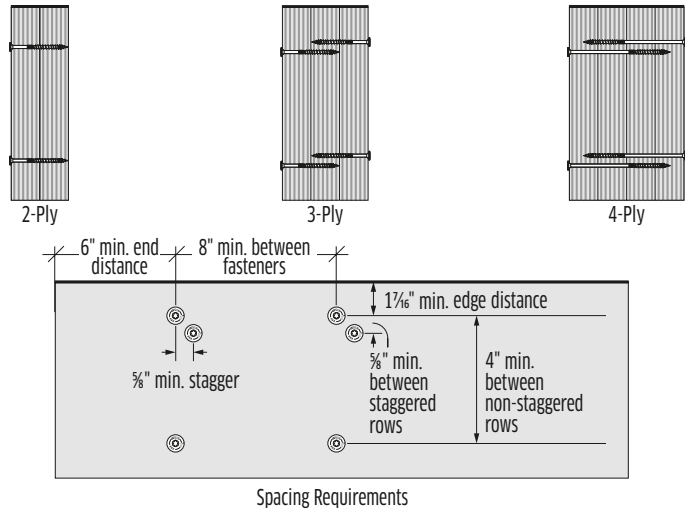
## How to Use the Maximum Uniform Side Load Table

### EXAMPLE: THREE 1 3/4" PLIES LOADED FROM BOTH SIDES AND ABOVE (COND. B)

- Use allowable load tables or sizing software to size the beam to carry a total load of (300 + 610 + 550) = 1460 plf.
- Refer to the Condition B row in the table. Scan across the row from left to right for a table value greater than 550 plf, which is the greatest side load carried by the beam. The fourth value in the row indicates that 3 rows of 16d common nails at 12" o.c. will accommodate a side load of 635 plf which is greater than the 550 plf required. Use 3 rows of 16d common nails at 12" o.c., from both sides, to assemble the beam.



### STRONG-DRIVE® SDWS TIMBER SCREWS



### ALLOWABLE UNIFORM LOAD APPLIED TO EITHER OUTSIDE MEMBER (PLF)

	Nominal Screw Length [in]	Structural Composite Lumber					
		SDWS Timber Screws @ 12" o.c.		SDWS Timber Screws @ 16" o.c.		SDWS Timber Screws @ 24" o.c.	
		2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
2-ply	3 1/2	1020	1530	765	1148	510	765
3-ply	3 1/2	765	1148	574	861	383	574
3-ply	5	1215	1823	911	1367	608	911
4-ply	6	1080	1620	810	1215	540	810

#### Notes:

- Each ply is assumed to carry load in proportion to its width.
- Loads may be applied to either the head side and/or point side concurrently.
- Tables are based on Simpson Strong-Tie Fastening Systems Catalog C-F-2019TECHSUP.
- Please consult [strongtie.com](http://strongtie.com) for the latest fastener details and data.

### SCREW DATA

Model No.	Nominal Screw Length [in]	Thread Length [in]
SDWS22312DBB	3 1/2	2
SDWS22500DB	5	2 3/4
SDWS22600DB	6	2 3/4

#### Notes:

- The SDWS TIMBER screws listed are coated with double-barrier coating that provides corrosion resistance equivalent to hot-dip galvanization, making them suitable for certain exterior and preservative-treated wood applications as described in the evaluation report.

## Installation

- SDWS TIMBER screws install best with a low speed 1/2" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
- Screw heads that are countersunk flush to the wood surface are acceptable if the screw has not spun out.
- Individual screw locations may be adjusted up to 3" to avoid conflicts with other hardware or to avoid lumber defects.

To review the PWT Treated User Guide, please visit [pacificwoodtech.com/treated](http://pacificwoodtech.com/treated).

# Common Deck Connectors

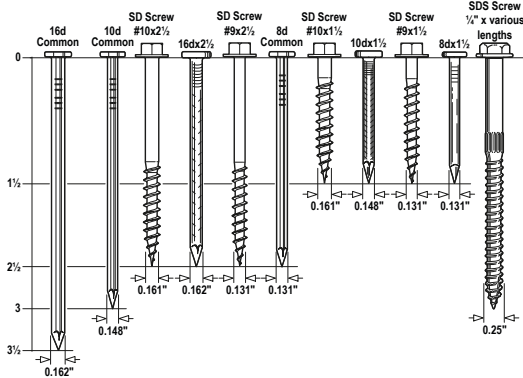
Flashing tape not shown in details for clarity.

## General Notes

PWT Treated is non-corrosive; choose the appropriate coating (Exterior grade, Z-max, HDG, Stainless) on connectors and hardware for the use of the project.

1. All connectors and fastener information presented in this document is for ease of reference only; consult current connector guides for all installation instructions and details.
2. Self-tapping screws are the preferred fasteners when allowed by connector manufacturer
3. It is the responsibility of the designer or builder to select proper installation details, connectors, and fasteners for a project.

### DETAIL A. Fasteners



#### Fastener Notes:

1. The specified quantity, type and size of fastener must be installed in the correct holes on the connector to achieve published loads. Incorrect fastener selection or installation can compromise connector performance and could lead to failure.
2. Nail diameter assumes no coating See technical bulletin T-NAILGUIDE for more information.
3. **NAIL reference in tables:** 16d = 16d common, 10d = 10d common



**Round Holes Purpose:** to fasten a connector.  
**Fill requirements:** always fill, unless noted otherwise.



**Obround Holes Purpose:** to make fastening a connector in a tight location easier.  
**Fill requirements:** always fill.



**Hexagonal Holes Purpose:** to fasten a connector to concrete or masonry.  
**Fill requirements:** always fill when fastening a connector to concrete or masonry.



**Triangular Holes Purpose:** to increase a connector's strength or to achieve Max strength.  
**Fill requirements:** when the designer specifies Max nailing.



**Diamond Holes Purpose:** to temporarily fasten a connector to make installing easier.  
**Fill requirements:** none.



**Speed Prongs** Used to temporarily position and secure the connector for easier and faster installation.



**Dome Nailing** This feature guides the nail into the joist and header at a 45° angle.



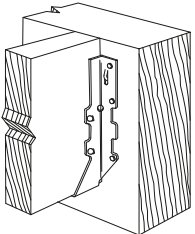
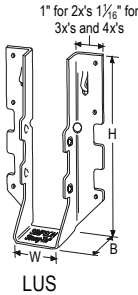
**Double Shear Nailing** The nail is installed in the joist and header, distributing the load through two points on each joist nail for greater strength.



**Pilot Holes** Tooling holes for manufacturing purposes. No fasteners required.

#### Fastening Identification

### DETAIL B. LUS Joist Hangers



Typical LUS28Z Installation

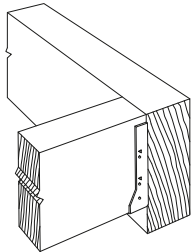
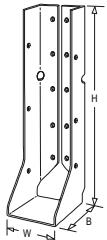
#### Installation:

- LUS hangers install with double shear nailing.
- For installations into single 2x headers or ledgers, use the specified full length fasteners into the joist and the following fasteners into the header for reduced loads in accordance with connector manufacturer.
  - 10dx1 1/2 nails for installations with Nails
  - SD #9x1 1/2 for LUS28Z and LUS210Z installations with SD Screws
  - SD #10x1 1/2 for LUS26-2Z and LUS210-2Z installations with SD Screws

Model No.	Dimensions (in.)			Fasteners			
				Nails		SD Screws (preferred)	
	W	H	B	Header	Joist	Header	Joist
▶ LUS26Z	1 9/16	4 3/4	1 3/4	4-10d	4-10d	-	-
▶ LUS28Z	1 9/16	6 5/8	1 3/4	6-10d	4-10d	6-SD #9x2 1/2	4-SD #9x2 1/2
▶ LUS210Z	1 9/16	7 13/16	1 3/4	8-10d	4-10d	8-SD #9x2 1/2	4-SD #9x2 1/2
▶ LUS26-2Z	3 1/8	4 7/8	2	4-16d	4-16d	4-SD #10x2 1/2	4-SD #10x2 1/2
▶ LUS210-2Z	3 1/8	9	2	8-16d	6-16d	8-SD #10x2 1/2	6-SD #10x2 1/2

1. ▶ indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
2. Refer to current Wood Construction Connectors catalog for additional information.

### DETAIL C. LUC, HUC Joist Hangers



Typical HUC Installation (LUC Similar)

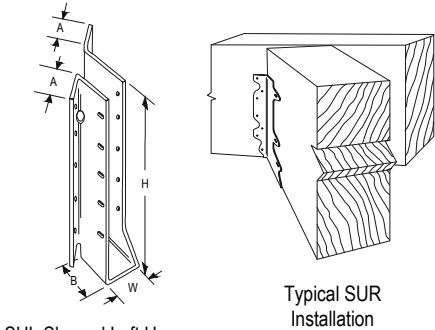
#### Installation:

- For HUC installations, models have triangle and round holes. To achieve maximum loads, fill both round and triangle holes (fastener quantities listed fill both holes).
- For installations into single 2x headers or ledgers, use the specified full length fasteners into the joist and the following fasteners into the header for reduced loads in accordance with connector manufacturer:
  - 10dx1 1/2 nails for installations with Nails
  - SD #9x1 1/2 for LUC26Z and LUC210Z installations with SD Screws

Model No.	Dimensions (in.)			Fasteners			
				Nails		SD Screws (preferred)	
	W	H	B	Header	Joist	Header	Joist
▶ LUC26Z	1 9/16	4 3/4	1 3/4	6-10d	4-10dx1 1/2	6-SD #9x2 1/2	4-SD #9x1 1/2
▶ LUC210Z	1 9/16	7 3/4	1 3/4	10-10d	6-10dx1 1/2	10-SD #9x2 1/2	6-SD #9x1 1/2
HUC26-2Z	3 1/8	5 3/8	2 1/2	12-16d	6-10d	-	-
▶ HUC28-2Z	3 1/8	7	2 1/2	14-16d	6-10d	-	-
▶ HUC210-2Z	3 1/8	8 13/16	2 1/2	18-16d	10-10d	-	-

1. ▶ indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
2. Refer to current Wood Construction Connectors catalog for additional information.

DETAIL D. SUR/SUL 45° Skewed Joist Hangers



SUL Skewed Left Hanger  
(SUR is Skewed Right)

Installation:

- The joist may be square cut or bevel cut.
- These hangers will normally accommodate a 40° to 50° skew.

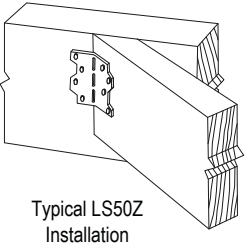
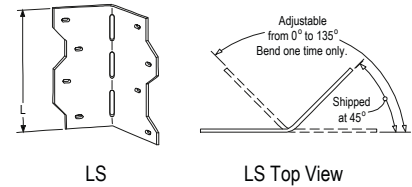
Model No.	Joist Size	Dimensions (in.)					Fasteners	
		W	H	B	A1	A2	Header	Joist
SUR/L26Z	2x6, 8	1 9/16	5	2	1 1/8	1 5/16	6-16d	6-10dx1½
SUR/L210Z	2x10, 12	1 9/16	8 1/8	2	1 1/8	1 5/16	10-16d	10-10dx1½
SUR/L210-2Z	(2) 2x10, 12	3 1/8	8 11/16	2 5/8	1 7/16	2 3/8	14-16d	6-16dx2½

1. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL E. LS Framing Angles

Installation:

- Field skewable; bend one time only.
- Joist must be constrained against rotation (for example, with solid blocking) when using a single LS per connection.

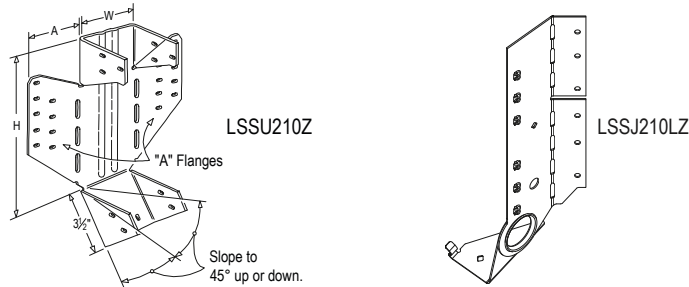


Typical LS50Z  
Installation

Model No.	L (in)	Fasteners
LS30Z	3 3/8	6-10d
LS50Z	4 7/8	8-10d
LS70Z	6 3/8	10-10d

1. ► indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL F. LSU, LSSU or LSSJ Adjustable Joist Hangers



LSSU210Z

LSSJ210LZ

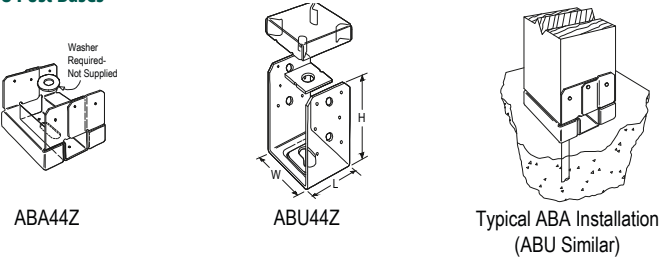
Installation:

See manufacturer's guide for installation instructions.

Model No.	Dimensions (in.)			Fasteners	
	W	H	A	Header	Joist
LSU26Z	1 9/16	4 7/8	1 1/2	6-10d	5-10dx1 1/2
LSSU210Z	1 9/16	8 1/2	1 5/8	10-10d	7-10dx1 1/2

1. For skewed LSSU, the inner most face fasteners on the acute angle side are not installed.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL G. ABA, ABU Post Bases



ABA44Z

ABU44Z

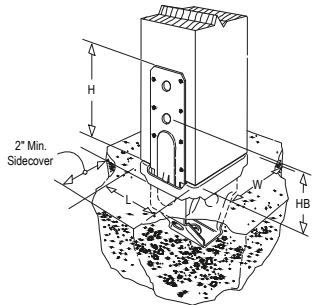
Typical ABA Installation  
(ABU Similar)

Model No.	Post Size	Dimensions (in.)				Anchor Dia.	Post Fasteners			
		W	L	H	HB		Nails	SD Screws (preferred)	Machine Bolts	
ABA44Z	4x4	3 9/16	3 1/8	3 1/16	-	1/2	6-10d	6-SD #9x1½	-	-
ABU44Z	4x4	3 9/16	3	5 1/2	1 3/4	5/8	12-16d	12-SD #10x1½	2	1/2
ABA46Z	4x6	3 9/16	5 3/16	3 1/8	-	5/8	8-16d	8-SD #10x1½	-	-
ABU46Z	4x6	3 9/16	5	7	2 5/8	5/8	12-16d	-	2	1/2
ABA66Z	6x6	5 1/2	5 1/4	3 1/8	-	5/8	8-16d	8-SD #10x1½	-	-
ABU66Z	6x6	5 1/2	5	6 1/16	1 3/4	5/8	12-16d	-	2	1/2
ABU88Z	8x8	7 1/2	7	7	-	2 - 5/8	18-16d	-	-	-

1. ► indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.



### DETAIL H. PBS Post Bases



Typical PBS

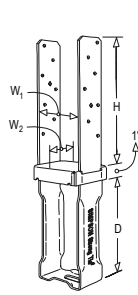
#### Installation:

- Embed into wet concrete up to the bottom of the 1" standoff base plate. A 2" minimum side cover is required to obtain the full load. Holes in the bottom of the straps allow for free concrete flow.
- Allow concrete to cure before installation of the post.

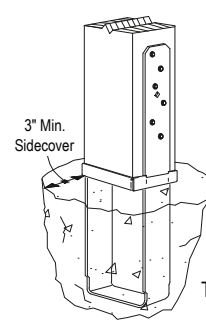
Model No.	Dimensions (in.)				Post Fasteners			
	W	L	H	HB	Nails	SD Screws (preferred)	Machine Bolts Qty.	Dia.
PBS44AHDG	3 9/16	3 1/2	6 1/4	3 7/16	14-16d	14-SD #10x1½	2	1/2
PBS66HDG	5 1/2	5 3/8	6 1/2	3 11/16	14-16d	—	2	1/2

1. Refer to current Wood Construction Connectors catalog for additional information.

### DETAIL I. CBSQ Post Bases



Typical CBSQ



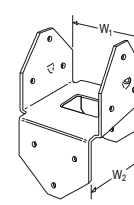
Typical CBSQ44 Installation

Model No.	Post Size	Dimensions (in.)				Number of SD Screws (Preferred)
		W1	W2	D	H	
▶ CBSQ44-SDS2HDG	4x4	3 9/16	3 1/2	7 1/8	8 3/8	14-SDS ¼"x2"
▶ CBSQ46-SDS2HDG	4x6	3 9/16	5 5/16	7 13/16	8 11/16	14-SDS ¼"x2"
▶ CBSQ66-SDS2HDG	6x6	5 1/2	5 1/2	6 7/8	8 3/4	14-SDS ¼"x2"
CBSQ86-SDS2HDG	6x8	7 1/2	5 3/8	6 1/8	8 11/16	12-SDS ¼"x2"
CBSQ88-SDS2HDG	8x8	7 1/2	7 3/8	6 1/8	8 11/16	12-SDS ¼"x2"

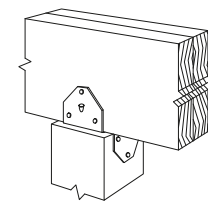
1. ▶ indicates connector is available in stainless steel. Replace -SDS2HDG in model number with SS when ordering.

2. Refer to current for additional information.

### DETAIL J. BC, BCS POST CAPS



BCS (BC Similar)



Typical BCS Installation (BC Similar)

#### Installation:

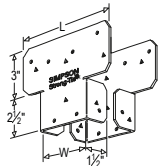
- BCS: Install dome nails on beam; drive nails at an angle through the beam into the post below.
- BC: Do not install bolts into pilot holes.

Model No.	Dimensions (in.)						Fasteners			
	W1	W2	L1	L2	H1	H2	Nails		SD Screws (Preferred)	
							Beam Flange	Post Flange	Beam Flange	Post Flange
▶ BC4Z	3 9/16	3 9/16	2 7/8	2 7/8	3	3	6-16d	6-16d	6-SD #10x1½	6-SD #10x1½
▶ BC6Z	5 1/2	5 1/2	4 3/8	4 3/8	3 3/8	3 3/8	12-16d	12-16d	—	—
▶ BCS2-2/4Z	3 1/8	3 9/16	2 7/8	2 7/8	2 15/16	2 15/16	8-10d	6-10d	8-SD #9x2½	6-SD #9x2½
BCS2-3/6Z	4 5/8	5 9/16	4 3/8	2 7/8	3 5/16	2 15/16	12-16d	6-16d	—	—

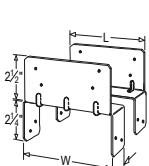
1. ▶ indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.

2. Refer to current Wood Construction Connectors catalog for additional information.

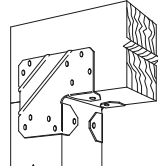
### DETAIL K. AC, LPC, LCE Post Caps



AC



LPCZ



Typical LCE4Z Installation

#### Installation:

- Install in pairs.
- For LCE4Z installations on mitered corner conditions, consult connector guide.

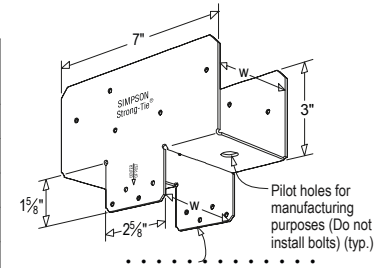
Model No.	Dimensions (in.)		Fasteners			
	W	L	Nails		SD Screws (preferred)	
			Beam	Post	Beam	Post
AC4Z	3 9/16	6 1/2	14-16d	14-16d	14-SD #10x1½	14-SD #10x1½
AC6Z	5 1/2	8 1/2	14-16d	14-16d	14-SD #10x1½	14-SD #10x1½
LPC4Z	3 9/16	3 1/2	8-10d	8-10d	8-SD #9x1½	8-SD #9x1½
LPC6Z	5 9/16	5 1/2	8-10d	8-10d	-	-
LCE4Z	-	5 3/8	14-16d	10-16d	14-SD #10x1½	10-SD #10x1½

1. Refer to current Wood Construction Connectors catalog for additional information.

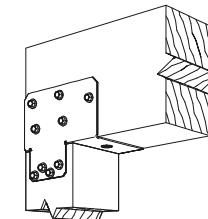
### DETAIL L. PC, EPC Post Caps

Model No. <sup>4</sup>	W (in.)	Fasteners <sup>2,3</sup>		Post Size
		Beam	Post	
PC4Z	3 9/16	(10) 10d	(8) 10d	(2) 2x4 <sup>1</sup>
				4x4
				4x6
				4x8
PC6Z	5 1/2	(10) 10d	(8) 10d	4x6
				6x6
				6x8
PC8Z	7 1/2	(10) 10d	(8) 10d	4x8
				6x8
				8x8

- Post and beam may consist of multiple members provided they are connected independently of the post cap fasteners.
- 10d x 2½" (0.148" dia. x 2½" long) nails may be used with no load reduction for uplift and 0.85 of the table loads for lateral.
- Strong-Drive® SD9 x 1½" Connector screws may be substituted for table fasteners with no load reduction and are the preferred fastener.
- Models available for rough size lumber, specify RZ suffix. Ex. PC4RZ.



PCZ

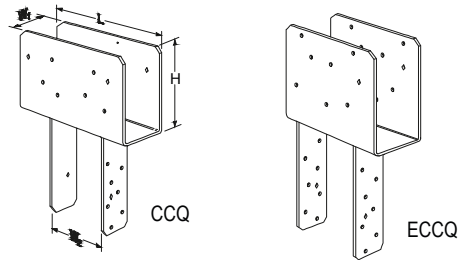


Typical EPCZ End Post Cap Installation

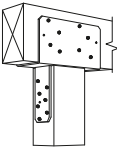
#### Installation:

- For end condition, specify EPC
- Use all specified fasteners.
- Do not install bolts into pilot holes.

DETAIL M. CCQ, ECCQ Post Caps



- Installation:**
- For end conditions, specify ECCQ
  - Install SDS 1/4" x 2 1/2" screws, which are provided with the column cap, with a 3/8" hex head driver. SDS screws install best with a low-speed, 1/2" drill.
  - Beam depth must be a minimum 7".

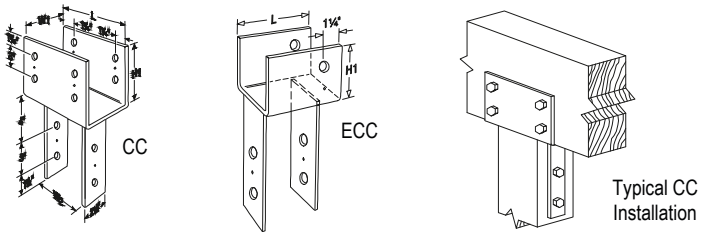


Typical CCQ Installation

Model No.	Beam Width	Dimensions (in.)					No. of SDS ¼"x 2½" Screws	
		W1	W2	L1		H		
				CCQ	ECCQ		Beam	Post
▶ CCQ3-6HDG	3 1/8	3 1/4	5 1/2	11	8 1/2	7	16	14
▶ CCQ44HDG	4x	3 5/8	3 5/8	11	8 1/2	7	16	14
▶ CCQ46HDG	4x	3 5/8	5 1/2	11	8 1/2	7	16	14
▶ CCQ48HDG	4x	3 5/8	7 1/2	11	8 1/2	7	16	14
▶ CCQ66HDG	6x	5 1/2	5 1/2	11	8 1/2	7	16	14
▶ CCQ68HDG	6x	5 1/2	7 1/2	11	8 1/2	7	16	14

1. ▶ indicates connector is available in stainless steel. Replace HDG in model number with SS when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL N. CC, ECC Post Caps

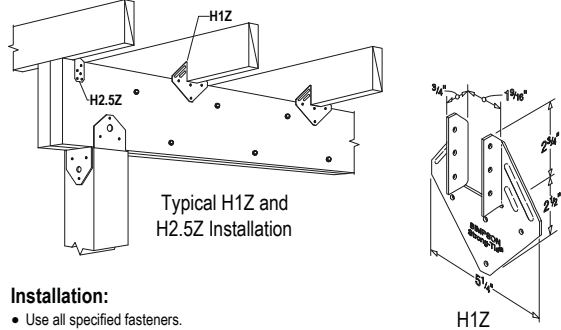


- Installation:**
- For end conditions, specify ECC
  - Bolt holes shall be a minimum 1/32" to a maximum 1/16" larger than the bolt diameter.
  - Contact engineered wood manufacturers for connectors that are not through the wide face.
  - Beam depth must be at least as tall as H1.

Model No.	Beam Width	Dimensions (in.)					Machine Bolts		
		W1	W2	L		H1	Dia.	Beam	
				CC	ECC			CC	ECC
▶ CC3-1/4-4HDG	3 1/8	3 1/4	3 5/8	11	7 1/2	6 1/2	5/8	4	2
▶ CC3-1/4-6HDG	3 1/8	3 1/4	5 1/2	11	7 1/2	6 1/2	5/8	4	2
▶ CC44HDG	4x	3 5/8	3 5/8	7	5 1/2	4	5/8	2	1
▶ CC66HDG	6x	5 1/2	5 1/2	11	7 1/2	6 1/2	5/8	4	2

1. ▶ indicates connector is available in stainless steel. Replace HDG in model number with SS when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL O. Hurricane Ties

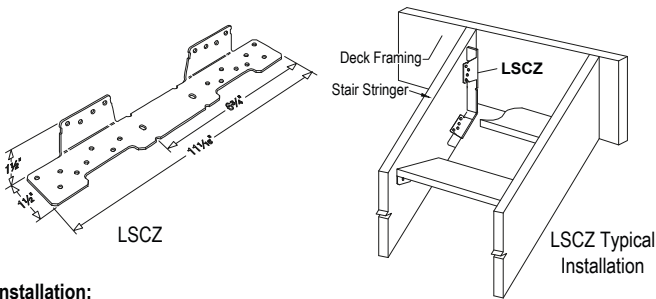


- Installation:**
- Use all specified fasteners.

Model No.	Fasteners			
	Nails		SD Screws (preferred)	
	To Joist	To Beam	To Joist	To Beam
H1Z	6-8dx1 1/2	4-8dx1 1/2	6-SD #9x1 1/2	4-SD #9x1 1/2
H2.5Z	5-8dx1 1/2	5-8dx1 1/2	5-SD #9x1 1/2	5-SD #9x1 1/2
H8Z	5-10dx1 1/2	5-10dx1 1/2	5-SD #9x1 1/2	5-SD #9x1 1/2

1. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL P. LSC Stair Stringer Connector

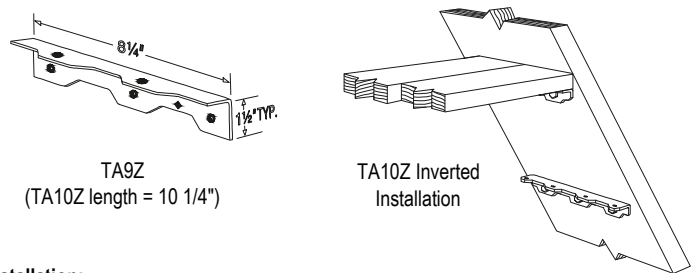


- Installation:**
- Before fastening, position the stair stringer with the LSCZ on the carrying member to verify where the bend should be located.
  - Tabs on the LSCZ must be positioned to the inside of the stairs.
  - The fastener that is installed into the bottom edge of the stringer must go into the second-to-last hole.
  - A minimum distance of 3/4" measured from the lowest rim-joist fastener to the edge of rim joist is required.

Model No.	Fasteners					
	Nails			SD Screws (preferred)		
	Rim Joist	Stringer Wide Face	Stringer Narrow Face	Rim Joist	Stringer Wide Face	Stringer Narrow Face
▶ LSCZ	8-10dx1 1/2	8-10dx1 1/2	1-10dx1 1/2	8-SD #9x1 1/2	8-SD #9x1 1/2	1-SD #9x1 1/2

1. ▶ indicates connector is available in stainless steel. Replace Z in model number with SS when ordering. Stainless steel models must be fastened with nails.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL Q. TA Tread Angle

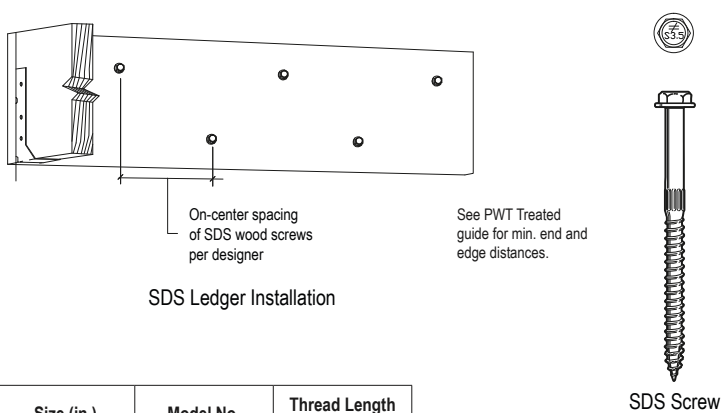


- Installation:**
- Use all specified fasteners.
  - For double 2x6 treads, install TA10Z inverted with 4 screws installed into the treads.

Model No.	Fasteners	
	Stringer	Thread
▶ TA9Z	3-SDS 1/4"x1 1/2"	2-SDS 1/4"x1 1/2"
▶ TA10Z	3-SDS 1/4"x1 1/2"	4-SDS 1/4"x1 1/2"
▶ TA10Z	4-SDS 1/4"x1 1/2"	3-SDS 1/4"x1 1/2"

1. ▶ indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
2. Refer to current *Wood Construction Connectors* catalog for additional information.

DETAIL R. SDS Screws



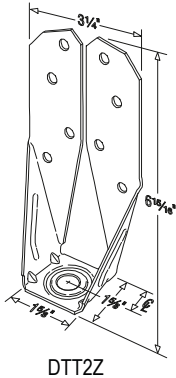
Size (in.)	Model No.	Thread Length (in.)
▶ 1/4" x 3 1/2"	SDS25312	2 1/4
1/4" x 5"	SDS25500	2 3/4

1. ▶ indicates connector is available in stainless steel. Add SS to model number when ordering.
2. The screws shall be staggered from the top to the bottom along the horizontal run of the deck ledger per building code.
- Predrilling recommended in 1.5" thick material.

- Installation:**
- SDS screws install best with a low-speed 1/2" drill.

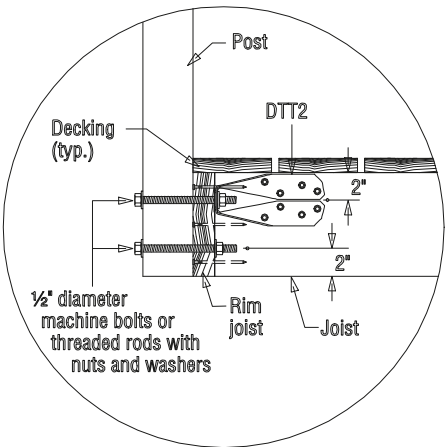
DETAIL S. DTT2Z Deck Tension Tie

- Installation:**
- Install Simpson Strong-Tie SDS wood screws with a 3/8" hex head driver. SDS screws install best with a low speed high torque drill.
  - A standard cut washer (provided) must be installed between the nut and the DTT2Z seat.
  - Bolt holes shall be a minimum 1/32" to a maximum 1/16" larger than the bolt diameter.

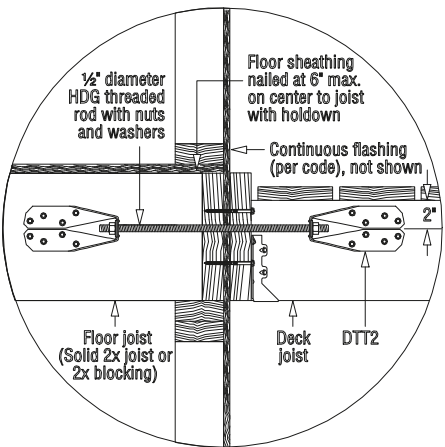


Model No.	CL	Anchor Dia.	Fasteners
▶ DTT2Z	13/16	1/2"	8-SDS 1/4"x1 1/2"

1. ▶ indicates connector is available in stainless steel. Replace Z in model number with SS when ordering.
2. Refer to *T-GRDRLPST* and *T-DECKLATLOAD* for additional information.



**DTT2Z Installed as a Lateral Connector for a Deck Guardrail Post.**  
For more information on guardrail post connections, and installation instructions, see technical bulletin *T-GRDRLPST* (available at [www.strongtie.com](http://www.strongtie.com)).  
Predrilling recommended in 1.5" thick material.



**DTT2Z Installed as a Lateral Connector for a Deck-to-House Lateral Load Connection**  
For more information on this connection, and installation instructions, see technical bulletin *T-DECKLATLOAD* (available at [www.strongtie.com](http://www.strongtie.com)).

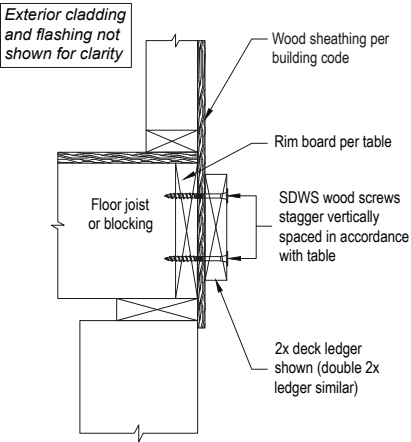
DETAIL T. SDWS Screws

Installation:

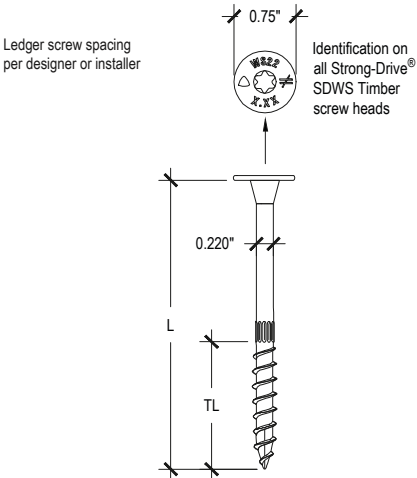
- Installs best with a low-speed 1/8" drill and a T-40 6-lobe bit. The matched bit included with the screws is recommended for best results.
- Predrilling is typically not required. Where predrilling is necessary, use a 5/32" drill bit.
- SDWS Timber screws are driven such that screw heads that are countersunk flush to the wood surface are acceptable if the screw has not spun out.

Size (in.)	Model No.	Thread Length (in.)
1/4" x 4"	SDWS22400DB	2 3/8"
1/4" x 5"	SDWS22500DB	2 3/4"

1. Refer to current Wood Construction Connectors catalogs for spacing and additional information.



**Ledger-to-Rim Board Assembly**  
(Wood-framed lower floor acceptable, concrete wall shown for illustration purposes)

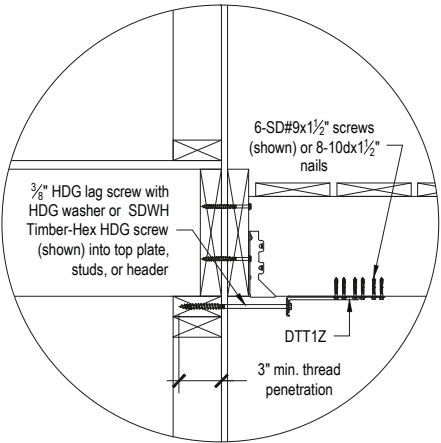


**Strong-Drive® SDWS Timber**

DETAIL U. DTT1Z Deck Tension Tie

Installation:

- Use all specified fasteners.
- Strong-Drive SD Connector screws install with a 1/4" hex head driver (Model DBHEX)
- Strong-Drive SDWH Timber-Hex HDG screws install with a 3/8" hex head driver (Model DB6H1.75)

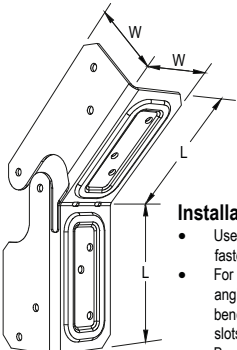


**Typical DTT1Z Deck-to-House Lateral Load Connection**

Model No.	CL	Anchor Dia.	Fasteners
DTT1Z	3/4"	3/8" or SDWH	6-SD#9x1 1/2"

1. A 3/8" HDG round washer is required when using a lag screw.
2. Refer to current Wood Construction Connectors catalog, and T-DECKLATLOAD for additional information.

DETAIL V. KBS1Z Knee-Brace Stabilizer

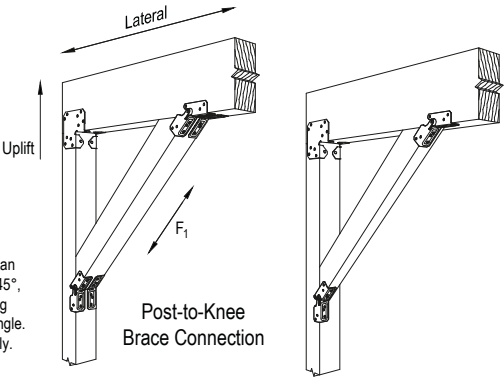


Installation:

- Use all specified fasteners.
- For installation at an angle other than 45°, bend KBS1Z along slots to desired angle. Bend one time only.

Model No.	Type of Connection	Connectors per Joist	Fasteners Each Connector
KBS1Z	Detail 1	2	12-8d
	Detail 2	1	12-8dx1 1/2"

1. Refer to current Wood Construction Connectors catalog for spacing and additional information.



**Post-to-2x Knee Brace Connection**