

PARALLAM[®] PLUS PSL BEAMS, HEADERS AND COLUMNS

Featuring Trus Joist[®] Parallam[®] PSL with
Wolmanized[®] Preservative Protection

- Columns and posts are ideal for ground and fresh water contact and saltwater splash applications
- Beams and headers are ideal for exterior, aboveground use
- Protects against termites and decay-causing fungi
- Treated throughout the cross section
- Kiln dried after treatment
- 30-year limited warranties





The products in this guide are readily available through our nationwide network of distributors and dealers. For more information on other applications or other Trus Joist® products, contact your Weyerhaeuser representative.

Code Evaluations:
See ICC ES ESR-1387

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Why Choose Parallam® Plus PSL?

Wood is naturally susceptible to attack by wood-destroying fungi and termites, so any wood product used in wet-service conditions or exposed exterior applications requires preservative treatment to protect it from degradation and ensure an extensive service life.

Weyerhaeuser has partnered with Arch Wood Protection, Inc. to create Parallam® Plus PSL, which effectively resists fungal decay and termite attack. Parallam® Plus PSL is suitable for applications that are exposed directly to weather and water—such as decks, pavilions, and pool enclosures—and direct ground contact applications like deck posts. Column members can even be used in saltwater splash applications.

DURABILITY AGAINST DECAY—GUARANTEED

Parallam® Plus PSL is backed by two, 30-year limited warranties to provide long-term peace of mind. As the manufacturer of Parallam® PSL, Weyerhaeuser warrants Parallam® Plus PSL against manufacturing defects. Arch Wood Protection, Inc., licensor of the Wolman® brand of pressure-treated lumber, warrants against termites and fungal decay. For more details, see our *Parallam® Plus PSL Limited 30-Year Warranty*, TJ-7101, available from your Weyerhaeuser representative or online at woodbywy.com.



LIMITED 30-YEAR WARRANTY

Trus Joist® Parallam® Plus PSL

Guaranteed Against Manufacturing Defects, Termites and Rot
Weyerhaeuser warrants that Trus Joist® Parallam® Plus PSL parallel strand lumber (PSL) with conforming, but only to 4 inches by 6 inches bearing and appearance from moisture growth, but does not include a warranty of insect resistance. Parallam® Plus PSL, with Wolmanized® preservative protection, is warranted against manufacturing defects by Weyerhaeuser, the manufacturer of PSL, and against termites and fungal decay by Arch Wood Protection Inc., licensor of the Wolmanized® brand of preservative-treated lumber.

Specification Assistance
Weyerhaeuser publishes a Parallam® Plus PSL Specifier's Guide, T-7102, that provides PSL, material applications, advice on use maximum moisture content service levels, provides beam and column design information, and provides general design information. Additional technical assistance can be obtained by phoning 1-888-453-8358.

Product Use
It is the responsibility of the design professional or engineer of record to properly evaluate the application conditions and assign the appropriate design Category and design properties.

ARCH WOOD PROTECTION, INC. PARALLAM® PLUS PSL 30-YEAR LIMITED WARRANTY
Arch Wood Protection Inc. (AWP) warrants that its Wolmanized® wood preservative will protect Parallam® Plus PSL against damage by termites or fungal decay that would cause the PSL to structurally fail for the application for which it was properly intended.

PSL, as treated with either CCA or copper azole. This warranty is good from the date of purchase for a period of 30 years thereafter on any PSL treated by an approved installer under, and in conformance with, AWP's Standard CCA and CUPAC (designated the quality mark of Termites Protection, Inc., the certified inspection agency). In the event that PSL is made structurally unfit by termites or fungal decay, Weyerhaeuser accepts liability to the owner and owner's wife and exclusive remedy, will be to replace new PSL, or, in exchange for the damaged PSL, or Weyerhaeuser's obligation to cooperate with the registered materials, including the cost of installation or reinstallation, the cost of removing any nonworking products, and transportation and labor costs. Some

States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. To make arrangements for the receipt of replacement materials, the owner must send the original purchase receipt, showing the date of purchase and showing that sufficient PSL has been purchased to cover the amount of PSL claimed to be damaged by termites, the license of the replacement, and the license of the replacement.

Wolmanized Wood
Arch Wood Protection, Inc.
350 Interstate North Parkway, Suite 400
Atlanta, GA 30329

Owner must submit, if requested, to an inspection at the site of the damaged PSL, or to show that PSL is or is not damaged by termites, if required, in order to confirm the cause of the damage.

Warranty shall not be liable hereunder for damage resulting from improper workmanship or installation, or damage to PSL caused by water damage, including but not limited to, but not limited to, water damage, or direct contact with caustic fertilizers or other chemicals, or direct contact with acidic soils, and other applications requiring treatment of wood with Category 4A for aboveground (above-ground) further, Weyerhaeuser shall not be liable for any damage to any structure, including but not limited to, but not limited to, damage resulting from the negligence or default of the Manufacturer, except for damage to PSL, resulting from such causes as fungus or insect attack. Owner is hereby advised that Weyerhaeuser does not produce or manufacture PSL and that Weyerhaeuser only produces the preservative that was used in treating the PSL for fungus and termite protection. Accordingly, Weyerhaeuser shall not be liable for any damage resulting from manufacturing defects of PSL, for installation, handling, storage, or use of PSL. See Weyerhaeuser's warranty covering PSL.

This warranty is the only warranty made by Weyerhaeuser with respect to PSL and excludes all other representations, warranties, conditions or guarantees, including without limitation any implied warranty or condition of merchantability or fitness for a particular purpose, or other warranties or conditions otherwise arising from the course of dealing, usage of trade, or advertising, no dealer, salesman, representative or other person is authorized to make or to enter into any contract or agreement which purports to modify, alter, extend, or in any way to vary the provisions of this limited warranty.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

Weyerhaeuser



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www.sfiprogram.org
SFI-00008

PRODUCT FEATURES AND SIZES



Trus Joist® Parallam® Plus PSL with Wolmanized® Preservative Protection

- Preservative treatment penetrates all the way to the core of the cross section
- Kiln dried after treatment
- Provides termite and decay protection

Parallam® Plus PSL beams and columns are treated with waterborne preservatives. They are treated and dried only at Weyerhaeuser-authorized treatment facilities.

Treated beam and header products are suitable for exposed exterior applications such as decks, pavilions, and pool enclosures. Treated column products are suitable for direct ground contact applications such as deck posts and construction poles for elevated house construction, as well as for saltwater splash applications.

Features and Use Characteristics for Parallam® Plus PSL Beams, Headers, and Columns

Feature/Use Characteristics		
	Beams and Headers	Columns
AWPA Use Category	UC4A or lower	UC4B or lower
Saltwater Splash Permitted	No	Yes
Treatment	Copper Azole	CCA
Kiln Dried After Treating	Yes (KD 19)	Yes (KD 19)
Decay Protection	Yes	Yes
Termite Protection	Yes	Yes
Corrosion-Resistant Hardware Required	Yes	Yes
Suitable for Interior Applications	Yes	Yes
Paintable or Stainable	Yes	Yes

Available Widths and Depths of Parallam® Plus PSL

Parallam® Plus PSL beams and headers are available in the following sizes:

Widths: 3½" and 5¼"

Depths: 9¼", 11⅞", 14", and 16"

Parallam® Plus PSL columns and posts are available in the following sizes:

3½" x 5¼" 5¼" x 5¼" 7" x 7"

Some sizes may not be available in your region.

Contact your Weyerhaeuser representative for dealer locations, available sizes, and lead times for treatment and delivery.



In order for Parallam® Plus PSL to perform as described, the product must maintain its original cross section. Parallam Plus® beams, headers and columns may be cut to length, but must not be resawn in depth or thickness.

Parallam® Plus PSL has an inherently industrial finish. Surface preparation may be required to achieve an acceptable architectural finish. Routine maintenance, such as the application of quality exterior stains and sealers, is required to improve and maintain the finish.

PARALLAM® PLUS PSL APPLICATIONS

Where to Use Parallam® Plus PSL

The American Wood Protection Association (AWPA) created Use Categories (UC) to characterize the end-use environments that require treated wood products.

Parallam® Plus PSL may be used for interior, dry or damp, aboveground applications (AWPA UC1 and AWPA UC2) to help protect against wood-destroying insects.

Parallam® Plus PSL is also suitable for exterior applications where a structural member is either partly or entirely located outside of the waterproof building envelope and exposed directly to weather (AWPA UC3) and ground contact (AWPA UC4). In these applications it can help protect against both wood-destroying insects and decay.



Parallam® PSL products enter an airtight treatment cylinder—a highly controlled, pressurized environment where they are exposed to the Wolman® treatment process.

How to Specify Parallam® Plus PSL

Step 1: Verify the appropriate end-use condition for your application using the **Use Categories** table below.

Step 2: Determine the appropriate Service Level for your application using the **Service Levels** table below.

Step 3: Design the members using the Service Level from Step 2 and one of the following:

- Allowable design stresses on page 5
- Load and application tables in this guide
- Forte® software

Use Categories

AWPA Use Category	Service Conditions	Use Environment	Typical Applications	Parallam® Plus PSL Acceptable Products	
				Beams and Headers	Columns
UC1	Interior construction, aboveground, dry	Continuously protected from weather or other sources of moisture	Interior construction	✓	✓
UC2	Interior construction, aboveground, damp	Protected from weather but may be subject to sources of moisture	Interior construction	✓	✓
UC3A	Exterior construction, aboveground, rapid water runoff	Exposed to all weather cycles, not exposed to prolonged wetting	Aboveground columns or rafters in an outdoor canopy structure	✓	✓
UC3B	Exterior construction, aboveground, poor water runoff	Exposed to all weather cycles including prolonged wetting	Beams, decking, and deck joists	✓	✓
UC4A	Ground contact or fresh water, non-critical components	Exposed to all weather cycles, normal exposure conditions	Posts in contact with the ground	✓	✓
UC4B	Ground contact or fresh water, critical components or difficult repair	Exposed to all weather cycles, includes saltwater splash	Posts with ground contact and high potential for deterioration	Not permitted	✓
UC4C	Ground contact or fresh water, critical structural components	Exposed to all weather cycles, severe environments	Land and freshwater piling, foundation piling	Not permitted	Not permitted
UC5A	Salt or brackish water and adjacent mud zone	Continuous marine exposure (salt water)	Piling, bulkheads, bracing	Not permitted	Not permitted

• This table has been adapted, with permission, from the 2014 AWPA Book of Standards (Standard U1-14, Table 2-1).

Service Levels

Service Level	Description	Allowable Moisture Content	Application Environment
1	Dry Use	≤ 16%	Dry, interior
2	Wet Use	> 16% and ≤ 28%	Repeated exposure to wet and dry cycles
3	Saturated Use	> 28%	Exposed to continuous wet conditions

DESIGN PROPERTIES

Allowable Design Stresses for Beams and Columns (100% Load Duration)

Service Level	G Shear Modulus of Elasticity (psi)	E Modulus of Elasticity (psi)	E _{min} Adjusted Modulus of Elasticity (psi)	F _b Flexural Stress ⁽¹⁾ (psi)	F _t Tension Stress ⁽²⁾ (psi)	F _{c⊥} Compression Perpendicular to Grain ⁽³⁾ (psi)	F _c Compression Parallel to Grain (psi)	F _v Horizontal Shear Parallel to Grain (psi)	C _{RP} Creep Factor	SG Equivalent Specific Gravity
Beam⁽⁴⁾ Application										
1	103,750	1.660 x 10 ⁶	843,725 ⁽⁵⁾	2,117	1,519	533	2,030	241	0.20	0.50
2	91,250	1.460 x 10 ⁶	742,070 ⁽⁵⁾	1,827	1,397	368	1,508	197	0.60	0.50
3	83,750	1.340 x 10 ⁶	681,080 ⁽⁵⁾	1,624	1,337	263	1,189	171	0.85	0.50
Column Application										
1	93,375	1.494 x 10 ⁶	759,350 ⁽⁶⁾	1,752 ⁽⁷⁾	1,316	215 ⁽⁷⁾	1,750	160 ⁽⁷⁾	0.20	0.50
2	82,125	1.314 x 10 ⁶	667,865 ⁽⁶⁾	1,512 ⁽⁷⁾	1,211	150 ⁽⁷⁾	1,300	120 ⁽⁷⁾	0.60	0.50
3	75,375	1.206 x 10 ⁶	612,970 ⁽⁶⁾	1,344 ⁽⁷⁾	1,158	110 ⁽⁷⁾	1,025	100 ⁽⁷⁾	0.85	0.50

(1) For 12" depth. For other depths, multiply by $[\frac{12}{d}]^{0.11}$

(2) F_t has been adjusted to reflect the volume effects for most standard applications.

(3) F_{c⊥} must not be increased for duration of load.

(4) For products used in beam orientation only.

(5) Reference modulus of elasticity for beam stability calculations, per NDS®.

(6) Reference modulus of elasticity for column stability calculations, per NDS®.

(7) Values are for plank orientation.

General Notes

- Surface checking is an inherent characteristic of Parallam® Plus PSL and is common to all wood products. The design values in this guide account for surface checking.
- The following formula approximates the total load deflection for a beam or header, including creep deflection (Δ_{CD}), in inches:

Total load deflection Δ_{TL} = Δ_{LL} + Δ_{DL} + Δ_{CD}, where:

Δ_{CD} = [Δ_{DL} + Δ_{LL}(F)]C_{RP}

F = 0.2 for floors; 0.3 for roofs

Nominal Connection Design Value Adjustment Factors

Service Level of Beam or Column Application	Moisture Content at Connection	Lateral Connections	Withdrawal Connections
SL1 or SL2	≤ 28%	0.7	0.25
SL3	≤ 28%	0.7	N.R. ⁽¹⁾
	> 28%	0.4	N.R. ⁽¹⁾

(1) Withdrawal connections in Service Level 3 applications are not recommended (N.R.).

Allowable Design Properties (100% Load Duration) 3½" Beams—Service Level 2

Design Property	Depth			
	9¼"	11⅞"	14"	16"
Moment (ft-lbs)	7,820	12,540	17,110	22,020
Shear (lbs)	4,255	5,465	6,440	7,360
Moment of Inertia (in. ⁴)	231	488	800	1,195
Weight (plf)	11.7	15.1	17.8	20.3

5¼" Beams—Service Level 2

Design Property	Depth			
	9¼"	11⅞"	14"	16"
Moment (ft-lbs)	11,735	18,810	25,670	33,030
Shear (lbs)	6,385	8,195	9,665	11,045
Moment of Inertia (in. ⁴)	346	733	1,201	1,792
Weight (plf)	17.6	22.6	26.6	30.5

HARDWARE RECOMMENDATIONS AND BEARING REQUIREMENTS

Hardware Recommendations

Due to the high moisture content typically present where Parallam® Plus PSL is used, it is very important to use corrosion-resistant fasteners and connectors for all applications. Fasteners include nails, screws, and bolts. Connectors include joist hangers, post bases, and hurricane or mudsill anchors.

Fasteners and connectors must have a coating that will provide the required level of corrosion resistance for the treatment types, retention levels and end-use conditions for Parallam® Plus PSL. To ensure that you select appropriate hardware, follow the hardware manufacturer's recommendations for CA-C (no ammonia) with a retention level of 0.15 pcf. If recommendations for CA-C are not provided, those for CA-B (no ammonia) with a retention level of 0.21 pcf may be used.

Beam Bearing Length Requirements—Service Level 2

Reaction	Treated Beam Width	
	3½"	5¼"
2,000	1¾"	1½"
4,000	3¼"	2¼"
6,000	4¾"	3¼"
8,000	6¼"	4¼"
10,000	8"	5¼"
12,000	9½"	6¼"
14,000	11"	7½"
16,000	12½"	8½"
18,000	14"	9½"
20,000	15¾"	10½"
22,000		11½"
24,000		12½"
26,000		13½"
28,000		14¾"
30,000		15¾"

General Notes

- Minimum bearing length: 1½" at ends, 3½" at intermediate supports.
- Bearing across full beam width required.
- Interpolation between reaction loads is permitted for determining bearing lengths.

BEAM LOAD TABLES



How to Use Beam Load Tables on pages 6 and 7

1. Calculate total load and live load (neglect beam weight) on the beam or header in pounds per linear foot (plf).
2. Select appropriate **Span** (center-to-center of bearing).
3. Scan horizontally to find the proper width, and a depth with a capacity that exceeds actual total and live loads.
4. Review bearing length requirements to ensure adequacy.

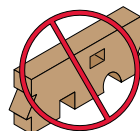
Floor Load (PLF)—Service Level 2

Load Duration	Span	Condition	3½" Width				5¼" Width			
			9¼"	11⅝"	14"	16"	9¼"	11⅝"	14"	16"
100% Floor	8'	Total Load	966	1,347	1,427	1,427	1,449	2,021	2,140	2,140
		Live Load L/360	853	*	*	*	1,280	*	*	*
		Min. End/Int. Bearing (in.)	3.0/7.6	4.2/10.6	4.5/11.3	4.5/11.3	3.0/7.6	4.2/10.6	4.5/11.3	4.5/11.3
	10'	Total Load	546	988	1,137	1,137	819	1,482	1,706	1,706
		Live Load L/360	458	918	*	*	686	1,377	*	*
		Min. End/Int. Bearing (in.)	2.2/5.4	3.9/9.8	4.5/11.3	4.5/11.3	2.2/5.4	3.9/9.8	4.5/11.3	4.5/11.3
	12'	Total Load	320	660	933	944	479	990	1,399	1,417
		Live Load L/360	272	554	875	*	408	830	1,312	*
		Min. End/Int. Bearing (in.)	1.6/3.9	3.2/7.9	4.4/11.1	4.5/11.3	1.5/3.9	3.2/7.9	4.4/11.1	4.5/11.3
	14'	Total Load	200	421	677	807	300	631	1,016	1,210
		Live Load L/360	174	358	570	*	261	536	855	*
		Min. End/Int. Bearing (in.)	1.5/3.5	2.4/5.9	3.8/9.5	4.5/11.3	1.5/3.5	2.4/5.9	3.8/9.5	4.5/11.3
	16'	Total Load	132	282	459	668	198	423	688	1,002
		Live Load L/360	118	244	391	570	177	365	586	855
		Min. End/Int. Bearing (in.)	1.5/3.5	1.9/4.6	3.0/7.4	4.3/10.7	1.5/3.5	1.9/4.6	3.0/7.4	4.3/10.7
	18'	Total Load	90	196	322	478	135	294	483	717
		Live Load L/360	83	173	279	409	125	260	418	613
		Min. End/Int. Bearing (in.)	1.5/3.5	1.5/3.7	2.4/5.9	3.5/8.7	1.5/3.5	1.5/3.7	2.4/5.9	3.5/8.7
	20'	Total Load	63	140	233	348	94	210	349	522
		Live Load L/360	61	127	206	302	92	191	308	454
		Min. End/Int. Bearing (in.)	1.5/3.5	1.5/3.5	2.0/4.9	2.9/7.2	1.5/3.5	1.5/3.5	2.0/4.9	2.9/7.2
	24'	Total Load		76	130	197		114	194	296
		Live Load L/360		74	121	178		112	181	268
		Min. End/Int. Bearing (in.)		1.5/3.5	1.5/3.5	2.0/5.1		1.5/3.5	1.5/3.5	2.0/5.1
28'	Total Load			76	118		64	114	178	
	Live Load L/360			*	114		*	*	171	
	Min. End/Int. Bearing (in.)			1.5/3.5	1.5/3.8		1.5/3.5	1.5/3.5	1.5/3.8	
32'	Total Load				73			68	110	
	Live Load L/360				*			*	*	
	Min. End/Int. Bearing (in.)				1.5/3.5			1.5/3.5	1.5/3.5	

* Indicates Total Load value controls.

General Notes

- Table is based on:
 - Uniform loads (beam weight considered).
 - More restrictive of simple or continuous span.
- Total load values are limited to deflection of L/240 and include creep deflection with an assumed dead load to live load ratio of 30%. Live load values are based on deflection of L/360. Check local code for other deflection criteria.
- For deflection limits of L/240 and L/480, multiply Live Load L/360 values by 1.5 and 0.75 respectively. The resulting live load must not exceed the total load shown.
- Lateral support is required at bearing and along the span at 24" on-center, maximum.
- For conditions beyond the scope of this table, including applications other than Service Level 2, use Weyerhaeuser software or contact your Weyerhaeuser representative.



DO NOT cut, notch, or drill holes in Parallam® Plus PSL except as indicated in the Trus Joist® Beams, Headers, and Columns Specifier's Guide, TJ-9000.

BEAM LOAD TABLES

Roof Load (PLF)—Service Level 2

Load Duration	Span	Condition	3½" Width				5¼" Width			
			9¼"	11⅞"	14"	16"	9¼"	11⅞"	14"	16"
115% Snow	8'	Total Load	1,113	1,432	1,427	1,427	1,669	2,140	2,140	2,140
		Live Load L/240	*	*	*	*	*	*	*	*
		Min. End/Int. Bearing (in.)	3.5/8.7	4.5/11.3	4.5/11.3	4.5/11.3	3.5/8.7	4.5/11.3	4.5/11.3	4.5/11.3
	10'	Total Load	705	1,138	1,137	1,137	1,058	1,706	1,706	1,706
		Live Load L/240	686	*	*	*	1,029	*	*	*
		Min. End/Int. Bearing (in.)	2.8/7.0	4.5/11.2	4.5/11.3	4.5/11.3	2.8/7.0	4.5/11.2	4.5/11.3	4.5/11.3
	12'	Total Load	414	786	944	944	621	1,179	1,417	1,417
		Live Load L/240	408	*	*	*	611	*	*	*
		Min. End/Int. Bearing (in.)	2.0/5.0	3.7/9.3	4.5/11.3	4.5/11.3	2.0/5.0	3.7/9.3	4.5/11.3	4.5/11.3
	14'	Total Load	261	545	785	807	391	818	1,178	1,210
		Live Load L/240	*	536	*	*	*	804	*	*
		Min. End/Int. Bearing (in.)	1.5/3.7	3.1/7.6	4.4/10.9	4.5/11.3	1.5/3.7	3.1/7.6	4.4/10.9	4.5/11.3
	16'	Total Load	173	367	594	703	259	550	892	1,055
		Live Load L/240	*	365	586	*	*	548	879	*
		Min. End/Int. Bearing (in.)	1.5/3.5	2.4/5.9	3.8/9.5	4.5/11.3	1.5/3.5	2.4/5.9	3.8/9.5	4.5/11.3
	18'	Total Load	119	256	419	605	178	384	629	908
		Live Load L/240	*	*	418	*	*	*	627	*
		Min. End/Int. Bearing (in.)	1.5/3.5	1.9/4.7	3.1/7.6	4.4/10.9	1.5/3.5	1.9/4.7	3.1/7.7	4.4/10.9
	20'	Total Load	84	184	304	453	126	276	457	680
		Live Load L/240	*	*	*	*	*	*	*	*
		Min. End/Int. Bearing (in.)	1.5/3.5	1.6/3.9	2.5/6.3	3.7/9.2	1.5/3.5	1.6/3.9	2.5/6.3	3.7/9.2
	24'	Total Load		102	172	259	66	152	257	389
		Live Load L/240		*	*	*	*	*	*	*
		Min. End/Int. Bearing (in.)		1.5/3.5	1.8/4.4	2.6/6.5	1.5/3.5	1.5/3.5	1.8/4.4	2.6/6.5
28'	Total Load		59	103	158		88	154	237	
	Live Load L/240		*	*	*		*	*	*	
	Min. End/Int. Bearing (in.)		1.5/3.5	1.5/3.5	1.9/4.9		1.5/3.5	1.5/3.5	1.9/4.9	
125% Non-Snow	8'	Total Load	1,210	1,432	1,427	1,427	1,816	2,140	2,140	2,140
		Live Load L/240	*	*	*	*	*	*	*	*
		Min. End/Int. Bearing (in.)	3.8/9.5	4.5/11.3	4.5/11.3	4.5/11.3	3.8/9.5	4.5/11.3	4.5/11.3	4.5/11.3
	10'	Total Load	705	1,143	1,137	1,137	1,058	1,706	1,706	1,706
		Live Load L/240	686	*	*	*	1,029	*	*	*
		Min. End/Int. Bearing (in.)	2.8/7.0	4.5/11.3	4.5/11.3	4.5/11.3	2.8/7.0	4.5/11.3	4.5/11.3	4.5/11.3
	12'	Total Load	414	852	944	944	621	1,278	1,417	1,417
		Live Load L/240	408	830	*	*	611	1,245	*	*
		Min. End/Int. Bearing (in.)	2.0/5.0	4.0/10.1	4.5/11.3	4.5/11.3	2.0/5.0	4.0/10.1	4.5/11.3	4.5/11.3
	14'	Total Load	261	545	807	807	391	818	1,210	1,210
		Live Load L/240	*	536	*	*	*	804	*	*
		Min. End/Int. Bearing (in.)	1.5/3.7	3.1/7.6	4.5/11.3	4.5/11.3	1.5/3.7	3.1/7.6	4.5/11.3	4.5/11.3
	16'	Total Load	173	367	594	703	259	550	892	1,055
		Live Load L/240	*	365	586	*	*	548	879	*
		Min. End/Int. Bearing (in.)	1.5/3.5	2.4/5.9	3.8/9.5	4.5/11.3	1.5/3.5	2.4/5.9	3.8/9.5	4.5/11.3
	18'	Total Load	119	256	419	620	178	384	629	930
		Live Load L/240	*	*	418	613	*	*	627	919
		Min. End/Int. Bearing (in.)	1.5/3.5	1.9/4.7	3.1/7.6	4.5/11.2	1.5/3.5	1.9/4.7	3.1/7.7	4.5/11.2
	20'	Total Load	84	184	304	453	126	276	457	680
		Live Load L/240	*	*	*	*	*	*	*	*
		Min. End/Int. Bearing (in.)	1.5/3.5	1.6/3.9	2.5/6.3	3.7/9.2	1.5/3.5	1.6/3.9	2.5/6.3	3.7/9.2
	24'	Total Load		102	172	259	66	152	257	389
		Live Load L/240		*	*	*	*	*	*	*
		Min. End/Int. Bearing (in.)		1.5/3.5	1.8/4.4	2.6/6.5	1.5/3.5	1.5/3.5	1.8/4.4	2.6/6.5
28'	Total Load		59	103	158		88	154	237	
	Live Load L/240		*	*	*		*	*	*	
	Min. End/Int. Bearing (in.)		1.5/3.5	1.5/3.5	1.9/4.9		1.5/3.5	1.5/3.5	1.9/4.9	

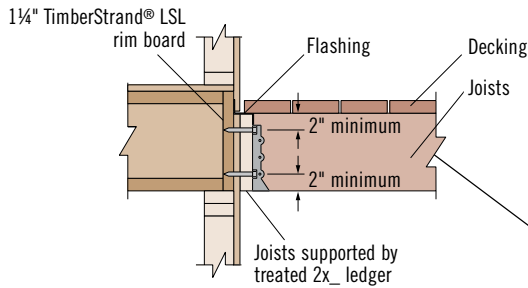
* Indicates Total Load value controls.

See page 6 for how to use this table.

General Notes

- Table is based on:
 - Uniform loads (beam weight considered).
 - More restrictive of simple or continuous span.
- Total load values are limited to deflection of L/180 and include creep deflection with an assumed dead load to live load ratio of 30%. For stiffer deflection criteria, Live Load L/240 values are provided. Check local code for other deflection criteria.
- Lateral support is required at bearing and along the span at 24" on-center, maximum.
- For conditions beyond the scope of this table, including applications other than Service Level 2, use Weyerhaeuser software or contact your Weyerhaeuser representative.

All lumber framing used in deck applications should be pressure treated to AWPA Standards or recognized in an ICC ES code report.

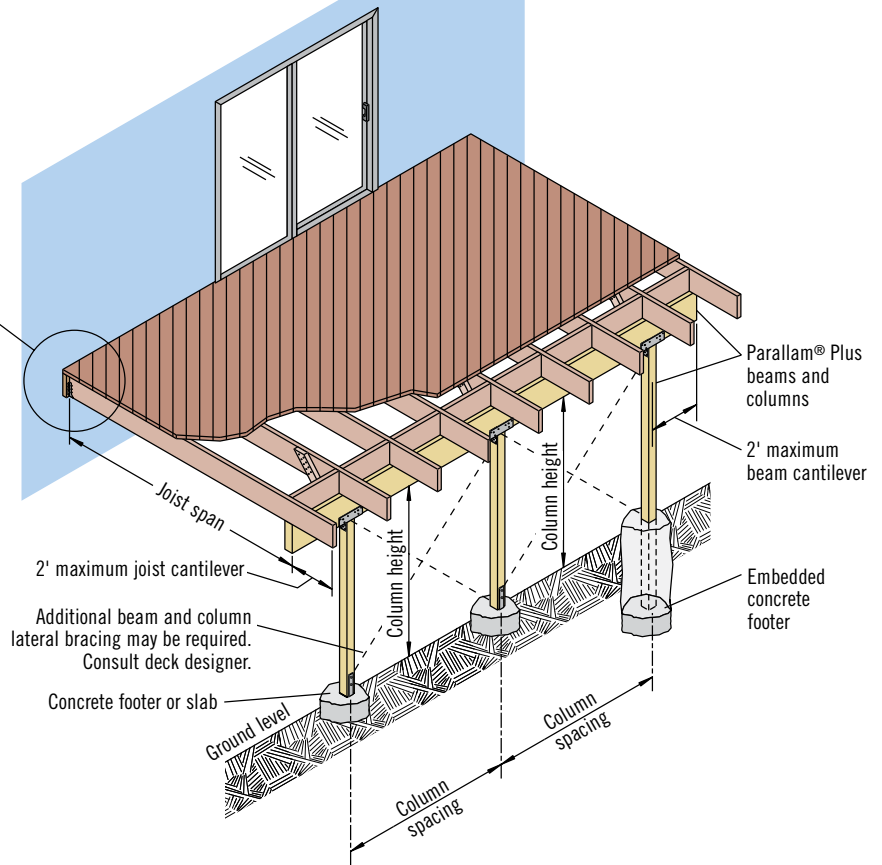


Flashing is a critical component and must be included.

Ledger Connections for 1 1/4" TimberStrand LSL Rim Board

Live Load	Joist Span	Connection Type and Spacing ⁽¹⁾
		Two rows 1/2" lag bolts
40 psf	up to 9'	32" on-center, staggered
	9' to 16'	16" on-center
60 psf	up to 7'	32" on-center, staggered
	7' to 14'	16" on-center
	14' to 16'	12" on-center

(1) 2" minimum edge distance is required for fastening ledger (see detail above).



Deck Beam and Column Selection (100% Load Duration)—Service Level 2

Deck Load (psf)	Joist Span	3 1/2" x 9 1/4" Beam		3 1/2" x 11 7/8" Beam		5 1/4" x 11 1/8" Beam		5 1/4" x 14" Beam	
		3 1/2" x 5 1/4" Column		3 1/2" x 5 1/4" Column		5 1/4" x 5 1/4" Column		5 1/4" x 5 1/4" Column	
		Maximum Column Spacing	Maximum Column Height	Maximum Column Spacing	Maximum Column Height	Maximum Column Spacing	Maximum Column Height	Maximum Column Spacing	Maximum Column Height
40LL + 10DL	8'	12'-0"	10'-6"	15'-0"	9'-0"	17'-6"	16'-0"	20'-6"	14'-0"
	10'	11'-6"	10'-0"	14'-6"	8'-6"	16'-6"	15'-0"	19'-6"	13'-6"
	12'	11'-0"	9'-6"	13'-6"	8'-0"	16'-0"	14'-0"	18'-6"	12'-6"
	14'	10'-6"	9'-0"	12'-0"	8'-0"	15'-6"	13'-6"	17'-6"	12'-6"
	16'	10'-0"	8'-6"	11'-0"	8'-0"	15'-0"	13'-0"	16'-0"	12'-0"
60LL + 10DL	8'	10'-6"	9'-6"	12'-6"	8'-0"	15'-6"	14'-0"	18'-6"	12'-0"
	10'	10'-0"	8'-6"	11'-0"	8'-0"	15'-0"	13'-0"	16'-0"	12'-0"
	12'	9'-6"	8'-6"	9'-6"	8'-0"	14'-0"	12'-6"	14'-6"	12'-0"
	14'	8'-6"	8'-6"	8'-6"	8'-0"	13'-0"	12'-0"	13'-0"	12'-0"
	16'	8'-0"	8'-0"	8'-0"	8'-0"	11'-6"	12'-6"	11'-6"	12'-6"

How to Use this Table

1. Determine the appropriate **Deck Load**.
2. Locate the **Joist Span** that meets or exceeds your condition.
3. Scan across the row to find both the **Maximum Column Spacing** and **Maximum Column Height** that meet or exceed your condition.
4. Scan up to determine the required **Beam** and **Column** sizes.

General Notes

- Table also applies to columns used in a Service Level 3 condition.
- Total load deflection for the beam is limited to L/240. Live load deflection is limited to L/360.
- Beams can be used in either continuous-span (up to 48') or simple-span applications.
- For conditions beyond the scope of this table, including beam applications other than Service Level 2, use Weyerhaeuser software or contact your Weyerhaeuser representative.

COLUMNS

Allowable Axial Loads (lbs)—Service Level 2

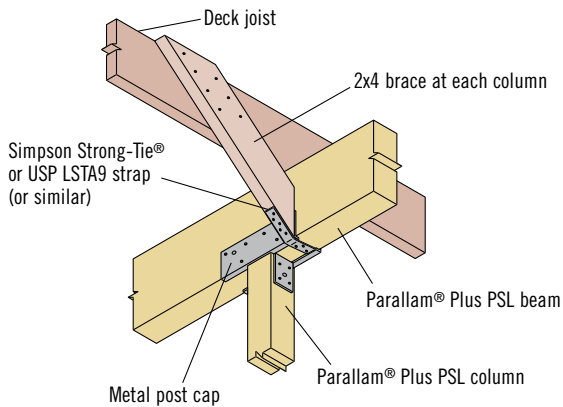
Effective Column Length	Column Size								
	3½" x 5¼"			5¼" x 5¼"			7" x 7"		
	100%	115%	125%	100%	115%	125%	100%	115%	125%
6'	10,580	11,330	11,760	20,330	22,680	24,150	38,850	40,000	40,000
8'	7,550	7,885	8,080	17,285	18,775	19,650	35,685	39,815	40,000
10'	5,485	5,665	5,770	14,005	14,845	15,325	31,785	34,780	36,570
12'	4,125	4,235	4,300	11,185	11,695	11,985	27,470	29,445	30,585
14'	3,205	3,280	3,320	9,020	9,355	9,545	23,300	24,605	25,355
16'	Slenderness ratio exceeds 50			7,385	7,615	7,750	19,705	20,615	21,135
18'				6,140	6,305	6,405	16,760	17,420	17,800
20'				5,175	5,300	5,375	14,375	14,870	15,155

General Notes

- Table is based on:
 - Solid, one-piece column members.
 - Bracing in both directions at column ends.
 - NDS®.
 - Simple columns with axial loads only. For side loads or other combined bending and axial loads, see the NDS®.
- Allowable loads have been adjusted to accommodate the worst case of the following eccentric conditions: ¼ of the column thickness (first dimension) or ¼ of the column width.
- For conditions beyond the scope of this table, including applications other than Service Level 2, use Weyerhaeuser software or contact your Weyerhaeuser representative.

WARNING: Drilling, sawing, sanding or machining wood products generates wood dust. The paint and/or coatings on this product may contain titanium dioxide. Wood dust and titanium dioxide are substances known to the State of California to cause cancer. For more information on Proposition 65, visit wy.com/inform.

Beam to Column Connection

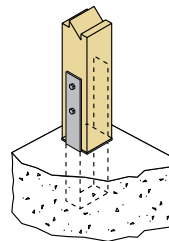


L27

All lumber framing used in deck applications should be pressure treated to AWP Standards or recognized in an ICC ES code report.

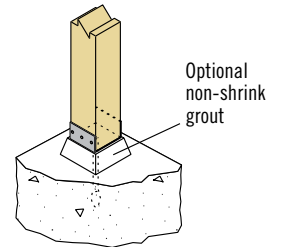
Column Base Connections

Column Base

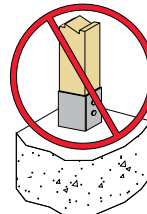


P2

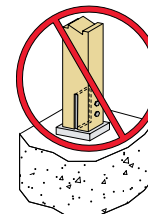
Elevated Column Base



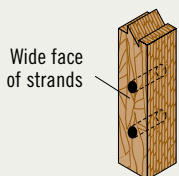
P3



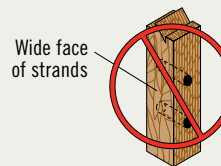
DO NOT encase column base



DO NOT size base plate larger than column



In order to use the manufacturer's published capacities when designing column caps, bases, or holdowns for uplift, the bolts or screws must be installed perpendicular to the wide face of strands as shown at left.

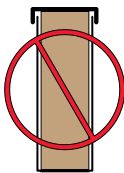


DO NOT install bolts or screws into the narrow face of strands

CLADDING INFORMATION

Parallam® Plus PSL is suitable for exposed conditions with wet-dry moisture cycles. However it may be desirable for aesthetic reasons to wrap the product in a decorative cladding. As with all treated wood products, avoid applications that can trap moisture. If decorative cladding is used, the following considerations are critical for Parallam® Plus PSL to perform satisfactorily:

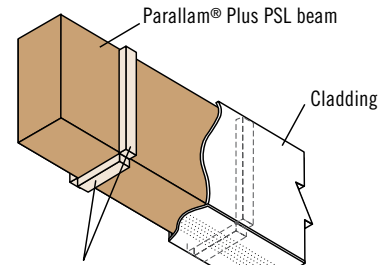
- The designer, builder, and owner must share responsibility for ensuring that the assembly is designed, installed, and maintained in a way that will prevent water from entering and being trapped.
- If the prevention of water intrusion over the life of the structure cannot be assured, then cladding must be designed and installed in a manner that allows adequate drainage and sufficient air-flow to facilitate drying. Suggested beam and column details are shown at right.
- Metal cladding materials should not be used, as the preservative treatment can react with the metal and lead to corrosion of the cladding and fasteners.
- All fasteners, furring strips, and other materials used in the cladding assembly must be corrosion-resistant, treated, or otherwise resistant to decay.
- Vented cladding, such as a soffit or drilled cladding material, should be used to allow proper drainage. Routine maintenance is also required to ensure that vent holes remain open and free of debris.
- For column bases with ground contact, maintain a 3" (minimum) gap between cladding and finish grade for drainage. For bases with patio or deck surface contact, maintain a 1" (minimum) gap between cladding and surface.



DO NOT wrap exterior Parallam® Plus PSL products with materials that may trap moisture, such as wood, metal, or plastic trim that does not allow for proper ventilation and drainage.

Cladding details shown are intended for use with Parallam® Plus PSL only and should not be used with untreated Weyerhaeuser products.

Cladding on Beams

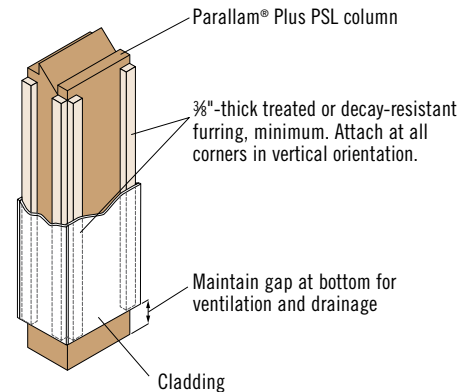


$\frac{3}{8}$ "-thick treated or decay-resistant furring, minimum. Attach furring around beam, with side strips in vertical orientation. Follow cladding manufacturer's recommendations for on-center spacing.

Use vented cladding at bottom for drainage

IMPORTANT: Moisture trapped inside the cladding may cause mold. The treatment used in Parallam® Plus does not prevent mold.

Cladding on Columns



$\frac{3}{8}$ "-thick treated or decay-resistant furring, minimum. Attach at all corners in vertical orientation.

Maintain gap at bottom for ventilation and drainage

Q&A

Q1: What is Parallam® Plus PSL?

A1: Parallam® Plus PSL is Parallam® PSL that has been treated with Arch Wood Protection Inc.'s preservative solution at a Weyerhaeuser-authorized treating facility. The treating facility is licensed by Arch to produce product under the Wolmanized® trade name, and is required to follow a strict quality assurance program.

Parallam® Plus PSL is produced from southern pine and is undersized to accommodate dimensional change during treatment. It is treated then kiln dried after treatment to a uniform moisture content.

Only Parallam® Plus PSL is manufactured using these methods, and it's the only product covered by both Weyerhaeuser (structural) and Arch (treatment) limited 30-year warranties.

Q2: Does Parallam® Plus PSL prevent mold growth on the product surface?

A2: No. Parallam® Plus PSL has been treated to effectively resist decay. The preservative treatment solutions used to treat Parallam® Plus PSL also contain moldicides that inhibit surface mold growth on freshly treated product; however, they are not intended to provide continual protection from surface mold growth once the product is in service.

Mold fungi 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 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.

Q3: How can I be sure that I have genuine Parallam® Plus PSL?

A3: Parallam® Plus PSL is stamped with the product description, type of treatment, and treating facility. The stamp also references the treating standards and third-party quality program monitor. The following stamps are examples of those found on Parallam® Plus PSL.



AWPA U1/C33
0.15 pcf CA-C KDAT 19% SYP
COX INDUSTRIES, INC.



AWPA U1/C33
0.60 pcf CCA-C KDAT 19% SYP
COX INDUSTRIES, INC.

Q4: Was CCA phased out for residential use?

A4: In 2004, CCA was phased out for certain dimension-lumber, residential applications such as deck railings and play sets. However, CCA is an excellent preservative and remains an approved form of treatment for Parallam® PSL columns used in structural ground-contact applications (AWPA UC4B).

Parallam® Plus PSL columns are well suited for residential applications such as structural support columns, deck posts, and retaining walls. It is ideal for applications that result in occasional, intermittent saltwater splash exposure that will not support degradation by marine organisms.

The U.S. EPA concluded that CCA-treated wood does not pose unreasonable risks to the public, and they do not require CCA-treated products to be removed from service, coated/sealed, or encapsulated. However, they do note that the use of a suitable coating could reduce potential exposure.

Additional information is available on the U.S. EPA website:
epa.gov/oppad001/reregistration/cca/index.htm#docs

Q5: What are wet-service and dry-service conditions?

A5: The definitions of wet and dry service vary slightly from one publication to the next. The NDS® defines dry service for structural composite lumber products as an in-service moisture content of less than 16%. CSA O86 defines dry service as a climatic condition in which the average equilibrium moisture content (EMC) of sawn lumber over a year's time is 15% or less and does not exceed 19%.

Not all exterior applications are necessarily a wet-service condition and, conversely, not all interior applications are a dry-service condition. The EMC of wood is a function of the relative humidity and temperature of the surrounding environment. However, high moisture content and the ensuing degradation can be observed in local areas where water collects and doesn't readily evaporate, such as improperly detailed column bases and connections in saddles where water accumulates.

Q6: How does Weyerhaeuser define "saltwater splash" with respect to applications for Parallam® Plus PSL?

A6: Saltwater splash applications are those in which incidental saltwater contact may occur, but at a level or time period insufficient to support the growth of marine organisms. Examples of incidental saltwater exposure include members used in proximity to saltwater and exposed to occasional or intermittent splash from storms or waves, or to saltwater spray or mist. Examples of conditions that would not be appropriate for Parallam® Plus PSL include members that are in or adjacent to the tidal zone where they would remain wetted with saltwater for extended periods of time.

Q7: What applications are not suitable for Parallam® Plus PSL?

A7: Parallam® Plus PSL is not suited for applications where conditions support degradation by marine organisms, or for direct contact with animal wastes, caustic fertilizers, or other chemicals. These types of applications are not covered by the Weyerhaeuser and Arch limited 30-year warranties.

Q8: Why does Weyerhaeuser use a different treatment for columns than for beams?

A8: Column applications where Parallam® Plus PSL is exposed to direct ground contact or occasional, intermittent saltwater splash require a higher level of protection, which is best achieved using the traditional CCA preservative.

Parallam® Plus PSL that is intended for beam and header applications is treated with copper azole at a retention level that eliminates the need to use stainless steel connectors and fasteners in most applications. Refer to hardware manufacturer's recommendations for your specific application.

Q9: Can I use Parallam® Plus PSL beams in column applications?

A9: Generally, no. The preservative retention level used for beam products is different than the level used for columns and is not suitable for heavy-duty, structural, ground-contact applications. However, if the product is being used in SL1 or SL2 (or even AWP A UC4A) applications, the preservative treatment is suitable and the beam may be used as a column.

Q10: Do I need to field-treat holes or end cuts?

A10: No. For the standard sizes shown in this guide, the unique structure of Parallam® PSL allows for penetration of preservative treatment throughout the cross section, eliminating the need to field treat holes or end cuts.

Q11: Are sealers, coatings, or remedial treatments effective alternatives to Parallam® Plus PSL?

A11: No. Current commercially available coatings that contain a preservative do not provide adequate protection from fungal decay or termites throughout the cross section of Parallam® PSL. Field-applied treatments are not covered by the Weyerhaeuser and Arch limited 30-year warranties.

Q12: Do I need to finish or clad my Parallam® Plus PSL products?

A12: Finishing or cladding your Parallam® Plus PSL may be desirable for aesthetic reasons, however, it is not required. Finishes that trap or seal in moisture should not be used. Cladding must be designed and installed in a way that provides adequate drainage and ventilation to prevent moisture build-up.

Q13: Can Parallam® Plus PSL products be painted or stained?

A13: Yes. Parallam® Plus PSL can be painted or stained with either oil- or water-based finishes. Untreated and treated wood products may exhibit discoloration, checking, warping, or splitting when exposed to the weather. Appropriate maintenance, such as the application of quality exterior stains and paints, will help reduce the extent of these weathering effects. However, these finishes may not hide inherent surface irregularities, and the final color may be affected by the tint of the treatment. Commercial paints and finishes that are compatible with preservative-treated products do exist; however, finishes that seal in or trap moisture should not be used.

Q14: Does Parallam® Plus PSL meet National Flood Insurance Program (NFIP/FEMA) guidelines for use in Below-Flood-Elevation (BFE) construction?

A14: Yes, Parallam® Plus PSL is a suitable material for use in BFE construction. For more information, see the Weyerhaeuser Technical Bulletin, *Flood Damage-Resistant Material Considerations*, TB-213.

Q15: Where can I find more information about Parallam® Plus PSL?

A15: For more information on Parallam® Plus PSL, see the following PDF available on woodbywy.com:

- *Consumer Safety Information Sheet for Trus Joist® Parallam® Plus PSL*, TJ-1021

Also see the following Material Safety Data Sheets (MSDSs), available at weyerhaeuser.com/Sustainability/Planet/ProductStewardship/MSDS:

- WC 311-12 Parallam® Plus PSL (CCA)
- WC 457-03 Parallam® Plus PSL (CA-C)

Q16: Where can I purchase Parallam® Plus PSL beams and columns?

A16: Parallam® Plus PSL is intended for use by professional building contractors; therefore, it can be purchased only through professional contractor yards. It is not available for sale through retail channels.

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Software Solutions: Whether you are a design professional or lumber dealer, Weyerhaeuser offers an array of software packages to help you specify individual framing members, create cut lists, manage inventories—even help you design a complete structural frame. Contact your Weyerhaeuser representative to find out how to get the software you need.

Technical Support: Need technical help? Weyerhaeuser has one of the largest networks of engineers and sales representatives in the business. Call us for help, and a skilled member from our team of experts will answer your questions and work with you to develop solutions that meet all your structural framing needs.



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