

# 1<sup>5</sup>/<sub>16</sub>" VERSA-LAM® LVL 1.5E 1800 STAIR STRINGER GUIDE

Laminated Veneer Lumber Stair Stringers with Crossbands for Extra Durability



### 1<sup>5</sup>/<sub>16</sub>" Versa-Lam® LVL 1.5E 1800 Allowable Stair Stringer Spans

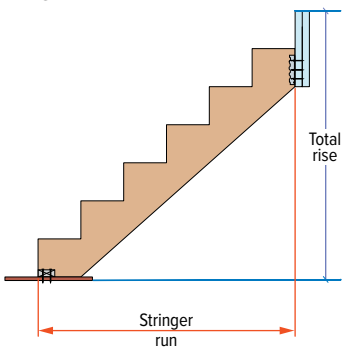
Material Depth	36" Tread Width				42" Tread Width		44" Tread Width		48" Tread Width	
	2 Stringers		3 Stringers		3 Stringers		3 Stringers		3 Stringers	
	Stringer Run	Total Rise	Stringer Run	Total Rise	Stringer Run	Total Rise	Stringer Run	Total Rise	Stringer Run	Total Rise
<b>40 PSF Live Load / 12 PSF Dead Load</b>										
9½"	5'-1"	5'-2"	5'-9"	5'-9"	5'-6"	5'-6"	5'-5"	5'-6"	5'-3"	5'-4"
11 <sup>7</sup> / <sub>8</sub> "	8'-7"	8'-3"	9'-9"	9'-4"	9'-3"	8'-11"	9'-2"	8'-9"	8'-11"	8'-7"
14"	11'-8"	11'-1"	13'-4"	12'-6"	12'-8"	11'-11"	12'-6"	11'-9"	12'-2"	11'-5"
16"	14'-8"	13'-8"	16'-8"	15'-6"	15'-10"	14'-9"	15'-8"	14'-7"	15'-3"	14'-2"
<b>100 PSF Live Load / 12 PSF Dead Load</b>										
9½"	3'-9"	4'-0"	4'-3"	4'-6"	4'-1"	4'-4"	4'-0"	4'-3"	3'-11"	4'-2"
11 <sup>7</sup> / <sub>8</sub> "	6'-5"	6'-4"	7'-3"	7'-1"	6'-11"	6'-10"	6'-10"	6'-9"	6'-8"	6'-7"
14"	8'-9"	8'-5"	9'-11"	9'-6"	9'-6"	9'-1"	9'-4"	8'-11"	9'-1"	8'-9"
16"	10'-11"	10'-5"	12'-5"	11'-9"	11'-10"	11'-2"	11'-8"	11'-1"	11'-4"	10'-9"

#### SPAN/LOADING NOTES

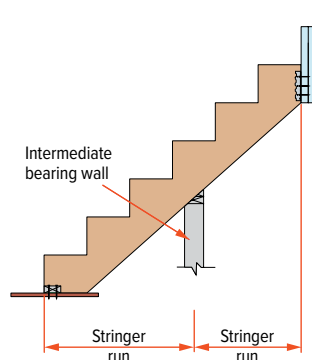
- Deflection limited to L/360 live load & L/240 total load.
- Spans based upon a stair limits of 8" max rise and 9" min. run, verify actual required minimum riser and tread width as required by local building code and amendments.
- Contact Boise Cascade EWP Engineering for design assistance on other stair stringer applications and/or loading.
- Consult governing building code and/or local building official for proper live load per application.
- Building codes typically restrict stair widths to 44" or greater for stairways serving an occupant load of 50 or less.
- Maximum total rise between floors is 12'-0" per building codes.

#### SPAN TABLE DETAILS

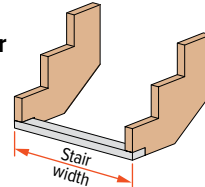
##### Single Span



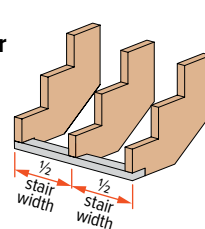
##### Multiple Span



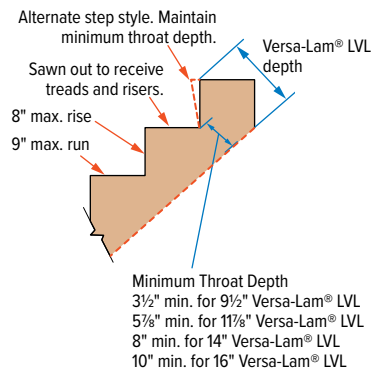
##### Two Stringer Option



##### Three Stringer Option

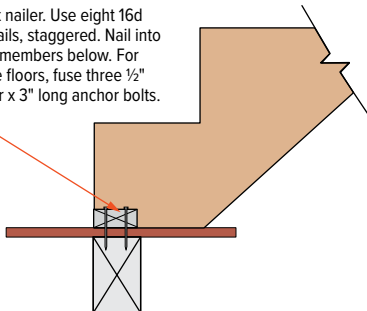


#### ALLOWABLE CUT DIMENSIONS

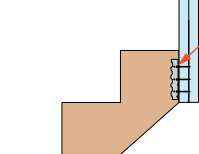


#### CONNECTION DETAILS - For 40 PSF Live Load Applications Only (Consult design professional of record for connections of 100 PSF applications.)

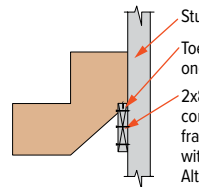
Let-in 2x nailer. Use eight 16d sinker nails, staggered. Nail into framing members below. For concrete floors, fuse three ½" diameter x 3" long anchor bolts.



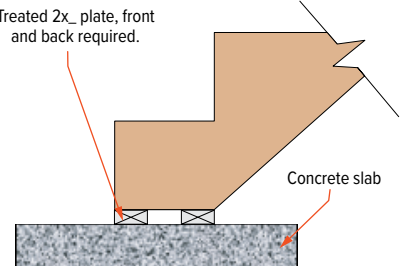
Simpson Strong-Tie A35 or Mitek MPA1 framing anchor. Fasten with 8d x 1½" nails. Use two framing anchors with all 14" Versa-Lam® LVL applications, stagger on each side to limit splitting.



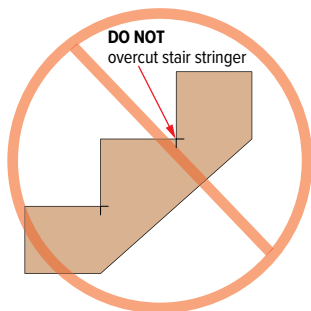
Studs at 16" o.c., maximum  
Toenail stringer to ledger with one 8d nail per side.  
2x8 min ledger nailed with three 16d common nails per stud. For SPF & hem-fir framing with runs longer than 10'-9", 2x10 with four 16d common nails required.  
Alternate connection: three ¼" x 4" (min) lag screws per stud, all framing.



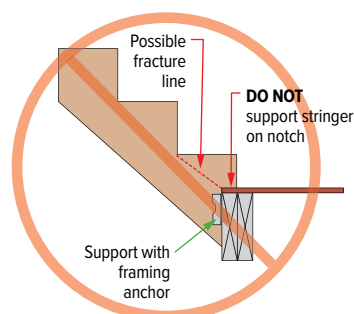
Treated 2x plate, front and back required.



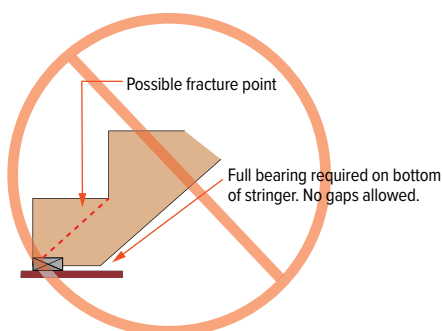
## DO NOT overcut stair stringer



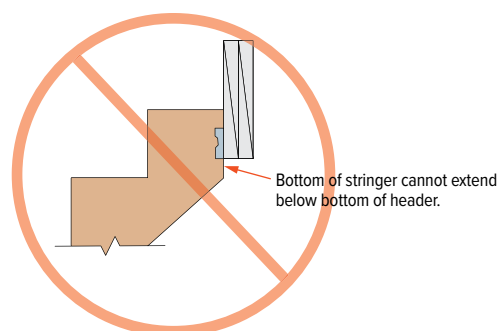
## DO NOT support stringer on notch detail



## DO NOT support stringer on let-in nailer only



## DO NOT use shallow header depths




## CONSTRUCTION NOTES

- STAIR STRINGERS ARE EXTREMELY UNSTABLE, USE CAUTION WHEN INSTALLING TREADS. DO NOT ALLOW WORKERS ON STAIRS UNTIL EACH END OF EACH STRINGER HAS BEEN PROPERLY ATTACHED AND TEMPORARY TREADS HAVE BEEN INSTALLED.
- Use subfloor adhesive on all contact surfaces to minimize squeaks.
- Adequate moisture barrier required between stringers and concrete.
- Keep product as dry as possible during construction.
- All wood splits when significant stress is induced across the grain - **DO NOT** apply significant side impact load (e.g., hammer) to remaining triangle sections of stringers.
- When installing treated wood, use only connectors/fasteners that are approved for use with the corresponding wood treatment.
- Use fasteners no larger than 8d box nail or #8 wood screw for attaching standard treads, space no closer than 3" on-center.

## 1 5/16" Versa-Lam® LVL 1.5E 1800 Allowable Design Values

Modulus of Elasticity—True E [psi]	Bending $F_b$ [psi]	Horizontal Shear $F_v$ [psi]	Compression Parallel to Grain $F_c$ [psi]	Compression Perpendicular to Grain $F_c$ [psi]	Tension Parallel to Grain $F_t$ [psi]
1,500,000	1800	225	2500	525	1250

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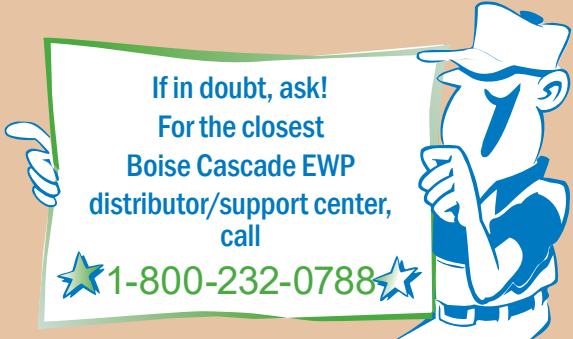
Boise Cascade has a proven track record of providing quality wood products and a nationwide building materials distribution network for our customers, helping them to enhance their own businesses.

Boise Cascade Engineered Wood Products build better homes with stronger, stiffer floors using only wood purchased in compliance with a number of green building programs. Take a moment to view our sustainability certification site at <http://www.bc.com/sustainability/certification-audits/> or view our green brochure at <https://p.widencdn.net/80libx>.

Boise Cascade Engineered Wood Products throughout North America can now be ordered FSC® Chain-of-Custody (COC) certified, enabling homebuilders to achieve LEED® points under U.S. Green Building Council® residential and commercial green building programs including LEED for Homes and LEED for New Construction. Boise Cascade Engineered Wood Products are available as PEFC® Chain-of-Custody certified, SFI® Chain-of-Custody certified and SFI Fiber-Sourcing certified, as well as NAHB Research Center Green Approved, enabling homebuilders to also obtain green building points through the National Green Building Standard.

## Lifetime Guaranteed Quality and Performance

Boise Cascade warrants its BCI® Joist, Versa-Lam® LVL, and ALLJOIST® products to comply with our specifications, to be free from defects in material and workmanship, and to meet or exceed our performance specifications for the normal and expected life of the structure when correctly stored, installed and used according to our Installation Guide.



If in doubt, ask!  
For the closest  
Boise Cascade EWP  
distributor/support center,  
call

★ 1-800-232-0788 ★

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