



STAIR STRINGER GUIDE

1½" VERSA-LAM[®] 2400 & 2650 1.7E



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.html> or view our green brochure at http://www.bc.com/wood/ewp/Boise_EWP_Green.html.

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.

1 1/2" VERSA-LAM® 2400 & 2650 1.7E Allowable Stair Stringer Spans - Limit States Design

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
40 PSF Live Load / 15 PSF Dead Load										
9 1/2"	6'-1"	5'-10"	6'-11"	6'-7"	6'-7"	6'-3"	6'-6"	6'-2"	6'-3"	6'-0"
11 7/8"	10'-2"	9'-4"	11'-8"	10'-7"	11'-1"	10'-1"	10'-11"	9'-11"	10'-7"	9'-8"
14"	13'-10"	12'-5"	15'-11"	14'-2"	15'-1"	13'-6"	14'-10"	13'-3"	14'-5"	12'-11"
100 PSF Live Load / 15 PSF Dead Load										
9 1/2"	4'-5"	4'-5"	5'-1"	5'-0"	4'-10"	4'-9"	4'-9"	4'-8"	4'-7"	4'-7"
11 7/8"	7'-6"	7'-0"	8'-7"	7'-11"	8'-2"	7'-7"	8'-0"	7'-6"	7'-9"	7'-3"
14"	10'-2"	9'-4"	11'-8"	10'-7"	11'-1"	10'-1"	10'-11"	9'-11"	10'-7"	9'-8"

SPAN/LOADING NOTES

- Deflection limited to L/360 live load & L/240 total load.
- Spans based upon stair limits of 7.875" max. rise and 9.25" min. run
- 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 greater than 50 people.
- Maximum total rise between floors is 12'-0" per building codes.

SPAN TABLE DETAILS

ALLOWABLE CUT DIMENSIONS

Alternate step style. Maintain minimum throat depth.

Sawn out to receive treads and risers.

7.875" max. rise

9.25" min. run

Minimum Throat Depth
 3 1/2" min. for 9 1/2" VERSA-LAM®
 5 7/8" min. for 11 7/8" VERSA-LAM®
 8" min. for 14" VERSA-LAM®

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 3 1/2" (16d) sinker nails, staggered. Nail into framing members below. For concrete floors, fuse three 1/2" diameter X 3" long anchor bolts.

Simpson Strong-Tie A35 or USP MPA1 framing anchor. Fasten with 2 1/2" (8d) x 1 1/2" nails. Use two framing anchors with all 14" VERSA-LAM® applications, stagger on each side to limit splitting.

Treated 2x plate, front and back required.

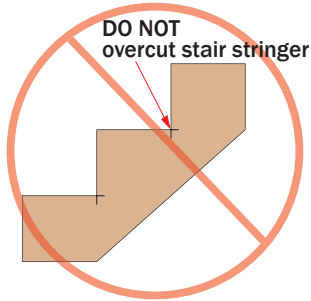
Studs at 16" on-center maximum.

Toenail stringer to ledger with one 2 1/2" 8d nail per side.

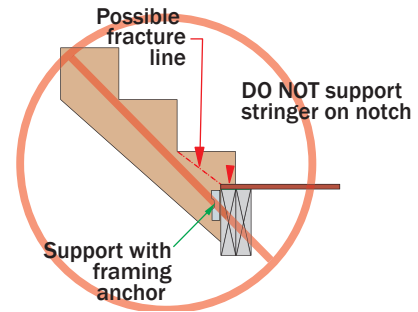
2x8 min ledger nailed with three 3 1/2" (16d) common nails per stud. For SPF & Hem-fir framing with runs longer than 10'-9", 2x10 with four 3 1/2" (16d) common nails required. Alternate connection: three 3/4" x 4" (min) lag screws per stud, all framing.

Concrete Slab

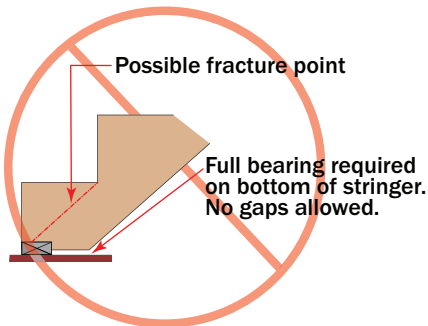
DO NOT overcut stair stringer



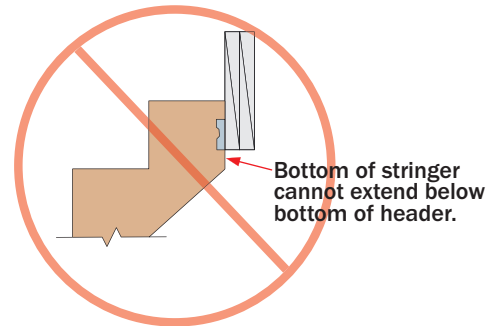
DO NOT support stringer on notch detail



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.
- 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 2½" (8d) box nail or 2½" (8d) wood screw for attaching standard treads, space no closer than 3" on-center.

Allowable Design Values⁽¹⁾ - Limit States Design

Products 1½" VERSA-LAM®	Modulus of Elasticity E [psi]	Specified Bending Strength F _b [psi]	Specified Shear Strength F _v [psi]	Specified Compression Parallel to Grain F _c [psi]	Specified Compression Perpendicular to Grain F _c [psi]
2400 1.7E	1,700,000	4800 ⁽²⁾	580	4400	1525
2650 1.7E	1,700,000	5280 ⁽²⁾	580	4400	1525

1) Design Values as per CCMC 12472-R

2) Multiply by depth factor: (12/d)^{1/9}

Great products are only the beginning.®

**IT JUST DOESN'T GET ANY BETTER THAN
BOISE CASCADE AND CANWEL.**

Boise Cascade Engineered Wood Products are manufactured by Boise Cascade
Distributed across Canada by CanWel Building Materials Division
Sold by your better local building materials retailer



Langley
5350 – 275th Street
Langley, BC V4W 4A3
Phone: 604 607-6885
1 800 665-3448

Saskatoon
11 Capital Circle
Corman Park, SK S7R 0H4
Phone: 306 933-2500
1 877 954-4448

Brampton
15 West Drive
Brampton, ON L6T 3T5
Phone: 905 792-9903
1 800 792-9903

Dartmouth
70 Simmonds Drive
Dartmouth, NS B3B 1P6
Phone: 902 468-9865
1 800 565-7913

Kelowna
205 Campion Street
Kelowna, BC V1X 7S9
Phone: 250 765-2036
1 877 488-8899

Regina
1055 Fleury Street
Regina, SK S4N 4W9
Phone: 306 569-9071
1 800 567-6226

Ottawa
700 Industrial Avenue, Suite 401
Ottawa, ON K1G 0Y9
Phone: 613 247-8682
1 800 267-1305

Deer Lake
10 Spillway Road
Deer Lake, NL A8A 3E7
Phone: 709 635-3772
1 800 563-7517

Calgary
9229 Barlow Trail SE
Calgary, AB T2C 2N8
Phone: 403 279-7108
1 877 656-6166

Winnipeg
350 De Baets Street
Winnipeg, MB R2J 0H4
Phone: 204 633-4890
1 800 665-1923

Blainville
651 Boulevard Industrial
Blainville, QC J7C 3V3
Phone: 450 435-6911
1 800 361-5345

Mount-Pearl
42 Sagona Avenue
Donovans Industrial Park
Mount-Pearl, NL A1N 4R3
Phone: 709 745-6760
1 888 745-6760

Edmonton
11553 – 154th Street
Edmonton, AB T5M 3N7
Phone: 780 451-3850
1 800 268-7569

Sudbury
725 Martindale Road, P.O. Box 655
Sudbury, ON P3E 4P8
Phone: 705 674-6469
1 800 461-1105

Québec
170 Liverpool
St-Augustin-de-Desmaures, QC G3A 2M5
Phone: 418 878-6081
1 877 877-6081

Your local retailer

**Lifetime Guaranteed
Quality and Performance**

Boise Cascade warrants its BCI® Joist, VERSA-LAM®, 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.

For information about Boise Cascade's engineered wood products,
including sales terms and conditions, warranties and disclaimers,

visit our website at www.BCewp.com
email us at EWP_Canada@bc.com or call us at 800 964-6999