

STAIR STRINGERS AND TREADS

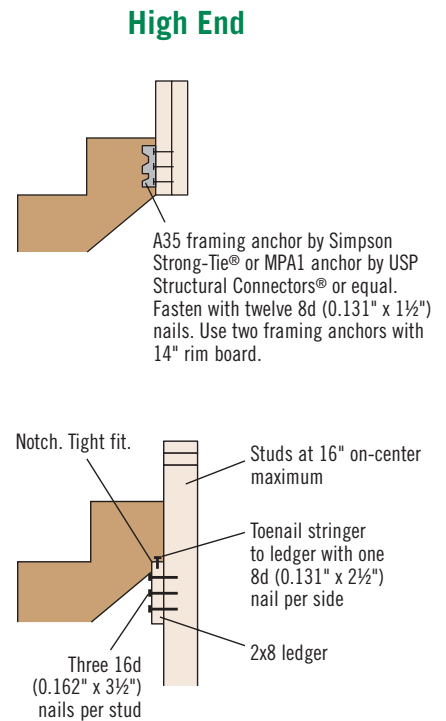
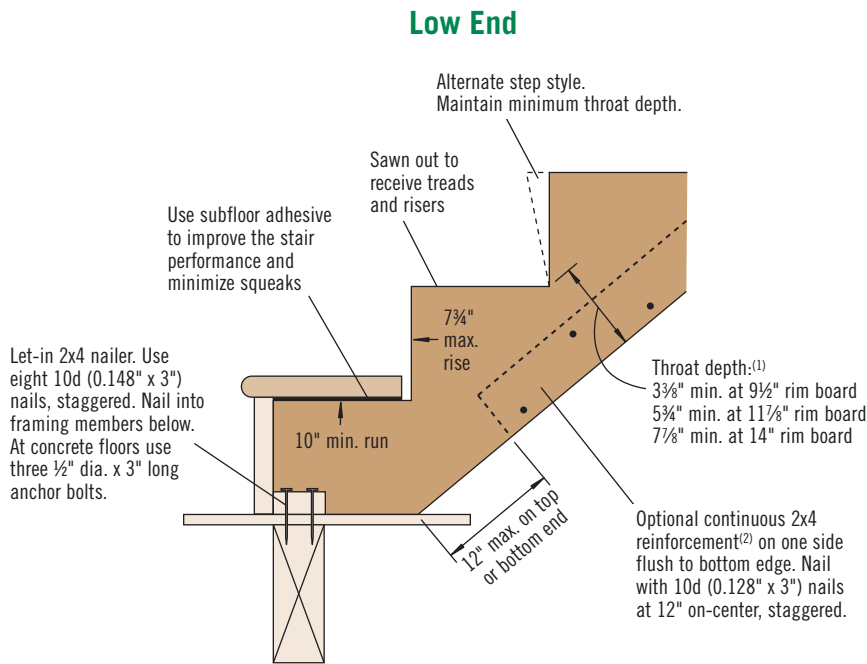
Featuring TimberStrand® LSL Stair Stringers and Weyerhaeuser SturdiStep® Stair Treads

- Engineered Wood Solutions for Strong, Stable Stairs
- Resists Bowing, Shrinking, and Splitting
- Straight and Consistent
- Better Nail Holding Capability
- Eliminates Adjustments for Shrinkage
- Minimizes Material Waste
- Significantly Reduces Callbacks
- Limited Product Warranty



1¼" 1.3E TIMBERSTRAND® LSL STAIR STRINGERS

Suggested Residential Stringer Attachment Details 40 psf Live Load and 12 psf Dead Load



- (1) Minimum throat depths may be reduced by an additional ¼" for 11½" and 14" material depths if 2x4 reinforcement is used and provided total rises and runs are limited to table values for unreinforced stringers.
 (2) Minimum No. 2 hem-fir, spruce-pine-fir or better grade.

CAUTION
 Stair stringer tables and attachment details are intended for use with TimberStrand® LSL only. Consult designer for attachment details for live loads greater than 40 psf.



1¼" 1.3E TimberStrand® LSL Design Properties

Design Property	Allowable Design Stresses (100% Load Duration)	Specified Strengths ⁽¹⁾ (Standard Term)
Shear modulus of elasticity	$G = 81,250$ psi	81,250 psi
Modulus of elasticity	$E = 1.3 \times 10^6$ psi	1.3×10^6 psi
Flexural stress	$F_b = 1,700$ psi ⁽²⁾	3,140 psi ⁽²⁾
Compression perpendicular to grain	$F_{c\perp} = 710$ psi ⁽³⁾	1,240 psi ⁽³⁾
Compression parallel to grain	$F_{c\parallel} = 1,835$ psi	2,235 psi
Horizontal shear perpendicular	$F_v = 425$ psi	745 psi

- (1) Specified strengths are for Limit States Design per CSA 086.
 (2) For 12" depth. For others, multiply by $\left[\frac{12}{d}\right]^{0.092}$
 (3) $F_{c\perp}$ shall not be increased for duration of load.

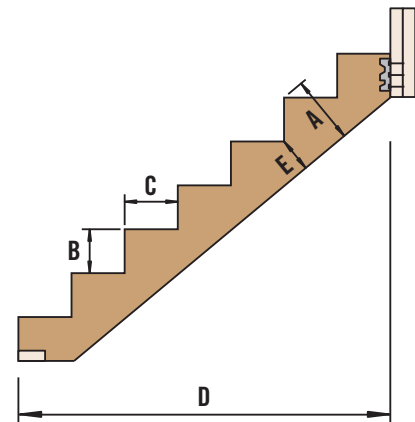
Code Evaluations: See ICC ES ESR-1387 and CCMC 12627-R

TimberStrand® LSL stair stringers are intended for dry-use applications.

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.

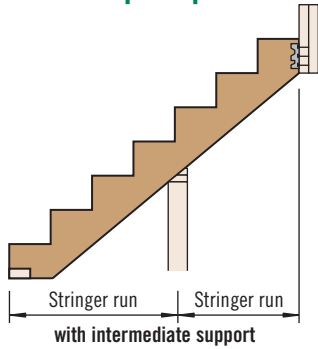
Glossary of Terms

Term	Definition
(A) Material Depth	Depth of product before steps are cut.
(B) Step Rise	Unit rise of individual step.
(C) Step Run	Unit run of individual run (nosing ignored).
(D) Stringer Run	Horizontal span between stairway supports.
(E) Throat Depth	Net depth of stringer once steps are cut. Measured from step perpendicular to bottom edge of stringer.

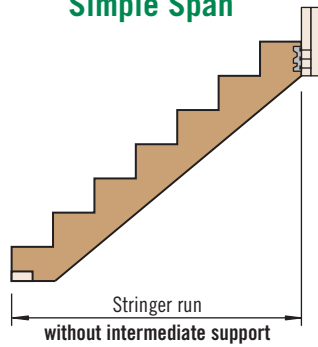


1 1/4" 1.3E TIMBERSTRAND® LSL STAIR STRINGERS

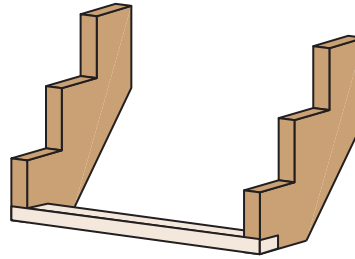
Multiple Span



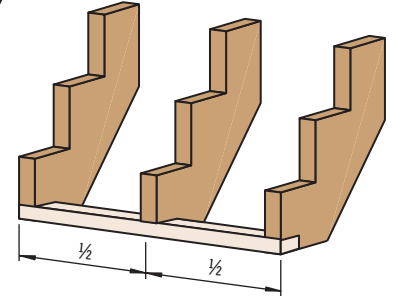
Simple Span



Two Stringer Option



Three Stringer Option



Maximum Stringer Run 40 psf Live Load / 12 psf Dead Load

Material Depth	36" Tread Width				42" Tread Width		44" Tread Width		48" Tread Width	
	2 Stringers		3 Stringers		3 Stringers		3 Stringers		3 Stringers	
	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement
9 1/2"	5'-0"	5'-10"	5'-10"	7'-6"	5'-10"	6'-8"	5'-10"	6'-8"	5'-0"	6'-8"
11 7/8"	8'-4"	10'-0"	10'-0"	10'-10"	9'-2"	10'-10"	9'-2"	10'-0"	9'-2"	10'-0"
14"	11'-8"	11'-8"	13'-4"	13'-4"	12'-6"	12'-6"	12'-6"	12'-6"	11'-8"	11'-8"

Maximum Stringer Run 100 psf Live Load / 12 psf Dead Load

Material Depth	36" Tread Width				42" Tread Width		44" Tread Width		48" Tread Width	
	2 Stringers		3 Stringers		3 Stringers		3 Stringers		3 Stringers	
	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement	Without Reinforcement	With 2x4 Reinforcement
9 1/2"	3'-4"	4'-2"	4'-2"	5'-0"	4'-2"	5'-0"	4'-2"	5'-0"	3'-4"	4'-2"
11 7/8"	6'-8"	6'-8"	7'-6"	8'-4"	6'-8"	7'-6"	6'-8"	7'-6"	6'-8"	7'-6"
14"	8'-4"	8'-4"	10'-0"	10'-0"	9'-2"	9'-2"	9'-2"	9'-2"	9'-2"	9'-2"

General Notes

- Maximum stringer runs shown are valid for U.S. codes (Allowable Stress Design) or Canadian codes (Limit States Design). Loads shown are unfactored.
- Deflection criteria of L/360 live load and L/240 total load.
- Stairway assembly is unstable until treads are installed.
- Use subfloor adhesive to improve stair performance and minimize squeaks. See adhesive recommendations on page 4.
- Tables based on 7 3/4" maximum rise and 10" minimum run. Local codes may be more restrictive.
- Maximum rise between floors or landings permitted by code is 12'-0".
- Keep materials dry. Add a vapor barrier at the bottom of the stair stringer if it is in contact with concrete.
- The attachment details shown are suggestions only; alternate details are possible. Responsibility remains with the design professional of record.
- For assistance with loading conditions and stair configurations not shown, contact your Weyerhaeuser representative.

General Guidelines for Calculating Step Rise and Run

- The rise times the run should equal approximately 75".
- Two times the rise plus one run should equal approximately 25".
- Rise plus run should be 17" to 18".

Product Storage



Protect product from sun and water

CAUTION:
Wrap is slippery when wet or icy

Align stickers (2x3 or larger) directly over support blocks

Use support blocks (6x6 or larger) at 10' on-center to keep bundles out of mud and water

WEYERHAEUSER STURDISTEP® STAIR TREADS

Combine SturdiStep® treads with TimberStrand® LSL stair stringers for a solid, stable stair system

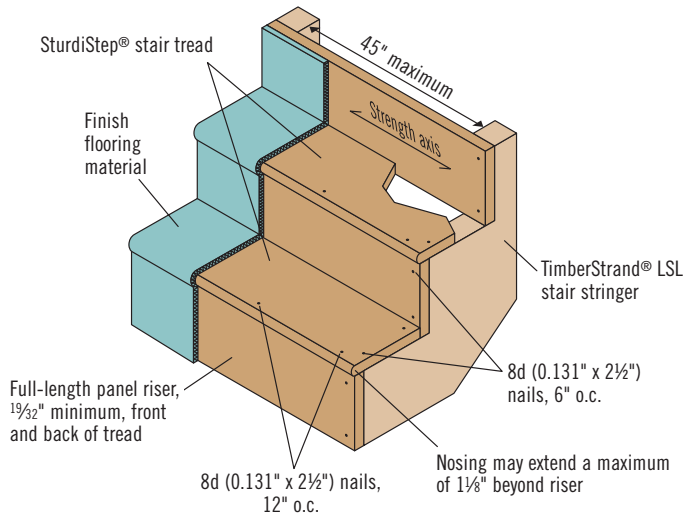
SturdiStep® stair treads are manufactured to be flat, straight, and a precise thickness — and are the only wood stair treads warranted against delamination, cupping and warping. Unlike traditional pine stair treads SturdiStep® treads are knot-free and uniform throughout, so when properly installed, they won't crack or split when nailed to the stringers.

Durable enough to withstand the demands of normal construction delays, SturdiStep® treads can be installed during the framing stage of construction, saving builders on labor and other costs associated with temporary stair treads.

Suitable for use in residential and multifamily construction, SturdiStep® treads offer precision, convenience, less waste and lower costs.

SturdiStep® stair treads offer:

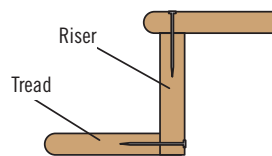
- **Sizes convenient for cutting to length at the jobsite:**
Eastern markets: 1" x 10³/₄" x 16' and 1" x 11¹/₂" x 16'
Western markets: 1" x 11¹/₂" x 12'
- **Uniform, knot-free treads that won't cup or split when properly installed**
- **Bullnosed edges that enhance appearance and save labor at the jobsite**
- **The industry's only limited warranty against cupping, warping, and splitting**



While Detail A below is the simplest method of nailing the riser to the tread and works well with 1" and thicker stair treads, Detail B is preferred as it eliminates end-grain nailing at the back of the riser.

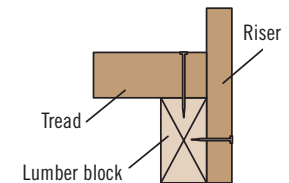
Detail A

Predrill tread end grain at mid-thickness with a 3/32" bit. Maintain at least 3/8" edge distance in riser.



Detail B (preferred)

Preferred option because it eliminates end-grain nailing at the back of the riser.



Installation notes

- Clear span between stringers shall not exceed 45" and fasteners and adhesives shall be as noted below.
- SturdiStep® stair treads must be supported at both front and back by a full-length, minimum 1⁹/₃₂" riser that is fastened with nails and structural adhesive that complies with ASTM D3498 (AFG-01) performance standards.
- The back riser must extend down flush with or past the bottom of the tread.
- Treads must be glued and nailed to the front riser with 8d (2¹/₂") finish nails, spaced a maximum of 12" on-center.
- The nosing must not extend more than 1¹/₈" beyond the riser. Be sure tread and riser dimensions (rise and run) comply with applicable code requirements.

Contact your local representative or dealer at:

CONTACT US

1.888.453.8358 • woodbywy.com/contact



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This document supersedes all previous versions. If this is more than one year old, contact your dealer or Weyerhaeuser rep.

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