



**BUILDING CODE COMPLIANCE OFFICE**  
METRO-DADE FLAGLER BUILDING  
140 WEST FLAGLER STREET, SUITE 1603  
MIAMI, FLORIDA 33130-1563  
(305) 375-2901 FAX (305) 375-2908

**CONTRACTOR LICENSING SECTION**  
(305) 375-2527 FAX (305) 375-2558

**CONTRACTOR ENFORCEMENT DIVISION**  
(305) 375-2966 FAX (305) 375-2908

**PRODUCT CONTROL DIVISION**  
(305) 375-2902 FAX (305) 372-6339

**PRODUCT CONTROL NOTICE OF ACCEPTANCE**

**Trus Joist**  
**6001 Jackson Square, Suite 600**  
**Lavergne, TN 37086**

Your application for Notice of Acceptance (NOA) of:

**TimberStrand Laminated Strand Lumber**

under Chapter 8 of the Code of Miami-Dade County governing the use of Alternate Materials and Types of Construction, and completely described herein, has been recommended for acceptance by the Miami-Dade County Building Code Compliance Office (BCCO) under the conditions specified herein.

This NOA shall not be valid after the expiration date stated below. BCCO reserves the right to secure this product or material at any time from a jobsite or manufacturer's plant for quality control testing. If this product or material fails to perform in the approved manner, BCCO may revoke, modify, or suspend the use of such product or material immediately. BCCO reserves the right to revoke this approval, if it is determined by BCCO that this product or material fails to meet the requirements of the South Florida Building Code.

The expense of such testing will be incurred by the manufacturer.

**ACCEPTANCE NO.: 00-1228.01**  
**EXPIRES: 04/09/2006**

Raul Rodriguez  
Chief Product Control Division

**THIS IS THE COVERSHEET, SEE ADDITIONAL PAGES FOR SPECIFIC AND GENERAL  
CONDITIONS  
BUILDING CODE & PRODUCT REVIEW COMMITTEE**

This application for Product Approval has been reviewed by the BCCO and approved by the Building Code and Product Review Committee to be used in Miami-Dade County, Florida under the conditions set forth above.

Francisco J. Quintana, R.A.  
Director  
Miami-Dade County  
Building Code Compliance Office

**APPROVED: 03/29/2001**

**Trus Joist .**

**ACCEPTANCE NO: 00-1228.01**

**APPROVED: MAR 29 2001**

**EXPIRES: 04/09/2006**

**NOTICE OF ACCEPTANCE: SPECIFIC CONDITIONS**

**1. SCOPE**

- 1.1 This renews the Notice of Acceptance No. 96-0617.02 that was issued on 04/09/98. It approves TimberStrand Laminated Strand Lumber (LSL) as described in section 2 of this Notice of Acceptance, designed to comply with the South Florida Building Code, 1994 edition for Miami-Dade County (S.F.B.C). For the locations where the load requirements, as determined by SFBC chapter 23, do not exceed the design values indicated on the approved drawings.

**2. PRODUCT DESCRIPTION**

- 2.1 The TimberStrand Laminated Strand Lumber (LSL) by Trus Joist shall be manufactured in strict compliance with the following documents: Drawings with no number, sheet 1 & 2 of 2, titled "TimberStrand LSL", prepared by Trus Joist , dated 02/14/01 and no revisions. It bears the Miami-Dade County Product Control approval stamp with the Notice of Acceptance number and approval date by the Miami Dade County Product Control Division. These documents shall herein after be referred to as the approved drawings.

**3. LIMITATIONS**

- 3.1 TimberStrand Laminated Strand Lumber (LSL) is approved to be used as beams, headers and wall framing. It shall be protected from rain and water.

**4. INSTALLATION**

- 4.1 TimberStrand Laminated Strand Lumber (LSL) shall be designed and installed in strict compliance with the approved drawings.

**5. LABELING**

- 5.1 Each TimberStrand member shall be permanently labeled with the manufacturer's name or logo, city, state and the following statement: "Miami Dade County Product Control Approved" or "MDCPCA".

**6. BUILDING PERMIT REQUIREMENTS.**

- 6.1 Application for building permit shall be accompanied by copies of the following:
- 6.1.1 This Notice of Acceptance.
- 6.1.2 Duplicate copies of the approved drawings, as identified in section 2 of this Notice of Acceptance clearly marked to show the joist selected for the proposed installation.
- 6.1.3 Any other document required by the Building Official or the SFBC in order to properly evaluate the installation of this system.



Candido Font, PE, Sr. Product Control Examiner  
Product Control Division

**Trus Joist.**

**ACCEPTANCE NO.: 00-1228.01**

**APPROVED: MAR 29 2001**

**EXPIRES: 04/09/2006**

**NOTICE OF ACCEPTANCE STANDARD CONDITIONS**

1. Renewal of this Acceptance (approval) shall be considered after a renewal application has been filed and the original submitted documentation, including test supporting data, engineering documents, are no older than eight (8) years.
2. Any and all approved products shall be permanently labeled with the manufacturer's name, city, state, and the following statement: "Miami-Dade County Product Control Approved", or as specifically stated in the specific conditions of this Acceptance.
3. Renewals of Acceptance will not be considered if:
  - a) There has been a change in the South Florida Building Code affecting the evaluation of this product and the product is not in compliance with the code changes;
  - b) The product is no longer the same product (identical) as the one originally approved;
  - c) If the Acceptance holder has not complied with all the requirements of this acceptance, including the correct installation of the product;
  - d) The engineer who originally prepared, signed and sealed the required documentation initially submitted is no longer practicing the engineering profession.
4. Any revision or change in the materials, use, and/or manufacture of the product or process shall automatically be cause for termination of this Acceptance, unless prior written approval has been requested (through the filing of a revision application with appropriate fee) and granted by this office.
5. Any of the following shall also be grounds for removal of this Acceptance:
  - a) Unsatisfactory performance of this product or process.
  - b) Misuse of this Acceptance as an endorsement of any product, for sales, advertising or any other purpose.
6. The Notice of Acceptance number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the Notice of Acceptance is displayed, then it shall be done in its entirety.
7. A copy of this Acceptance as well as approved drawings and other documents, where it applies, shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at all time. The engineer need not reseal the copies.
8. Failure to comply with any section of this Acceptance shall be cause for termination and removal of Acceptance.
9. This Notice of Acceptance consists of pages 1, 2 and this last page 3.



Candido F. Font PE. Sr. Product Control Examiner  
Product Control Division

**END OF THIS ACCEPTANCE**

**Trus Joist**

**ACCEPTANCE NO: 00-1228.01**

**APPROVED: MAR 29 2001**

**EXPIRES: 04/09/2006**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**  
**(For File ONLY. Not part of NOA)**

**A DRAWINGS.**

- 1 Drawings prepared by Trus Joist, titled "TimberStrand LSL" with no number, sheet 1 & 2 of 2, dated 02/14/01, signed and sealed by A.G. Burk PE.

**B TEST.**

- 1 Test report of flexural strength, compression perpendicular to grain, compression parallel to grain, shear strength parallel to grain, nail withdrawal and lateral nail resistance on "LSL, PSL & LVL. The test were conducted before and after MDC durability standard for SCL, prepared by PFS Corporation, report # 97-45, dated 01/05/98, signed and sealed by E. Starostovic PE.

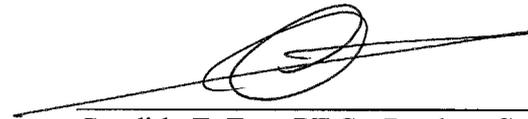
**C CALCULATIONS. N/A**

**D. MATERIAL CERTIFICATION**

- 1 TimberStrand LSL Manufacturing Standard, prepared by Trust Joist Macmillan, reviewed and approved by S. A. Nelson PE. on 08/31/95.
- 2 National Evaluation Report No. 481 by National Evaluation Service, Inc. reissued on March 1, 1997.
- 3 TimberStrand summary-application prepared by Trus Joist MacMillan on 02/20/98, signed and sealed by A. B. Burk, PE.

**E STATEMENTS**

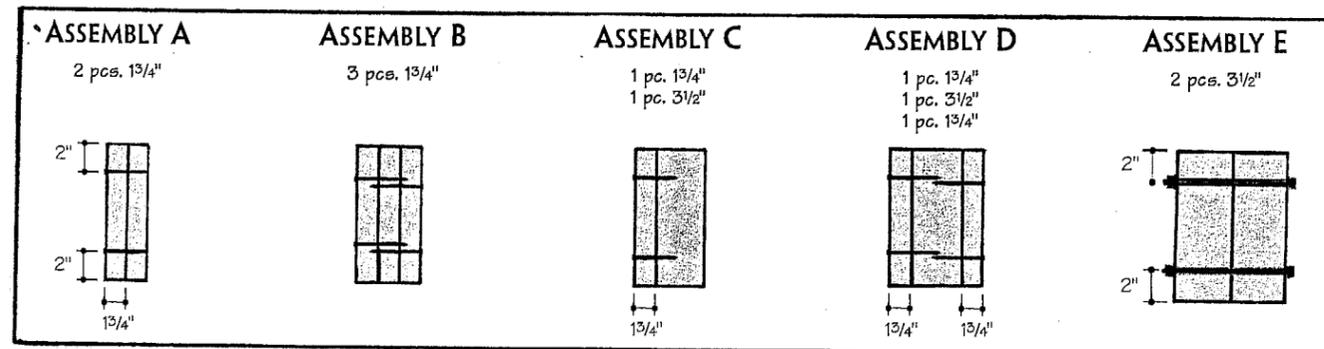
1. Letter of no-change issue by Trus Joist on 02/09/2001, signed and sealed by A. G. Burk, PE.
2. Agreement of dissolution of Trus Joist MacMillan, dated 12/31/2000, signed by the VP of TJ International & Weyerhaeuser Co. R. A. Dowdy.



Candido F. Font PE Sr. Product Control Examiner  
Product Control Division

**Material Description**

1. TimberStrand® LSL is manufactured by laminating strands of aspen, yellow poplar, or a mixture of white birch, red maple and aspen. The strands are oriented in a parallel direction and formed into large mats.
2. TimberStrand is available in thicknesses up to 5 1/2", depths up to 48" inches, and lengths up to 48 feet.
3. The strands are glued with an isocyanate-based adhesive which complies with TimberStrand manufacturing standards. Quality control testing and inspection are provided by PFS/TECO.
4. Lateral resistance values for nails are as provided in the National Design Specifications for Wood Construction (NDS) for Douglas fir-Larch (minimum specific gravity SG=0.50). Nail withdrawal capacity is determined on the basis of the specific gravity for SPF (minimum specific gravity SG=0.42).
5. Design values for bolts loaded parallel to grain are as provided in the NDS for Douglas fir-Larch (minimum specific gravity SG=0.50). Design values for bolts loaded perpendicular to grain are as provided in the NDS for Red Maple (minimum specific gravity SG=0.58).
6. Specific approval shall be required for nail and bolt connections not herein prescribed.
7. Testing was conducted at PFS/TECO to evaluate the moisture durability of TimberStrand® LSL. This testing was done in accordance with the Metro Dade County Durability Evaluation Standard for Structural Composite Lumber Products.



**General Notes**

1. Where members qualify as repetitive members as defined in the applicable code, an additional increase in allowable bending stress of 4 percent is permitted. This increase does not apply to field assembled, multi-membered beams.
2. Bearing length should never be less than 1 1/2" at ends, 3 1/2" at intermediate supports.
3. The maximum round hole size which can be cut in 7 1/4" to 18" deep members is 2" diameter. Holes may only be cut in the middle 1/3 of the span and the middle 1/3 of depth of the beam. Minimum hole spacing for uniformly loaded beams is 2x the largest hole diameter. Rectangular holes are not allowed. Holes in cantilevers require additional analysis.
4. Spacing for nails installed on narrow face of member:

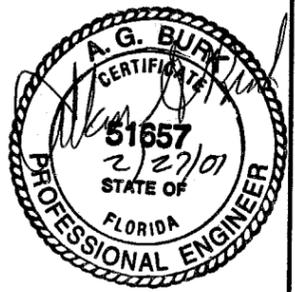
Nail Size	Closest On-Center Spacing per Row (1 1/4" Thickness)	Closest On-Center Spacing per Row (3 1/2" Thickness)
8d (2 1/2") Common	4"	3"
10d (3") Common	4"	3"
16d (3 1/2") Common	6"	3 1/2"

5. Maximum uniform load applied to either outside member of a side-loaded multiple-ply beam:

Multiple Assembly (See picture and footnotes below)	Max. Uniform Load Applied to Either Outside Member (plf)			
	Nailed Connection <sup>(1)(5)</sup>		Through Bolted Connection <sup>(2)</sup>	
	2 Rows 16d Common Wire at 12" o.c.	3 Rows 16d Common Wire at 12" o.c.	2 Rows 1/2" Bolts at 24" o.c.	2 Rows 1/2" Bolts at 12" o.c.
A	470	705	505	1015
B <sup>(3)</sup>	355	530	380	760
C	355	530	520	1045
D <sup>(3)(4)</sup>	315	470	465	930
E <sup>(4)</sup>	-	-	860	1720

APPROVED AS COMPLYING WITH THE SOUTH FLORIDA BUILDING CODE  
 DATE MAR 29 2001  
 BY [Signature]  
 PRODUCT CONTROL DIVISION  
 BUILDING CODE COMPLIANCE OFFICE  
 ACCEPTANCE NO. 00-1222-01

1. Nailed Connection values may be doubled for 6" o.c. or tripled for 4" o.c. nail spacing.
2. Bolts are to be material conforming to ASTM standard A307 (machine bolts). Bolt holes are to be the same diameter as the bolt, and located a minimum of 2" from the top and bottom of the member. Washers should be used under head and nut.
3. For a three-piece member, the nailing specified is from each side.
4. Beams 7" in width may only be side loaded when loaded from both sides to minimize rotation.
5. Nailed connection values require an additional row of nails when nail size is smaller than specified above (minimum 0.131" x 3.25")



SHEET NUMBER 1 OF 2	DRAWN BY: B.J.R. DATE: 2/14/01 SCALE: N.T.S.	DESCRIPTION TimberStrand® LSL
		GENERAL INFORMATION & PROPERTIES

A Weyerhaeuser Business

SOUTHEAST REGIONAL ENGINEERING DEPARTMENT  
 6001 Jackson Square, Suite 600, LaVergne, TN. 37086  
 800-854-5647 FAX: 615-793-7721

REVISIONS		
NO.	BY	DATE
△		
△		
△		

**Allowable Design Stresses<sup>1</sup>  
for TimberStrand® Laminated Strand Lumber**

Grade	Available Depths (in.)	Flexural Stress <sup>2</sup> F <sub>b</sub> (psi)	Compression Parallel to Grain F <sub>c  </sub> (psi)	Compression Perpendicular to Grain Parallel to Glue Line <sup>4</sup> F <sub>c⊥</sub> (psi)	Horizontal Shear Perpendicular to Glue Line F <sub>v</sub> (psi)	Modulus of Elasticity <sup>3</sup> MOE (psi x 10 <sup>6</sup> )
1.3E	Up to 48"	1700	1400	680	400	1.3
1.5E	Up to 48"	2250	1950	775	400	1.5

- Timberstrand® LSL is produced at 9% to 13% moisture content. Allowable values have been established at conditions that would produce 12% moisture content in lumber. These values are valid for dry service in which a 16% maximum moisture content will not be exceeded.
- For 12 inch depth; for other depths, multiply by (12/d)<sup>0.092</sup>, as shown below. For depths less than 3.5 inches, use the factor for 3.5inch depth.

Depth (inches)	3.5	5.5	7.25	9.25	12.0	16	20	24
Multiplier	1.12	1.07	1.05	1.02	1.00	0.97	0.95	0.94

- For uniformly loaded simple span beams, the deflection shall be calculated using the following equation:

$$\Delta = \frac{270WL^4}{Ebd^3} + \frac{28.8WL^2}{Ebd}$$

where,

- Δ = Deflection, inches
- W = Uniform load, plf
- L = Span, feet
- b = Beam width, inches
- d = Beam depth, inches
- E = Modulus of Elasticity, psi

- Values shown are for thicknesses up to 3.5.

APPROVED AS COMPLYING WITH THE  
SOUTH FLORIDA BUILDING CODE  
DATE **MAR 29 2001**  
BY \_\_\_\_\_  
PRODUCT CONTROL DIVISION  
BUILDING CODE COMPLIANCE OFFICE  
ACCEPTANCE NO. 00-1228.01



SHEET NUMBER <b>2 OF 2</b>	DRAWN BY: B.J.R.	DESCRIPTION TimberStrand® LSL	 <p align="center">A Weyerhaeuser Business</p>	REVISIONS		
	DATE: 2/14/01			GENERAL INFORMATION & PROPERTIES	SOUTHEAST REGIONAL ENGINEERING DEPARTMENT 6001 Jackson Square, Suite 600, LaVergne, TN. 37086 800-854-5647 FAX: 615-793-7721	NO.
FILE NAME	SCALE: N.T.S.			△		
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