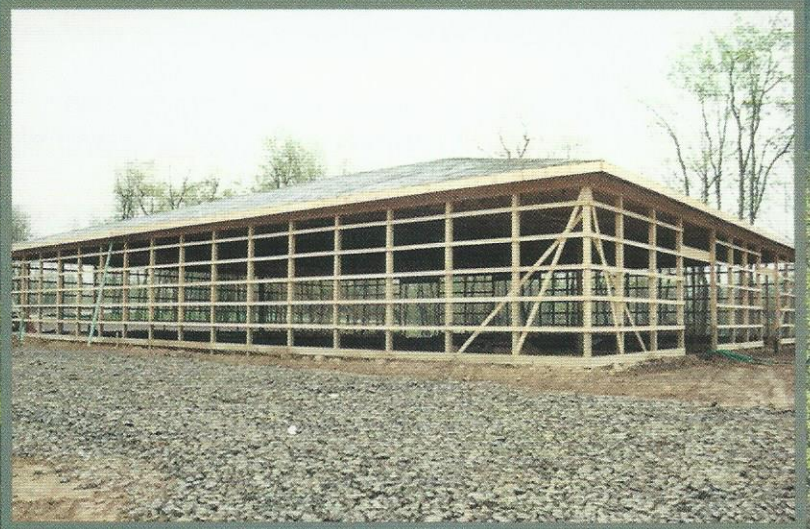
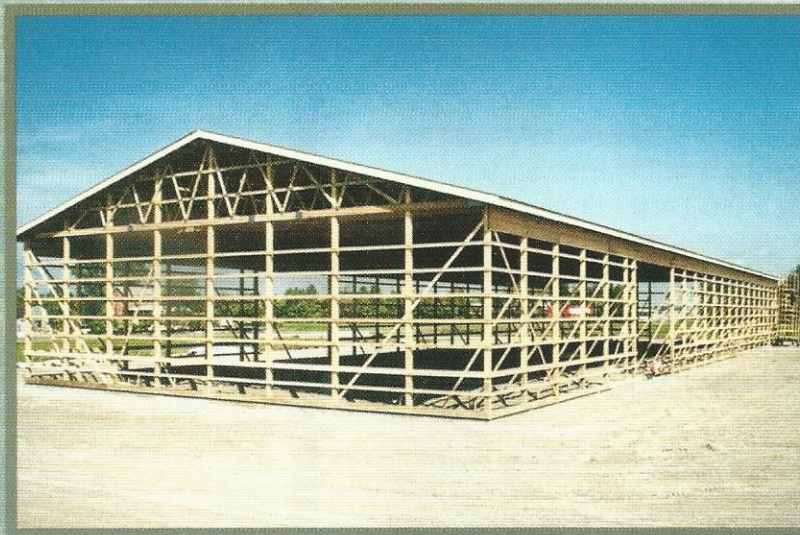


# Ohio Timberland Products, Inc. Nail-Lam "PLUS"

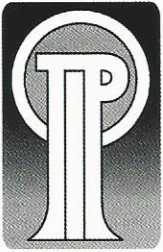
The first laminated columns to combine stainless steel fasteners and face glue to make a superior, economical building component.



**Ohio Timberland Products, Inc.**

102 Railroad Ave., Stryker, Ohio 43557 • Phone (419) 682-9713 • Fax: (419) 682-6310





# Ohio Timberland Products, Inc. Nail-Lam "PLUS" Columns

At Ohio Timberland Products, making quality, high strength, building columns is our **ONLY** business. All lumber, both treated and un-treated, is **NO.1** Southern Pine (no mixing of species or using a lower grade material). All treated lumber is **FOUNDATION GRADE** to ensure complete penetration to protect against rot, decay or insect damage. Also, a continuous quality control program, overseen by a registered structural engineer, is in place to ensure only the best product reaches the market. The upper 18" - 24" of every column contains no mechanical fasteners or adhesive which allows workers in the field a quick and easy way to notch plys for truss bearing. This is just one feature which neither solid sawn or GLU-LAM columns can offer.

#### Advantages of NAIL-LAM "PLUS" columns over solid sawn columns:

- Individual plys have more complete treating than larger solids (treatment is with CCA to a 0.60 retention).
- Straighter, stronger and lighter columns greatly reduce labor cost in field as well as eliminate call backs.
- Posts won't crack or split and are of uniform dimension, (making framing and finish work easier).
- Untreated portion on upper end eliminates need for hot dipped galvanized nails.
- Longer lengths available in a minimal amount of time from placement of order.
- Individual plys can be notched for a superior truss bearing connection.

#### Advantages of NAIL-LAM "PLUS" columns over other mechanically laminated columns:

- All stainless steel fasteners utilized throughout column.
- Adhesive between plys greatly cuts down on interlayer slip resulting in better weak-axis stiffness.
- Structural finger joints utilized in Nail-Lam Plus are produced under SPIB Glued Lumber Standards and carries certification from the Southern Pine Inspection Bureau, a nationally recognized third party inspection agency.

#### Advantages of NAIL-LAM "PLUS" columns over GLU-Laminated columns:

- Nail-Lams can be easily notched in field for truss connections.
- No more need to worry about possible long term delamination of plys.
- Nail-Lams are generally more economical than glu-laminated columns.

## NAIL-LAM "PLUS" COLUMN DESIGN VALUES

<b>3 Ply 2 x 6 = 6 x 6</b>		
Dimensions	Minimum "bxd"	
Area: (in <sup>2</sup> )	4.31 x 5.31	Fb = 1,822 psi*
Sx: (in <sup>2</sup> )	22.91	Fc = 1,550 psi
Lx: (in <sup>2</sup> )	20.29	E = 1,600,000
	53.88	
<b>4 Ply 2 x 6</b>		
Dimensions	5.75 x 5.31	Fb = 1,890 psi*
Area: (in <sup>2</sup> )	30.55	Fc = 1,550 psi
Sx: (in <sup>2</sup> )	27.05	E = 1,600,000
Lx: (in <sup>2</sup> )	71.84	
<b>3 Ply 2 x 8 = 6 x 8</b>		
Dimensions	Minimum "bxd"	
Area: (in <sup>2</sup> )	4.31 x 7.19	Fb = 1,687 psi*
Sx: (in <sup>2</sup> )	30.98	Fc = 1,500 psi
Lx: (in <sup>2</sup> )	37.11	E = 1,600,000
	133.36	
<b>4 Ply 2 x 8 = 8 x 8</b>		
Dimensions	Minimum "bxd"	
Area: (in <sup>2</sup> )	5.75 x 7.19	Fb = 1,750 psi*
Sx: (in <sup>2</sup> )	41.33	Fc = 1,500 psi
Lx: (in <sup>2</sup> )	49.51	E = 1,600,000
	177.92	

Note = 5-ply assemblies are also available in both 2 x 6 and 2 x 8 configurations

b = combined width

d = depth

\*Values reflect repetitive member increase, Cr

## 6" x 6" #2 S.Y.P.

Dimensions	5.50 x 5.50	Fb = 850psi
Area: (in <sup>2</sup> )	30.25	Fc = 525 psi
Sx: (in <sup>2</sup> )	27.73	E = 1,200,000
Lx: (in <sup>2</sup> )	76.26	

Source: National Design Specification 2005 (NDS)  
Grading Rules Agency • Southern Pine Inspection Bureau (SPIB)

#### Key notes:

1. b and d dimensions listed are for columns oriented such that the 5.31 (2 x 6) or 7.19 (2 x 8) dimension is perpendicular (at 90°) to outside wall.

2. Design values listed are valid providing that continuous horizontal wind girt framing members are present.

3. Design of Nail-Lam "PLUS" columns shall be as per the latest edition of the National Design Specification for Built-Up Columns and ASAE EP 559.1 Design Requirements and Bending Properties for Mechanically-laminated Wood Assemblies.





## APPLICATION/USAGE GUIDE FOR NAIL-LAM "PLUS" COLUMNS

Ohio Timberland Products prides itself in producing a top quality laminated column which, when properly used, becomes an integral part of a post frame structure. This application guide is meant to serve as added protection against product misuse or misapplication. It is the responsibility of the installer and supplier (lumber yard, builder, building contractor, licensed contractor or erection contractor) to properly receive, unload, store and handle the columns to protect life and property.

The recommendations contained within this guide are based upon the collective experience of both technical as well as practicing personnel in the post frame industry. This guide however must, due

to the nature of responsibilities involved, be presented as a guide for the use of a qualified building designer or installer.

Some of the information contained within this guide relate to means and methods of construction which vary from builder to builder, state-to-state. Examples of this include, but are not limited to: temporary erection bracing, spacing of horizontal wind purlins, attachment of purlins to columns, anchorage of truss or truss carrying elements to column, etc. Ohio Timberland Products expressly disclaims any responsibility for damages arising from the use, application or reliance on the recommendations and information contained herein to building designers, installers or others.

**C** **CAUTION:** A Caution identifies situations where the product **MAY NOT** function as intended.

**W** **WARNING:** A Warning identifies situations where the product **WILL NOT** function as intended.

### A. COLUMN STORAGE:

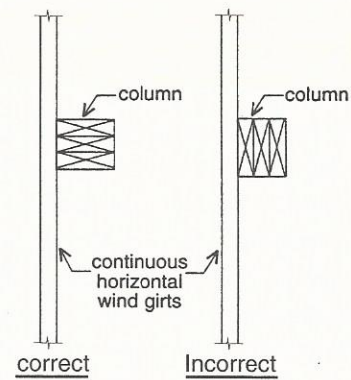
**C** **CAUTION:** Improper storage can result in columns which appear discolored or have a slight bow.

If the columns are not to be used immediately, they should be stored in a dry place where as little moisture as possible can get at them. Moisture (from rain, snow, condensation, etc.) may cause damage to the untreated portion of the columns. Avoid the direct sunlight; the untreated portion will lose its natural wood color. Columns should be stored in a horizontal position. Use support boards of equal dimensions no more than 4' apart to support them and also to prevent them from sitting directly on the ground. If bunks or units of columns are stacked on top of each other, the support boards **MUST** line up vertically (i.e., no staggered placement). If outdoor storage cannot be avoided, protect with a canvas or waterproof paper cover, such as the OTP lumber wrap. Leave the bottom of cover loose to allow air movement. Do **NOT** use plastic which can cause sweating or condensation.

### B. COLUMN ORIENTATION:

**W** **WARNING:** Improper orientation will result in a column which has diminished structural capabilities.

Figure A (below) indicates how the column **MUST** be turned in order to function properly. For columns at building corners **ONLY**, the installer has the option of orientation provided wind girts are present in two directions.



PLAN VIEW  
Fig. A



## C. WIND PURLINS:

**W** **WARNING:** Continuous horizontal wind purlins (i.e., girts) must be present throughout the height of the column for the column to function properly.

A vast majority of post frame structures contain columns upon which horizontal wind girts, or purlins, are placed. Sheathing material, such as light gauge metal or wood panels, is then attached to the purlins. The Nail-Lam "Plus" Columns manufactured by OTP REQUIRE the presence of these horizontal girts throughout the entire height of the column.

Examples where horizontal wind girts are NOT found include interior "stand-alone" columns or columns on "open-ended" structures. For these types of applications, the columns should NOT be used without modification. Typical modification may include the addition of a plate (or plates) to the sides of the assemblies. Consult your building designer for a more exact determination.

Vertical spacing between the horizontal wind girts varies from builder to builder. Ohio Timberland Products suggests that spacing not exceed 36" between the purlins.

## D. TRUSS ATTACHMENT:

**W** **WARNING:** Truss or truss support attachment to column is a critical connection. Consult your design professional for methods available.

The top 18" to 24" of every OTP column contains no fasteners or adhesive. This provides building designers and installers with an easy way of achieving a superior connection by means of notching one or more plies. Selection of the final method of anchorage to resist either upward or downward forces remains with the building designer. Some OTP columns have, by customer direction, one of the interior plies held down some distance to permit a truss "drop-in" arrangement. Anchorage of the resulting "filler piece" to the other plies as well as truss anchorage remains with the building designer.

## E. TEMPORARY BRACING:

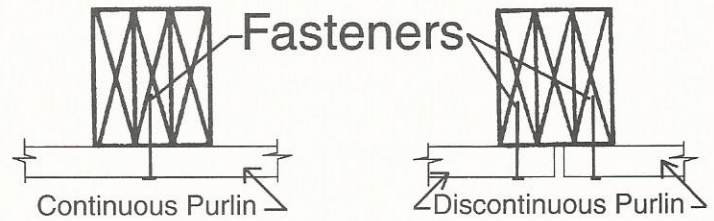
**W** **WARNING:** Lack of bracing during construction can result in building becoming racked or possible collapse.

It is a generally recognized fact that a post frame structure is at its weakest point during the erection period. Lateral loads, such as from wind or seismic disturbance, can cause serious structural damage prior to the installation of sheathing material. Ohio Timberland Products recommends that temporary bracing be installed from the upper portion of the column to the ground in both directions to prevent column displacement. The contractor (or installer) is ultimately responsible for all temporary erection bracing.

## F. WIND PURLIN ATTACHMENT:

**C** **CAUTION:** Improper attachment of purlins to column may result in diminished holding power of the fasteners.

Figure A (below) shows the correct method of attachment for purlins which are both continuous and discontinuous at a column. Care should be exercised that fasteners are not placed BETWEEN individual plies, but rather penetrate a single ply. The size and quantity of fasteners used are to be determined by the building designer.



PLAN VIEW

Fig. B

## G. PRODUCT USE:

**W** **WARNING:** Improper use can result in injury or death.

Ohio Timberland Products Nail-Lam "Plus" Columns are intended for use only in properly designed and constructed post frame structure. In NO case is the product to be used for ANY purpose other than this. The allowable design values for the OTP Nail-Lam "Plus" column are derived from the National Design Specification for Wood design. When properly used, the 3-ply 2x6 assembly will be stronger than the standard NO. 2 6x6 Southern Pine Timber given the values for both materials.

## H. MECHANICAL FASTENERS:

**C** **CAUTION:** Nail-Laminated Columns contain mechanical fasteners which may cause damage/injury if struck during sawing.

Multiple members contain steel fasteners. Remove any steel fasteners present in the area a power tool (i.e., power saw, drill, etc.) is to be used. Ohio Timberland Products will not be responsible for negligence in the area of operating a power tool.





Ohio Timberland Products, Inc. is proud to offer this 60 YEAR WARRANTY against rot or insect decay on the Nail-Lam "Plus" Laminated column it produces. Ohio Timberland Products uses only #1 Foundation Grade Southern Pine material which is supplied by treating facilities which adhere to strict third party inspection practices. Columns provided by OTP have been treated to a total absorption of at least 0.60 pounds of CCA-C preservative per cubic foot of wood. Most treaters warranty their products and process for extended periods of time (including lifetime in many instances).

Foundation grade lumber, by definition of the American Wood-Preservers' Association Standard C-22, contains no more than 20% heartwood in the cross sectional area of the piece. Heartwood, being at the center of the tree, has pores which are tightly packed and therefore will not accept the CCA-C preservative as readily as sapwood will.

Third Party Inspection by an independent testing agency is a REQUIREMENT of any treating facility supplying treated material to Ohio Timberland Products. Each and every "charge" of material is carefully monitored by the agency, including core sampling of each lot, to ensure proper retention is achieved. Certificates of treatment from the supplier are sent to Ohio Timberland Products and are available upon request. Not ALL suppliers of treated materials adhere to such strict guidelines, at Ohio Timberland Products we INSIST upon it.

The structural fingerjoints used in a majority of OTP's columns are manufactured under the watchful eye of SPIB (Southern Pine Inspection Bureau). ASTM Standard D-2559 is used as the benchmark which includes destructive testing on the fingerjoint for each hour of column production.

This warranty covers the replacement of the laminated column (material) only, and is non-transferable from one owner to the next. It does not include any other costs such as labor to replace, loss of service, damage to structure, etc.

Professionally,

*Michael D. Burkholder P.E.*

Michael D. Burkholder P.E.  
President, Ohio Timberland Products Inc.

P.O. Box 330  
102 Railroad Ave.  
Stryker, OH 43557  
1-800-730-POST  
Fax: 419/682-6310





6. Proposed truss spacing = \_\_\_\_\_

7. Truss configuration ( i. e. top chord pitch ) \_\_\_\_\_

8. Truss loading      Top chord live = \_\_\_\_\_      Top chord dead = \_\_\_\_\_  
                                 Bottom chord dead = \_\_\_\_\_      Other = \_\_\_\_\_

9. Wind load / exposure classification = \_\_\_\_\_

10. Purlin size and spacing = \_\_\_\_\_

11. Concrete floor ( yes / no / future ) = \_\_\_\_\_

12. Typical method of roof and or sidewall attachment ( Note: the use of screws vs nails will have an effect on column size as this determines how rigid the diaphragm actually is ) Also if known please indicate the size and spacing of the fasteners.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. Typical method of purlin attachment = \_\_\_\_\_

14. Door Openings ( Note: this is important as the presence of LARGE door openings, often found in post frame buildings, will determine how much wall remains to resist lateral loads with a diaphragm design )

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

15. Is an engineer's seal required for this project ? ( Yes / No ) = \_\_\_\_\_

16. Project schedule ( approximate start date if known ) \_\_\_\_\_

17. Any ( local ) special codes or restrictions that you are aware of = \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

18. Are drawings REQUIRED for this project ? ( Yes / No ) \_\_\_\_\_

19. Soil description ( if known ) \_\_\_\_\_

20. Any other information you feel the engineer should know about = \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_