



Lumber design values are in accordance with ANSI/TPI 1 section 6.3  
These truss designs rely on lumber values established by others.

RE: 4856522 - MATHIS RES.

**MiTek, Inc.**

16023 Swingley Ridge Rd.  
Chesterfield, MO 63017  
314.434.1200

**Site Information:**

Customer Info: MIKE MATHIS Project Name: Mathis Res. Model: Custom  
Lot/Block: N/A Subdivision: N/A  
Address: 1146 SE Alfred Markham Street, N/A  
City: Lake City State: FL

**Name Address and License # of Structural Engineer of Record, If there is one, for the building.**

Name: License #  
Address:  
City: State:

**General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):**

Design Code: FBC2023/TPI2014 Design Program: MiTek 20/20 8.8  
Wind Code: ASCE 7-22 Wind Speed: 130 mph  
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 2 individual, Truss Design Drawings and 0 Additional Drawings.  
With my seal affixed to this sheet, I hereby certify that I am the Truss Design Engineer and this index sheet conforms to 61G15-31.003, section 5 of the Florida Board of Professional Engineers Rules.

No.	Seal#	Truss Name	Date
1	T39632664	T01	12/23/25
2	T39632665	T01G	12/23/25

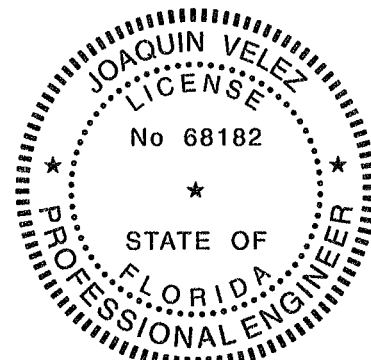


This item has been digitally signed and sealed by Velez, Joaquin, PE on the date adjacent to the seal.  
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The truss drawing(s) referenced above have been prepared by  
MiTek USA, Inc. under my direct supervision based on the parameters  
provided by Builders FirstSource-Lake City, FL.

Truss Design Engineer's Name: Velez, Joaquin  
My license renewal date for the state of Florida is February 28, 2027.

**IMPORTANT NOTE:** The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.



Joaquin Velez PE No.68182  
MiTek Inc. DBA MiTek USA FL Cert 6634  
16023 Swingley Ridge Rd. Chesterfield, MO 63017  
Date:

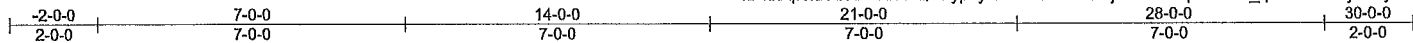
December 23,2025

Job	Truss	Truss Type	Qty	Ply	MATHIS RES	T39632664
4856522	T01	SCISSORS	21	1		

Builders FirstSource (Lake City, FL), Lake City, FL - 32055,

8 830 s Sep 3 2025 MiTek Industries, Inc. Tue Dec 23 09 14 01 2025 Page 1

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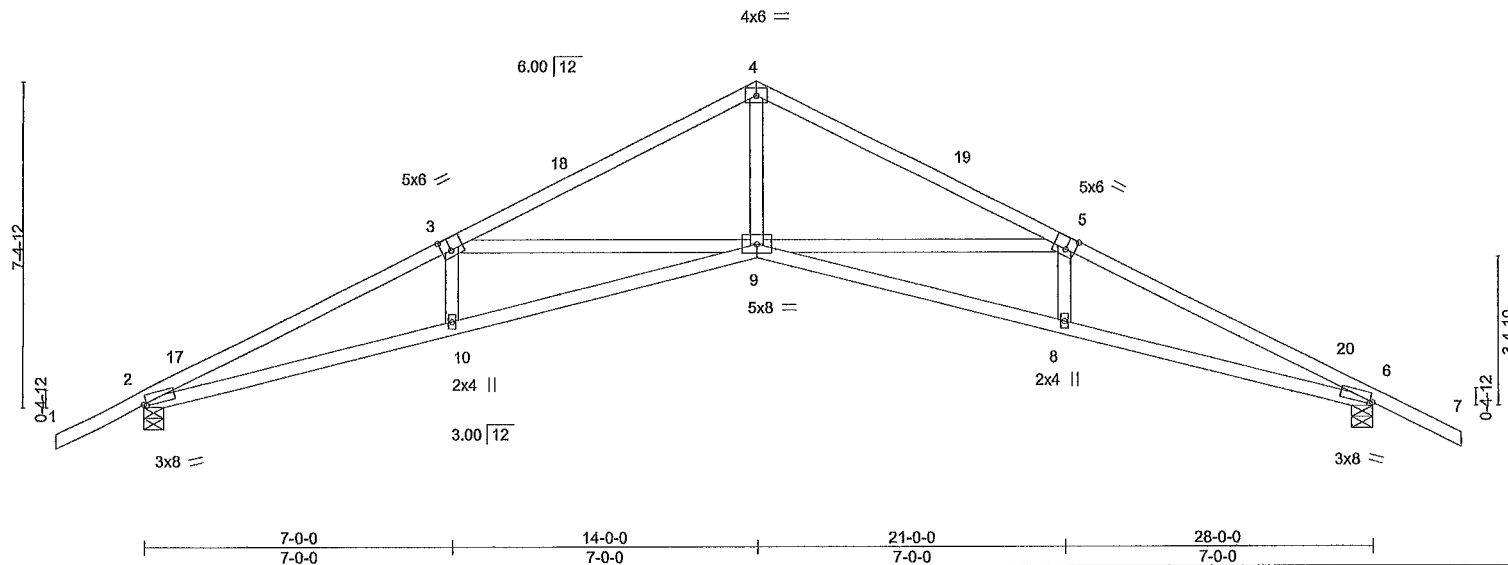


Plate Offsets (X,Y)-- [2 0-0-12,0-0-8], [3 0-2-8,0-3-4], [5 0-2-8,0-3-4], [6 0-0-12,0-0-8]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 20.0	2-0-0	TC 0.90	in (loc) l/defl L/d	MT20	244/190
TCDL 10.0	Plate Grip DOL 1.25	BC 0.78	Vert(LL) -0.30 8-9 >999 240		
BCLL 0.0 *	Lumber DOL 1.25	WB 0.90	Vert(CT) -0.65 8-9 >519 180		
BCDL 10.0	Rep Stress Incr YES	Matrix-MS	Horz(CT) 0.41 6 n/a n/a	Weight 127 lb	FT = 20%
	Code FBC2023/TPI2014				

**LUMBER-**  
 TOP CHORD 2x4 SP No 1 \*Except\*  
 1-3,5-7 2x4 SP No 2  
 BOT CHORD 2x4 SP No 1  
 WEBS 2x4 SP No 3

**BRACING-**  
 TOP CHORD Structural wood sheathing directly applied  
 BOT CHORD Rigid ceiling directly applied or 7-1-3 oc bracing

**REACTIONS.** (size) 2=0-5-8, 6=0-5-8  
 Max Horz 2=133(LC 16)  
 Max Uplift 2=-316(LC 12), 6=-316(LC 13)  
 Max Grav 2=1240(LC 1), 6=1240(LC 1)

**FORCES.** (lb) - Max. Comp./Max. Ten - All forces 250 (lb) or less except when shown  
 TOP CHORD 2-3=-3482/821, 3-4=-2501/477, 4-5=-2501/504, 5-6=-3483/694  
 BOT CHORD 2-10=-780/3123, 9-10=-782/3145, 8-9=-528/3145, 6-8=-528/3123  
 WEBS 4-9=-280/1724, 5-9=-951/458, 3-9=-951/444

- NOTES-**
- 1) Unbalanced roof live loads have been considered for this design
  - 2) Wind ASCE 7-22, Vult=130mph (3-second gust) Vasd=101mph, TCDL=4.2psf; BCDL=3 Opsf; h=20ft; Cat. II, Exp B, Encl , GCpi=0.18, MWFRS (envelope) gable end zone and C-C Zone3 -2-0-0 to 1-0-0, Zone1 1-0-0 to 14-0-0, Zone2 14-0-0 to 18-2-15, Zone1 18-2-15 to 30-0-0 zone;C-C for members and forces & MWFRS for reactions shown, Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
  - 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads
  - 5) \* This truss has been designed for a live load of 20 Opsf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members
  - 6) Bearing at joint(s) 2, 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula Building designer should verify capacity of bearing surface
  - 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 316 lb uplift at joint 2 and 316 lb uplift at joint 6.

This item has been digitally signed and sealed by Velez, Joaquin, PE on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Joaquin Velez PE No.68182  
 MiTek Inc. DBA MiTek USA FL Cert 6634  
 16023 Swingley Ridge Rd.  
 Chesterfield, MO 63017  
 Date:

December 23,2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing Indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPI1 Quality Criteria and DSB-22, available from Truss Plate Institute (www.tpinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcsc.com)

**MiTek®**

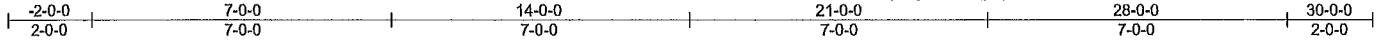
16023 Swingley Ridge Rd.  
 Chesterfield, MO 63017  
 314.434.1200 / MiTek-US.com

Job 4856522	Truss T01G	Truss Type GABLE	Qty 2	Ply 1	MATHIS RES	T39632665
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Builders FirstSource (Lake City,FL), Lake City, FL - 32055,

8.830 s Sep 3 2025 MiTek Industries, Inc. Tue Dec 23 09 14.02 2025 Page 1

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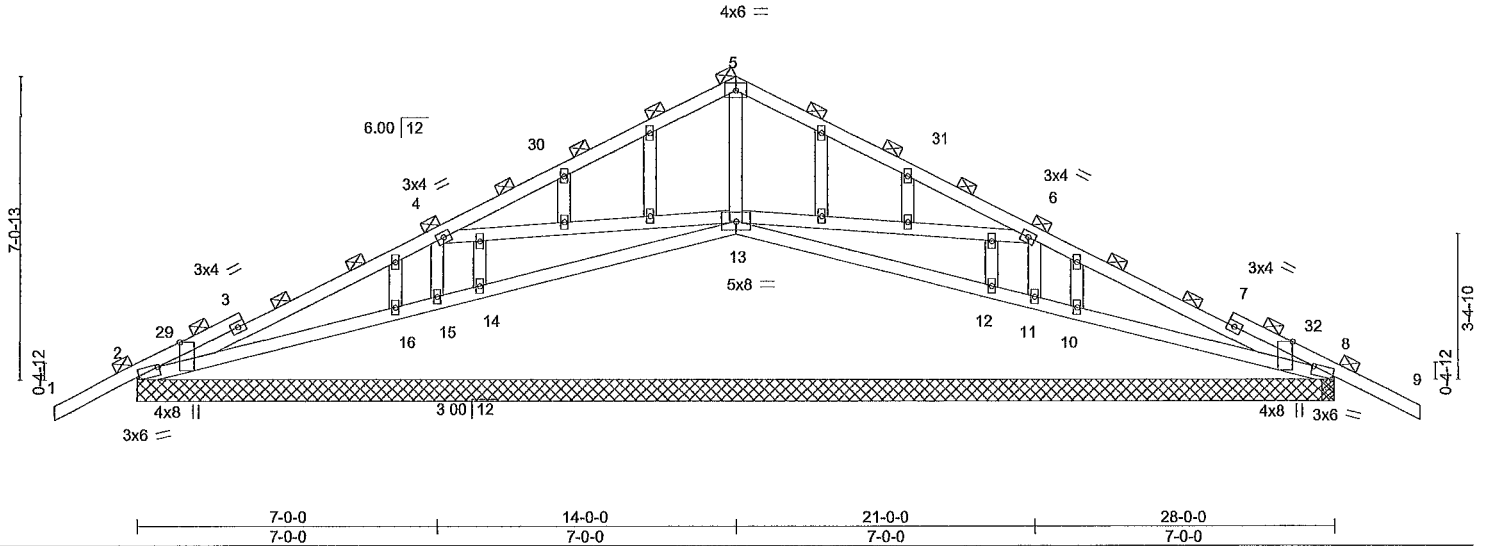


Plate Offsets (X,Y)--	[2 0-6-14,Edge], [2 0-5-11,Edge], [8 0-6-14,Edge], [8 0-5-11,Edge]							
<b>LOADING</b> (psf)	<b>SPACING-</b> 2-0-0	<b>CSI.</b>	<b>DEFL.</b>	in (loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL 20.0	Plate Grip DOL 1.25	TC 0.65	Vert(LL) -0.03	2-16	>999	240	MT20	244/190
TCDL 10.0	Lumber DOL 1.25	BC 0.29	Vert(CT) -0.07	2-16	>999	180		
BCLL 0.0 *	Rep Stress Incr YES	WB 0.10	Horz(CT) 0.01	8	n/a	n/a	Weight 148 lb	FT = 20%
BCDL 10.0	Code FBC2023/TPI2014	Matrix-S						

**LUMBER-**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP No.2  
 WEBS 2x4 SP No.3  
 OTHERS 2x4 SP No.3

**BRACING-**

TOP CHORD 2-0-0 oc purlins (6-0-0 max.)  
 BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing

**REACTIONS.**

All bearings 28-0-0  
 (lb) - Max Horz 2=-128(LC 17)  
 Max Uplift All uplift 100 lb or less at joint(s) 2, 13 except 8=-142(LC 13), 11=-297(LC 13), 15=-328(LC 12)  
 Max Grav All reactions 250 lb or less at joint(s) except 2=331(LC 1), 8=345(LC 1), 8=345(LC 1), 13=467(LC 1),  
 11=288(LC 26), 15=300(LC 25), 14=337(LC 3), 16=375(LC 3), 12=335(LC 3), 10=361(LC 3)

**FORCES.** (lb) - Max. Comp./Max. Ten - All forces 250 (lb) or less except when shown

WEBS 5-13=-391/109, 6-11=-483/265 4-15=-505/295

**NOTES-**

- 1) Unbalanced roof live loads have been considered for this design
- 2) Wind ASCE 7-22, Vult=130mph (3-second gust) Vasd=101mph, TCDL=4.2psf; BCDL=3.0psf; h=20ft; Cat. II, Exp B, Encl , GCpi=0.18, MWFRS (envelope) gable end zone and C-C Zone3 -2-0-0 to 1-0-0, Zone1 1-0-0 to 14-0-0, Zone2 14-0-0 to 18-2-15, Zone1 18-2-15 to 30-0-0 zone,C-C for members and forces & MWFRS for reactions shown, Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1
- 4) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
- 5) All plates are 2x4 MT20 unless otherwise indicated
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads
- 8) \* This truss has been designed for a live load of 20.0 psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 13 except (jt=lb) 8=142, 11=297, 15=328
- 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord

This item has been digitally signed and sealed by Velez, Joaquin, PE on the date indicated here. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

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 Chesterfield, MO 63017

Date: December 23,2025

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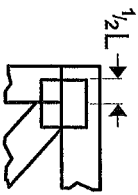
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see ANSI/TPH Quality Criteria and DSB-22 available from Truss Plate Institute (www.tpiinst.org) and BCSI Building Component Safety Information available from the Structural Building Component Association (www.sbcsccomponents.com)



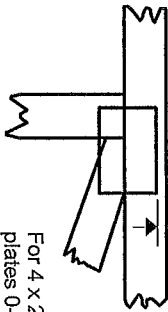
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# Symbols

## PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in 1/16-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0-1/16\" from outside edge of truss.



This symbol indicates the required direction of slots in connector plates.

\* Plate location details available in Mitek software or upon request.

## PLATE SIZE

4 X 4

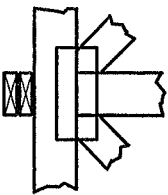
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots

## LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated

## BEARING

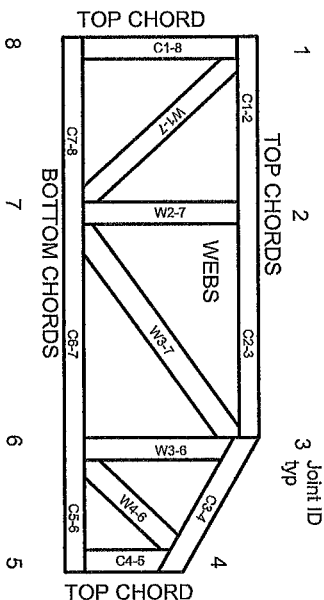
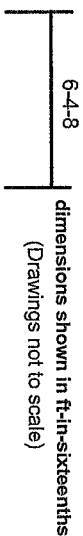


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## Industry Standards:

- ANSI/TP1 National Design Specification for Metal Plate Connected Wood Truss Construction
- DSB-22 Design Standard for Bracing.
- BCSI Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

# Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

# Product Code Approvals

- ICC-ES Reports.
- ESR-1988, ESR-2362, ESR-2685, ESR-3282
- ESR-4722, ESL-1388

# Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TP1 section 6.3 These truss designs rely on lumber values established by others.

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# General Safety Notes

## Failure to Follow Could Cause Property Damage or Personal Injury

- Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI
- Truss bracing must be designed by an engineer. For wide truss spacing individual lateral braces themselves may require bracing, or alternative Tor-1 bracing should be considered
- Never exceed the design loading shown and never stack materials on inadequately braced trusses.
- Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties
- Cut members to bear tightly against each other
- Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1
- Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1
- Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication
- Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber
- Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection
- Plate type, size, orientation and location dimensions indicated are minimum plating requirements
- Lumber used shall be of the species and size, and in all respects, equal to or better than that specified
- Top chords must be sheathed or purlins provided at spacing indicated on design.
- Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted
- Connections not shown are the responsibility of others
- Do not cut or alter truss member or plate without prior approval of an engineer
- Install and load vertically unless indicated otherwise
- Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
- Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
- Design assumes manufacture in accordance with ANSI/TP1 Quality Criteria
- The design does not take into account any dynamic or other loads other than those expressly stated

# MITek®