



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

RE: 0932-A - Futral

MiTek USA, Inc.

16023 Swingley Ridge Rd
Chesterfield, MO 63017

Site Information:

Customer Info: JBC Builders Project Name: Futral Model: .
Lot/Block: . Subdivision: .
Address: ., .
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: FBC2020/TPI2014 Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 140 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 4 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.

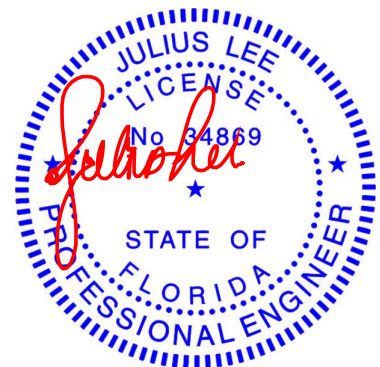
No.	Seal#	Truss Name	Date
1	T30170676	F1	3/28/23
2	T30170677	M1	3/28/23
3	T30170678	M2	3/28/23
4	T30170679	M3	3/28/23

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc.
under my direct supervision based on the parameters
provided by 19 Lumber, Inc..

Truss Design Engineer's Name: Lee, Julius

My license renewal date for the state of Florida is February 28, 2025.

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.



Julius Lee PE No. 34869
MiTek Inc. DBA MiTek USA FL Cert 6634
16023 Swingley Ridge Rd. Chesterfield, MO 63017
Date:

March 28, 2023

Lee, Julius

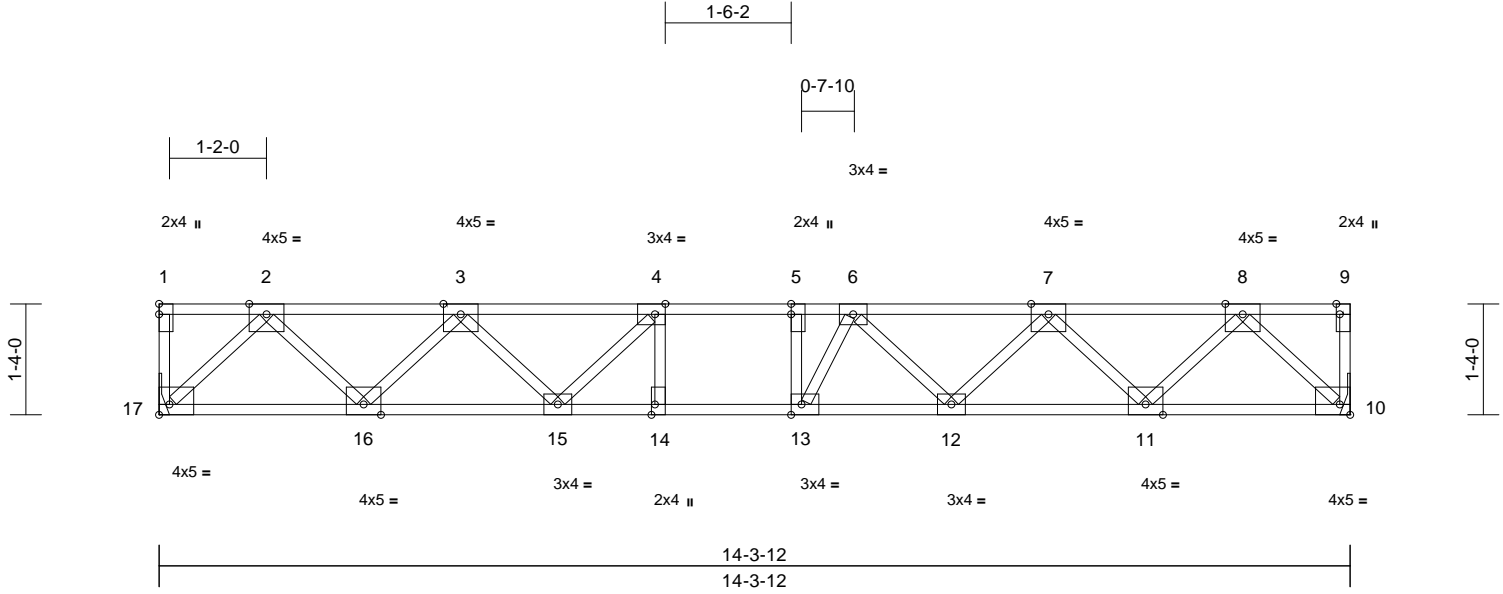
1 of 1

Job	Truss	Truss Type	Qty	Ply	Futral	T30170676
0932-A	F1	Floor	66	1	Job Reference (optional)	

19 Lumber, Inc., Old Town, FL - 32680,

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Page: 1



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Plate Offsets (X, Y): [4:0-1-8,Edge], [5:0-1-8,Edge], [9:0-1-8,Edge], [10:Edge,0-1-8], [13:0-1-8,Edge], [14:0-1-8,Edge], [17:Edge,0-1-8]

Loading	(psf)	Spacing	1-4-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.26	Vert(LL)	-0.07	12-13	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.49	Vert(CT)	-0.10	12-13	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.02	10	n/a	n/a		
BCDL	5.0	Code	FBC2020/TPI2014	Matrix-AS							Weight: 73 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat)
WEBS 2x4 SP No.2(flat)

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied.

REACTIONS (size) 10= Mechanical, 17= Mechanical
Max Grav 10=520 (LC 1), 17=520 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-17=-25/0, 9-10=-24/0, 1-2=0/0, 2-3=-843/0, 3-4=-1341/0, 4-5=-1510/0, 5-6=-1509/0, 6-7=-1340/0, 7-8=-843/0, 8-9=0/0

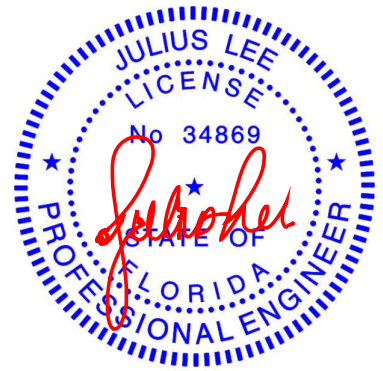
BOT CHORD 16-17=0/498, 15-16=0/1169, 14-15=0/1509, 13-14=0/1510, 12-13=0/1495, 11-12=0/1171, 10-11=0/498

WEBS 8-10=-698/0, 2-17=-699/0, 8-11=0/497, 2-16=0/496, 7-11=-473/0, 3-16=-470/0, 7-12=0/243, 3-15=0/277, 6-12=-227/0, 4-15=-318/0, 4-14=-51/86, 5-13=-147/63, 6-13=-131/234

NOTES

- 1) Unbalanced floor live loads have been considered for this design.
- 2) Refer to girder(s) for truss to truss connections.
- 3) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

LOAD CASE(S) Standard



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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

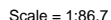
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



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Chesterfield, MO 63017

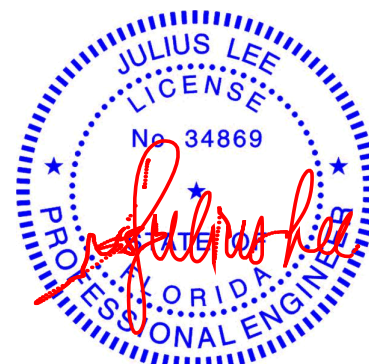
19 Lumber, Inc., Old Town, FL - 32680, Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Mar 28 07:12:26 Page: 1
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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.46	Vert(LL)	1.18	19	>450	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.69	Vert(CT)	-1.61	18-19	>329	180	M18AHS	186/179
BCLL	0.0*	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.21	26	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-MS							Weight: 277 lb	FT = 20%

- 1) Wind: ASCE 7-16; Vult=140mph (3-second gust)
Vasd=108mph; TCdL=5.0psf; BCdL=5.0psf; h=25ft;
Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior
zone and C-C Exterior (2E) -2-0-7 to 2-4-10, Interior (1)
2-4-10 to 46-2-9 zone; cantilever left and right exposed ;
end vertical left and right exposed; C-C for members and
forces & MWFRS for reactions shown; Lumber
DOL=1.60 plate grip DOL=1.60
- 2) Building Designer / Project engineer responsible for
verifying applied roof live load shown covers rain loading
requirements specific to the use of this truss component.
- 3) All plates are MT20 plates unless otherwise indicated.
- 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 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members.
- 6) Bearing at joint(s) 26 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 997 lb uplift at
joint 2 and 1020 lb uplift at joint 26.

LOAD CASE(S) Standard



March 28.2023



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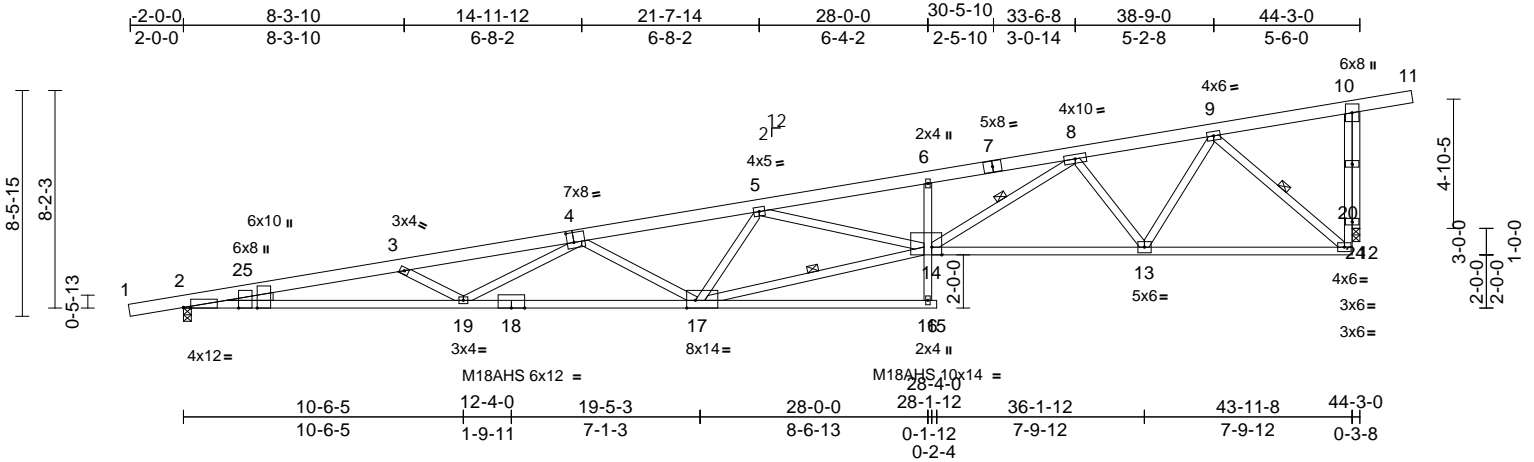
Job	Truss	Truss Type	Qty	Ply	Futral	T30170678
0932-A	M2	Monopitch	8	1	Job Reference (optional)	

19 Lumber, Inc., Old Town, FL - 32680,

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Plate Offsets (X, Y): [2:0-3-4,Edge], [2:0-0-4,Edge], [2:0-0-4,Edge], [4:0-3-0,0-4-8], [14:0-4-8,Edge], [17:0-3-14,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.46	Vert(LL)	1.04	17-19	>507	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.68	Vert(CT)	-1.41	17-19	>376	180	M18AHS	186/179
BCLL	0.0*	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.18	24	n/a	n/a		
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-MS							Weight: 283 lb	FT = 20%

LUMBER

TOP CHORD	2x6 SP DSS
BOT CHORD	2x4 SP DSS
WEBS	2x4 SP No.2 *Except* 17-14:2x4 SP DSS
OTHERS	2x4 SP DSS
WEDGE	Left: 2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-10-1 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 3-4-6 oc bracing.

WEBS	1 Row at midpt	14-17, 8-14, 9-12
REACTIONS	(size)	2=0-3-8, 24=0-3-8
	Max Horiz	2=462 (LC 8)
	Max Uplift	2=-997 (LC 8), 24=-1020 (LC 12)
	Max Grav	2=1888 (LC 1), 24=1887 (LC 1)

FORCES

TOP CHORD	(lb) - Maximum Compression/Maximum Tension
	12-20=-785/1586, 10-20=-785/1586, 1-2=0/20, 2-3=-7864/3790, 3-5=-7472/3500, 5-6=-6460/3184, 6-8=-6476/3251, 8-9=-2832/1333, 9-10=-137/14, 10-11=-24/0
BOT CHORD	2-19=-4114/7740, 17-19=-3595/6749, 16-17=-35/77, 15-16=0/0, 13-14=-2007/3832, 12-13=-932/1797
WEBS	3-19=-446/391, 4-19=-213/755, 4-17=-1173/757, 5-17=-709/541, 14-17=-3262/6170, 5-14=-113/250, 8-14=-1606/3079, 8-13=-1853/1086, 9-13=-907/1952, 9-12=-2266/1212, 14-16=0/155, 6-14=-296/278, 10-24=-1891/1056

NOTES

- 1) Wind: ASCE 7-16; Vult=140mph (3-second gust) Vasd=108mph; TCDL=5.0psf; BCDL=5.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -2-0-7 to 2-4-10, Interior (1) 2-4-10 to 46-2-9 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer / Project engineer responsible for verifying applied roof live load shown covers rain loading requirements specific to the use of this truss component.
- 3) All plates are MT20 plates unless otherwise indicated.
- 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 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 6) Bearing at joint(s) 24 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 997 lb uplift at joint 2 and 1020 lb uplift at joint 24.

LOAD CASE(S) Standard



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Date:

March 28,2023

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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



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Chesterfield, MO 63017

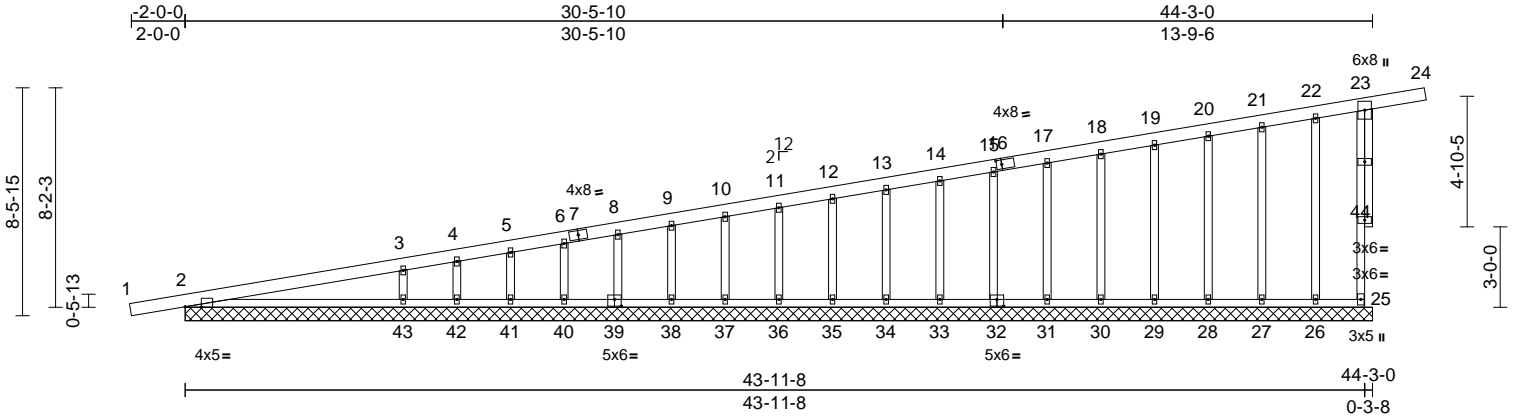
Job	Truss	Truss Type	Qty	Ply	Futral	T30170679
0932-A	M3	Monopitch	2	1	Job Reference (optional)	

19 Lumber, Inc., Old Town, FL - 32680,

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Scale = 1:85.9

Plate Offsets (X, Y): [2:0-7-4,Edge], [16:0-2-6,0-2-0], [32:0-3-0,0-3-0], [39:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.57	Vert(LL)	n/a	-	n/a	999	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.34	Vert(CT)	n/a	-	n/a	999	
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horz(CT)	-0.01	25	n/a	n/a	
BCDL	10.0	Code	FBC2020/TPI2014	Matrix-MS							
										Weight: 302 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
OTHERS 2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 2=44-3-0, 25=44-3-0, 26=44-3-0, 27=44-3-0, 28=44-3-0, 29=44-3-0, 30=44-3-0, 31=44-3-0, 32=44-3-0, 33=44-3-0, 34=44-3-0, 35=44-3-0, 36=44-3-0, 37=44-3-0, 38=44-3-0, 39=44-3-0, 40=44-3-0, 41=44-3-0, 42=44-3-0, 43=44-3-0, 45=44-3-0
Max Horiz 2=483 (LC 9), 45=483 (LC 9)
Max Uplift 2=243 (LC 8), 25=193 (LC 8), 26=193 (LC 12), 27=193 (LC 12), 28=193 (LC 12), 29=193 (LC 12), 30=85 (LC 8), 31=84 (LC 8), 32=90 (LC 12), 33=79 (LC 8), 34=86 (LC 12), 35=84 (LC 8), 36=84 (LC 12), 37=83 (LC 8), 38=90 (LC 12), 39=77 (LC 8), 40=87 (LC 8), 41=117 (LC 12), 42=183 (LC 1), 43=338 (LC 12), 45=243 (LC 8)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/20, 2-3=515/309, 3-4=441/244, 4-5=449/270, 5-6=425/256, 6-8=405/249, 8-9=383/238, 9-10=363/229, 10-11=344/222, 11-12=325/214, 12-13=305/206, 13-14=286/198, 14-15=267/190, 15-17=250/184, 17-18=231/177, 18-19=214/169, 19-20=207/161, 20-21=201/153, 21-22=194/145, 22-23=174/133, 23-24=22/0, 23-25=261/421
BOT CHORD 2-43=164/190, 42-43=148/175, 41-42=148/175, 40-41=148/175, 38-40=148/175, 37-38=144/171, 36-37=144/171, 35-36=144/171, 34-35=144/171, 33-34=144/171, 31-33=147/174, 30-31=147/174, 29-30=147/174, 28-29=147/174, 27-28=147/174, 26-27=147/174, 25-26=147/174

WEBS

11-36=120/105, 10-37=119/102, 9-38=123/111, 8-39=118/97, 6-40=115/106, 5-41=169/135, 4-42=69/137, 3-43=555/410, 12-35=120/104, 13-34=120/106, 14-33=119/100, 15-32=122/110, 17-31=119/100, 18-30=120/105, 19-29=120/104, 20-28=122/108, 21-27=121/102, 22-26=116/95

NOTES

- 1) Wind: ASCE 7-16; Vult=140mph (3-second gust) Vasd=108mph; TCDL=5.0psf; BCDL=5.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -2-0-7 to 2-4-10, Exterior(2N) 2-4-10 to 46-2-9 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) 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.

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Date:

March 28,2023

Continued on page 2

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Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Futral
0932-A	M3	Monopitch	2	1	T30170679 Job Reference (optional)

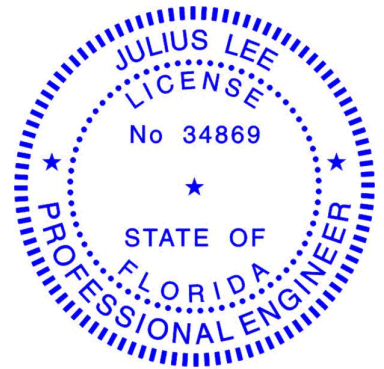
19 Lumber, Inc., Old Town, FL - 32680,

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Page: 2

- 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) All plates are 2x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 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 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 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 243 lb uplift at joint 2, 193 lb uplift at joint 25, 84 lb uplift at joint 36, 83 lb uplift at joint 37, 90 lb uplift at joint 38, 77 lb uplift at joint 39, 87 lb uplift at joint 40, 117 lb uplift at joint 41, 183 lb uplift at joint 42, 388 lb uplift at joint 43, 84 lb uplift at joint 35, 86 lb uplift at joint 34, 79 lb uplift at joint 33, 90 lb uplift at joint 32, 81 lb uplift at joint 31, 85 lb uplift at joint 30, 83 lb uplift at joint 29, 91 lb uplift at joint 28, 71 lb uplift at joint 27, 19 lb uplift at joint 26 and 243 lb uplift at joint 2.

LOAD CASE(S) Standard



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Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

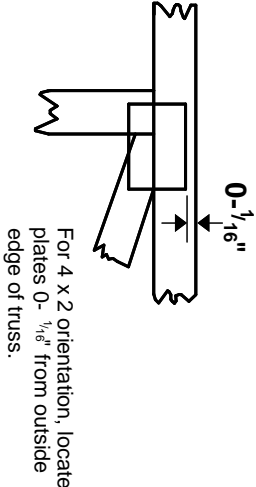
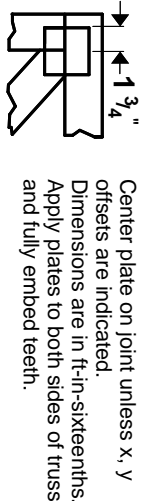
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



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

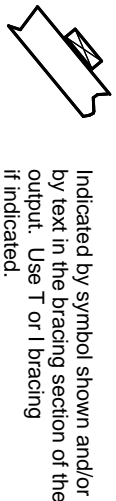
For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

PLATE SIZE

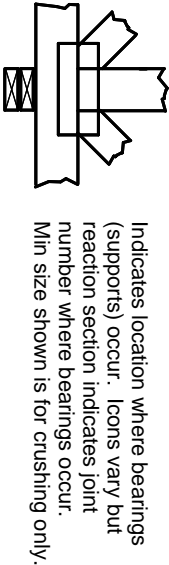
4 X 4

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

LATERAL BRACING LOCATION



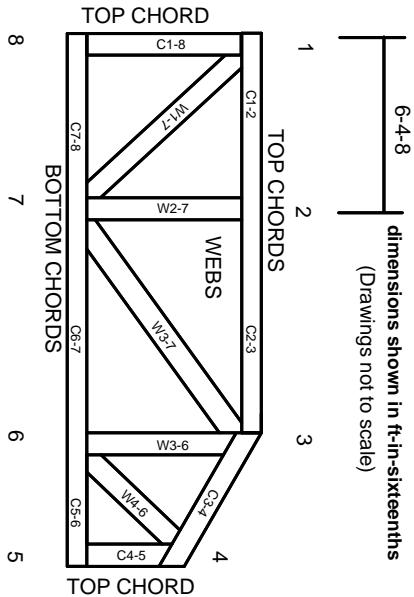
BEARING



Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number 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-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & 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-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

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

Lumber design values are in accordance with ANSI/TP1 1 section 6.3 These truss designs rely on lumber values established by others.

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Mitek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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