MiTek USA, Inc.
16023 Swingley Ridge Rd
Chesterfield, MO 63017
314-434-1200

Re: 29629-29629A
18 RUSHTON

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by 84 Components - #2383.

Pages or sheets covered by this seal: I49915185 thru I49915186

My license renewal date for the state of South Carolina is June 30, 2022.

South Carolina COA: 923

January 31,2022

Liu, Xuegang

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.

Job	Truss	Truss Type	Qty	Ply	18 RUSHTON
29629-29629A	T1D	ROOF TRUSS	6	1	I49915185
					Job Reference (optional)

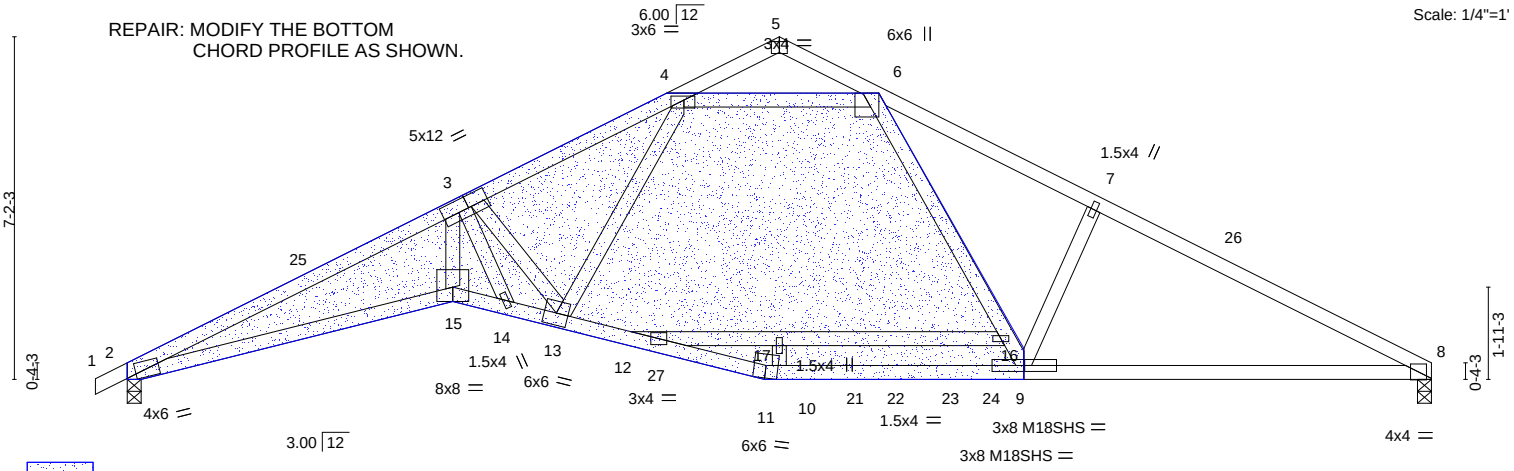
84 Components, Kings Mountain, NC 28086 — 8.530 s Dec 6 2021 MiTek Industries, Inc. Mon Jan 31 09:53:20 2022 Page 1

ID:UsWNwMgbRhbUj6HhLvCIASyKcq2-SWgrGagiHSvg_WynxaEzQa9UVJizt2jgJObfxozptCD

-0-8-0	6-9-14	7-0-15	11-8-0	13-8-0	15-8-0	20-3-1	27-4-0
0-8-0	6-9-14	0-3-1	4-7-1	2-0-0	2-0-0	4-7-1	7-0-15

Scale: 1/4"=1'

REPAIR: MODIFY THE BOTTOM CHORD PROFILE AS SHOWN.



SHOP FABRICATE SCAB TRUSS (SHOWN AS SHADED AREA ON TRUSS DESIGN DRAWING) USING THE LUMBER AND PLATES INDICATED. ATTACH SCAB TRUSS TO ONE FACE OF EXISTING TRUSS WITH (0.131" X 3") NAILS (INTO ALL ALIGNING MEMBERS) PER THE FOLLOWING NAIL SCHEDULE: 2 x 3's - 1 ROW, 2 x 4's - 2 ROWS, 2 x 6'S AND LARGER - 3 ROWS: SPACED @ 2" O.C. USE 2" MEMBER END DISTANCE.

6-9-14	8-6-8	9-2-14	13-8-0	18-1-2	18-9-8	27-4-0
6-9-14	1-8-10	0-8-6	4-5-2	4-5-2	0-8-6	8-6-8

Plate Offsets (X,Y)-- [3:0-5-4,0-3-0], [4:0-3-4,0-1-0], [5:0-2-0,0-0-5], [6:0-2-8,0-2-1], [9:0-0-3,0-1-8], [15:0-4-0,0-3-10]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	0.37	13	>887	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.62	13	>527	180	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.29	8	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 141 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SP No.2 *Except*
2-3: 2x4 SP No.1
BOT CHORD 2x4 SP No.2 *Except*
2-15: 2x4 SP No.1, 11-15: 2x4 SP DSS
WEBS 2x4 SP No.3 *Except*
12-16: 2x4 SP No.2, 6-9,3-15: 2x4 SP No.2 or 2x4 SPF No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 5-11-0 oc bracing.

REACTIONS. (lb/size) 8=1093/0-3-8 (min. 0-1-12), 2=1134/0-3-8 (min. 0-1-13)
Max Horz 2=145(LC 16)
Max Uplift 8=-202(LC 13), 2=-220(LC 12)
Max Grav 8=1130(LC 35), 2=1175(LC 31)

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

TOP CHORD 2-25=-3826/1182, 3-25=-3722/1203, 3-4=-2187/775, 6-7=-1862/751, 7-26=-1906/704, 8-26=-1996/685
BOT CHORD 10-11=-186/1074, 10-21=-186/1074, 21-22=-186/1074, 22-23=-186/1074, 23-24=-186/1074, 9-24=-186/1074, 8-9=-492/1734, 2-15=-1025/3451, 14-15=-954/3226, 13-14=-1046/3370, 12-13=-290/1411, 12-27=-181/1091, 11-27=-188/1080
WEBS 3-14=-182/265, 7-9=-414/340, 12-17=-148/370, 16-17=-148/370, 6-16=-234/543, 9-16=-289/691, 4-13=-269/987, 4-6=-1247/545, 3-15=-460/1752, 3-13=-2163/877

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=140mph (3-second gust) Vasd=111mph; TCDL=6.0psf; BCDL=6.0psf; h=30ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-8-0 to 3-10-6, Exterior(2N) 3-10-6 to 13-8-0, Corner(3R) 13-8-0 to 18-2-6, Exterior(2N) 18-2-6 to 27-4-0 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
3) All plates are MT20 plates unless otherwise indicated.
4) n/a
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf 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.
7) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 202 lb uplift at joint 8 and 220 lb uplift at joint 2.
9) n/a
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Load case(s) 30, 31, 32, 33, 34, 35 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
12) MULTIPLE LOADCASES – This design is the composite result of multiple load cases.
13) User moving load cases exist: Review the load cases for details.
14) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.
15) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

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SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 22333 XUEGANG LIU

January 31,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	18 RUSHTON
29629-29629A	T1D	ROOF TRUSS	6	1	I49915185
					Job Reference (optional)

84 Components, Kings Mountain, NC 28086 — 8.530 s Dec 6 2021 MiTek Industries, Inc. Mon Jan 31 09:53:20 2022 Page 2

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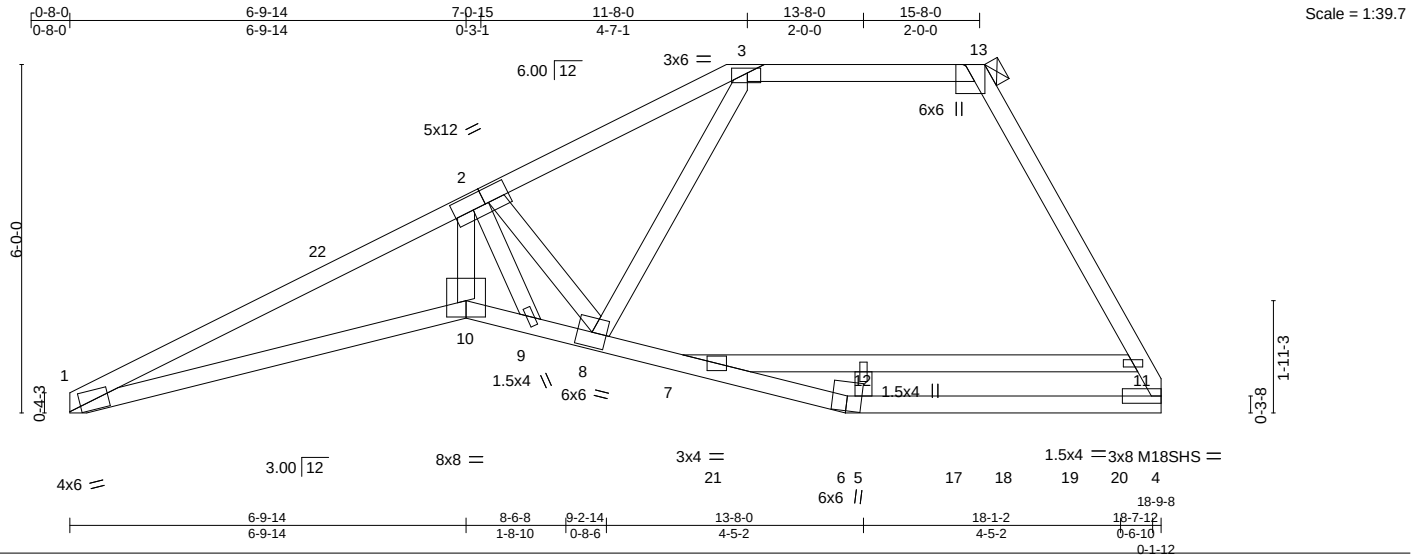


Plate Offsets (X,Y)-- [2:0-5-4,0-3-0], [3:0-3-4,0-1-0], [6:0-0-7,0-3-0], [10:0-4-0,0-3-6], [13:0-1-15,0-3-0]

LUMBER-

TOP CHORD 2x4 SP No.2 *Except*
1-2: 2x4 SP No.1

BOT CHORD 2x4 SP No.2 *Except*
1-10: 2x4 SP No.1, 6-10: 2x4 SP DSS

WEBS 2x4 SP No.3 *Except*
7-11: 2x4 SP No.2, 4-13,2-10: 2x4 SP No.2 or 2x4 SPF No.2

PLATES	GRIP
MT20	197/144
M18SHS	197/144

Weight: 94 lb FT = 20%

LOAD CASE(S)

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-60, 5-8=-60, 2-15=-20, 11-15=-20

2) Dead + 0.75 Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-50, 5-8=-50, 2-15=-20, 11-15=-20

3) Dead + Uninhabitable Attic Without Storage: Lumber Increase=1.25, Plate Increase=1.25
Uniform Loads (plf)
Vert: 11-18=-40, 1-5=-20, 5-8=-20, 2-15=-41, 11-15=-41

4) Dead + 0.6 C-C Wind (Pos. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=70, 2-25=59, 5-25=37, 5-8=37, 2-15=-12, 11-15=-12
Horz: 1-2=-82, 2-25=-71, 5-25=-49, 5-8=49

5) Dead + 0.6 C-C Wind (Pos. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=31, 2-5=37, 5-26=37, 8-26=59, 2-15=-12, 11-15=-12
Horz: 1-2=-43, 2-5=-49, 5-26=49, 8-26=71

6) Dead + 0.6 C-C Wind (Neg. Internal) Case 1: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-9, 2-5=-37, 5-8=-37, 2-15=-20, 11-15=-20
Horz: 1-2=-11, 2-5=17, 5-8=-17

7) Dead + 0.6 C-C Wind (Neg. Internal) Case 2: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-31, 2-5=-37, 5-8=-37, 2-15=-20, 11-15=-20
Horz: 1-2=11, 2-5=17, 5-8=-17

8) Dead + 0.6 MWFRS Wind (Pos. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=16, 2-5=1, 5-8=15, 2-15=-12, 11-15=-12
Horz: 1-2=-28, 2-5=-13, 5-8=27

9) Dead + 0.6 MWFRS Wind (Pos. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=9, 2-5=15, 5-8=1, 2-15=-12, 11-15=-12
Horz: 1-2=-21, 2-5=-27, 5-8=13

10) Dead + 0.6 MWFRS Wind (Neg. Internal) Left: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-13, 2-5=-20, 5-8=-5, 2-15=-20, 11-15=-20
Horz: 1-2=-7, 2-5=-0, 5-8=15

11) Dead + 0.6 MWFRS Wind (Neg. Internal) Right: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=1, 2-5=-5, 5-8=-20, 2-15=-20, 11-15=-20
Horz: 1-2=-21, 2-5=-15, 5-8=0

12) Dead + 0.6 MWFRS Wind (Pos. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=26, 2-5=33, 5-8=13, 2-15=-12, 11-15=-12
Horz: 1-2=-38, 2-5=-45, 5-8=25

Continued on page 3

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

LOAD CASE(S)

13) Dead + 0.6 MWFRS Wind (Pos. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=7, 2-5=13, 5-8=33, 2-15=-12, 11-15=-12
Horz: 1-2=-19, 2-5=-25, 5-8=45

14) Dead + 0.6 MWFRS Wind (Pos. Internal) 3rd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=26, 2-5=33, 5-8=13, 2-15=-12, 11-15=-12
Horz: 1-2=-38, 2-5=-45, 5-8=25

15) Dead + 0.6 MWFRS Wind (Pos. Internal) 4th Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=7, 2-5=13, 5-8=33, 2-15=-12, 11-15=-12
Horz: 1-2=-19, 2-5=-25, 5-8=45

16) Dead + 0.6 MWFRS Wind (Neg. Internal) 1st Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=18, 2-5=12, 5-8=-7, 2-15=-20, 11-15=-20
Horz: 1-2=-38, 2-5=-32, 5-8=13

17) Dead + 0.6 MWFRS Wind (Neg. Internal) 2nd Parallel: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-1, 2-5=-7, 5-8=12, 2-15=-20, 11-15=-20
Horz: 1-2=-19, 2-5=-13, 5-8=32

18) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-20, 5-8=-20, 2-15=-20, 11-15=-20

19) Dead: Lumber Increase=0.90, Plate Increase=0.90 Plt. metal=0.90
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-20, 5-8=-20, 2-15=-20, 11-15=-20

20) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Left): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-45, 2-5=-50, 5-8=-39, 2-15=-20, 11-15=-20
Horz: 1-2=-5, 2-5=-0, 5-8=11

21) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) Right): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-34, 2-5=-39, 5-8=-50, 2-15=-20, 11-15=-20
Horz: 1-2=-16, 2-5=-11, 5-8=0

22) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 1st Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-21, 2-5=-26, 5-8=-41, 2-15=-20, 11-15=-20
Horz: 1-2=-29, 2-5=-24, 5-8=9

23) Dead + 0.75 Roof Live (bal.) + 0.75(0.6 MWFRS Wind (Neg. Int) 2nd Parallel): Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-20, 1-2=-36, 2-5=-41, 5-8=-26, 2-15=-20, 11-15=-20
Horz: 1-2=-14, 2-5=-9, 5-8=24

24) Dead + 0.6 C-C Wind Min. Down: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-2=4, 2-5=-28, 5-8=-28, 2-15=-12, 11-15=-12
Horz: 1-2=-16, 2-5=16, 5-8=-16

25) Dead + 0.6 C-C Wind Min. Upward: Lumber Increase=1.60, Plate Increase=1.60
Uniform Loads (plf)
Vert: 11-18=-12, 1-5=4, 5-8=4, 2-15=-12, 11-15=-12
Horz: 1-5=-16, 5-8=16

26) 1st Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-60, 5-8=-20, 2-15=-20, 11-15=-20

27) 2nd Dead + Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-20, 5-8=-60, 2-15=-20, 11-15=-20

28) 3rd Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-50, 5-8=-20, 2-15=-20, 11-15=-20

29) 4th Dead + 0.75 Roof Live (unbalanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20, 1-5=-20, 5-8=-50, 2-15=-20, 11-15=-20

30) User defined: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20(F), 1-5=-60(F), 5-8=-60(F), 2-15=-20(F), 11-15=-20(F)

31) 1st User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20(F), 1-5=-60(F), 5-8=-60(F), 2-15=-20(F), 13-15=-20(F), 13-27=-50(F=-20), 11-27=-20(F)

32) 2nd User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-18=-20(F), 1-5=-60(F), 5-8=-60(F), 2-15=-20(F), 15-27=-20(F), 11-27=-50(F=-20)

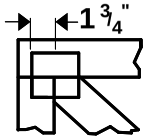
33) 3rd User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-21=-50(F=-20), 18-21=-20(F), 1-5=-60(F), 5-8=-60(F), 2-15=-20(F), 11-15=-20(F)

34) 4th User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-21=-20(F), 21-23=-50(F=-20), 18-23=-20(F), 1-5=-60(F), 5-8=-60(F), 2-15=-20(F), 11-15=-20(F)

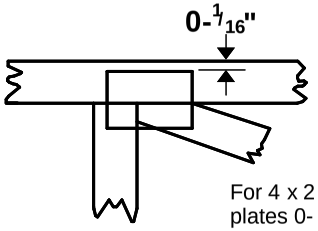
35) 5th User Defined Moving Load - User defined: Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 11-22=-20(F), 22-24=-50(F=-20), 18-24=-20(F), 1-5=-60(F), 5-8=-60(F), 2-15=-20(F), 11-15=-20(F)

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.

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

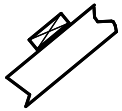
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

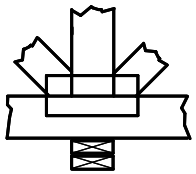
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

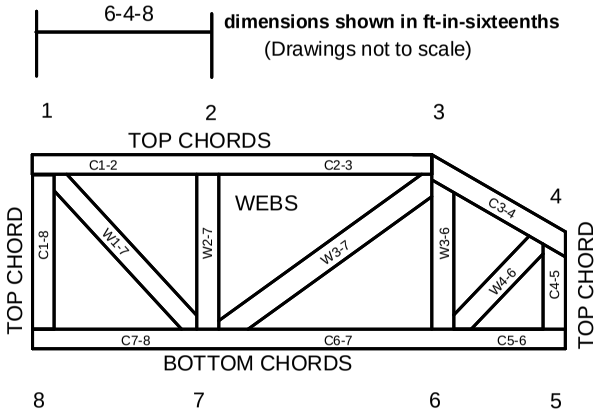


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: 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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 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/TPI 1 Quality Criteria.

21.The design does not take into account any dynamic or other loads other than those expressly stated.