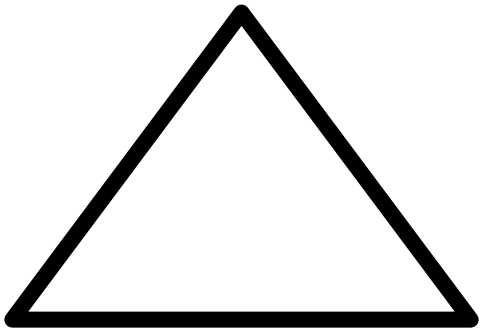
TRUSSES

Belize Microhouse

Advantages & Disadvantages

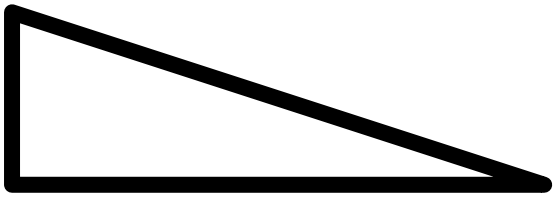
GABLE

- Can be built in parallel
- Economical (strength comes from triangular shape, saves on materials)
- Symmetry and balanced center of gravity make it easy to lift and install - even 1 person can install a gable truss (see first video on next page).
- Only two gable end walls need to be sheathed
- Disadvantage: requires collar tie to prevent spreading



SHED

- Can be built in parallel
- No webbing
- Does not spread
- Disadvantage: cannot be lifted and rotated as easily as gable



AWC Joist Span Tables

FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES (Residential sleeping areas, live load = 30 psf, L/Δ = 360)[a]

JOIST SPACING (inches)	SPECIES AND GRADE		DEAD LOAD = 10 psf				DEAD LOAD = 20 psf			
			2 × 6	2 × 8	2 × 10	2 × 12	2 × 6	2 × 8	2 × 10	2 × 12
			Maximum floor joist spans							
			(ft. - in.)	(ft. - in.)	(ft. - in.)	(ft. - in.)	(ft. - in.)	(ft. - in.)	(ft. - in.)	(ft. - in.)
24	Douglas fir-larch	SS	9-11	13-1	16-8	20-3	9-11	13-1	16-5	19-1
	Douglas fir-larch	#1	9-7	12-4	15-0	17-5	8-8	11-0	13-5	15-7
	Douglas fir-larch	#2	9-3	11-8	14-3	16-6	8-3	10-5	12-9	14-9
	Douglas fir-larch	#3	7-0	8-11	10-11	12-7	6-3	8-0	9-9	11-3
	Hem-fir	SS	9-4	12-4	15-9	19-2	9-4	12-4	15-9	18-5
	Hem-fir	#1	9-2	12-1	14-10	17-2	8-7	10-10	13-3	15-5
	Hem-fir	#2	8-9	11-4	13-10	16-1	8-0	10-2	12-5	14-4
	Hem-fir	#3	6-10	8-8	10-7	12-4	6-2	7-9	9-6	11-0
	Southern pine	SS	9-9	12-10	16-5	19-11	9-9	12-10	16-5	19-8
	Southern pine	#1	9-4	12-4	14-8	17-5	8-10	11-3	13-1	15-7
	Southern pine	#2	8-6	10-10	12-10	15-1	7-7	9-8	11-5	13-6
	Southern pine	#3	6-5	8-2	9-10	11-8	5-9	7-3	8-10	10-5
	Spruce-pine-fir	SS	9-2	12-1	15-5	18-9	9-2	12-1	15-0	17-5
	Spruce-pine-fir	#1	8-11	11-6	14-1	16-3	8-1	10-3	12-7	14-7
	Spruce-pine-fir	#2	8-11	11-6	14-1	16-3	8-1	10-3	12-7	14-7
	Spruce-pine-fir	#3	6-10	8-8	10-7	12-4	6-2	7-9	9-6	11-0

AWC Rafter Span Tables

RAFTER SPANS FOR COMMON LUMBER SPECIES (Roof live load = 20 psf, ceiling not attached to rafters, L/Δ = 180)

RAFTER SPACING (inches)	SPECIES AND GRADE		DEAD LOAD = 10 psf					DEAD LOAD = 20 psf				
			2 × 4	2 × 6	2 × 8	2 × 10	2 × 12	2 × 4	2 × 6	2 × 8	2 × 10	2 × 12
			Maximum rafter spans[a]									
			(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)	(feet - inches)
24	Douglas fir-larch	SS	9-1	14-4	18-10	23-9	Note b	9-1	13-3	16-10	20-7	23-10
	Douglas fir-larch	#1	8-7	12-6	15-10	19-5	22-6	7-5	10-10	13-9	16-9	19-6
	Douglas fir-larch	#2	8-2	11-11	15-1	18-5	21-4	7-0	10-4	13-0	15-11	18-6
	Douglas fir-larch	#3	6-2	9-1	11-6	14-1	16-3	5-4	7-10	10-0	12-2	14-1
	Hem-fir	SS	8-7	13-6	17-10	22-9	Note b	8-7	12-10	16-3	19-10	23-0
	Hem-fir	#1	8-5	12-4	15-8	19-2	22-2	7-4	10-9	13-7	16-7	19-3
	Hem-fir	#2	7-11	11-7	14-8	17-10	20-9	6-10	10-0	12-8	15-6	17-11
	Hem-fir	#3	6-1	8-10	11-3	13-8	15-11	5-3	7-8	9-9	11-10	13-9
	Southern pine	SS	8-11	14-1	18-6	23-8	Note b	8-11	13-10	17-6	20-10	24-8
	Southern pine	#1	8-7	12-9	16-2	18-11	22-6	7-5	11-1	14-0	16-5	19-6
	Southern pine	#2	7-4	11-0	13-11	16-6	19-6	6-4	9-6	12-1	14-4	16-10

Attic Trusses

24' Gable Room-in-Attic Residential Roof Truss 74#

Model Number: 1889301 | Menards® SKU: 1889301

Watch Video

$194.99 each

Design & Buy YOUR TRUSS CLICK HERE

Compare | Add to Lists

Not sure what to buy?
Check out our Buying Guides!

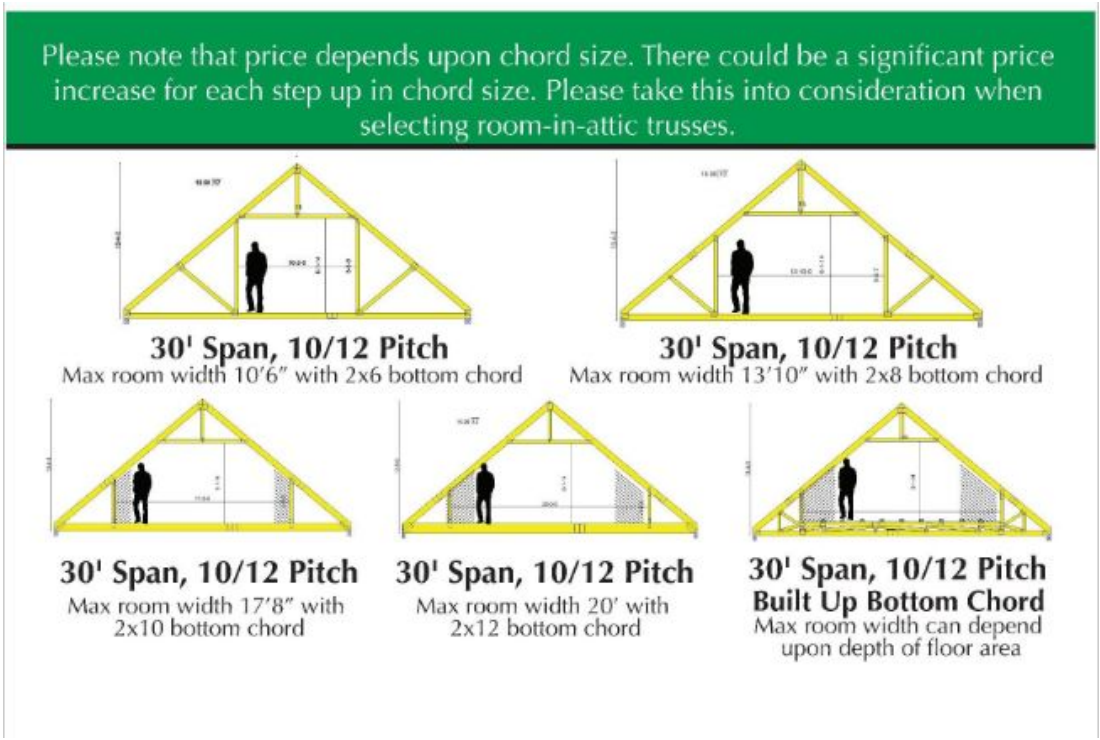
VIEW NOW

Description & Documents

Residential room in attic trusses are an inexpensive way to add extra living or storage space to your home or garage while also increasing the value of your property. Room size will vary depending on the overall size and slope (also referred to as pitch) of the trusses. Room in attic trusses are professionally designed with state of the art computer programs. The lumber components are precision cut and assembled together with galvanized steel truss plates in a factory controlled environment. Each truss bears the Truss Plate Institute (TPI) stamp for quality assurance. Truss capacity is listed by pounds per square foot based on the following load rating criteria. top chord live load (snow and other temporary loads) top chord dead load (roofing materials, weight of the truss itself & other permanent items attached to the roof), bottom chord live load (storage or living space) and bottom chord dead load (insulation, ceiling materials, ceiling fans, etc.). Trusses save time and materials compared to conventional hand framing.

Features

- Fully assembled, clear span
- 74 pounds per square foot total load
- Designed for 2' on center spacing
- Attic size 7' 6" H x 12' W
- Pictures are for illustrational purposes only, actual lumber and webs may vary
- JOBSITE delivery is REQUIRED! See a Menards team member at your nearest store for more information



Storage Trusses

10'/12' 8/12 Storage Truss

Model Number: 1871092 | Menards® SKU: 1871092

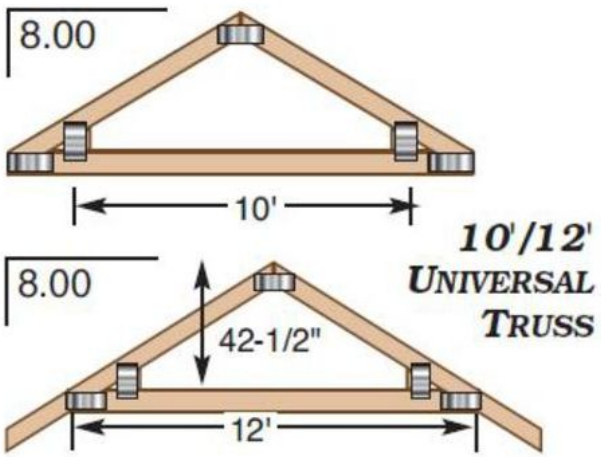
$49.49 each

Qty: 1 ADD TO CART

Compare Add to Lists

10'/12' 8/12 Storage Truss

Model Number: 1871092 | Menards® SKU: 1871092



$49.49 each

Qty: 1 ADD TO CART

Compare Add to Lists

Shed & Barn Trusses

12' Gable EZ Build Storage Building Frame

Model Number: 1874536 | Menards® SKU: 1874536

$61.19 each

Qty: 1 ADD TO CART

Compare Add to Lists

12' Gambrel Barn EZ Build Storage Building Frame

Model Number: 1874523 | Menards® SKU: 1874523

Save

$66.79 each

Qty: 1 ADD TO CART

Compare Add to Lists

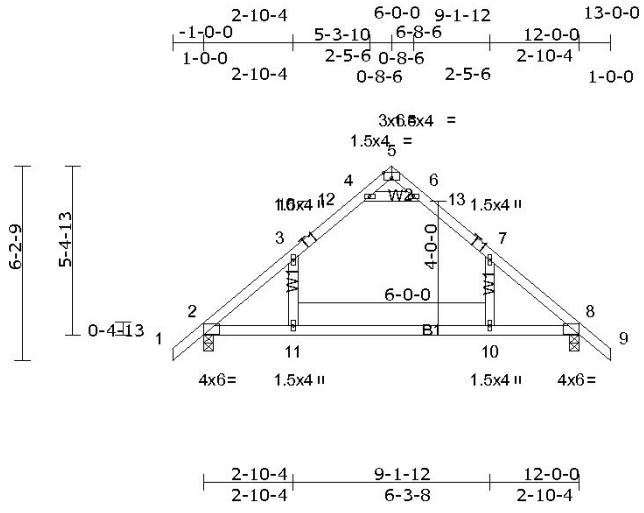
Gable Trusses

The trusses below match your desired specifications. Please select one from below.

Family:	Gable RIA
SKU:	1004547
Span:	12'
Room Size:	6' x 4'
Left Overhang:	1'
Right Overhang:	1'
Heel:	4-13/16"
Top Chord:	2 x 4
Bottom Chord:	2 x 4
Pitch:	10/12

Family:	Gable RIA
SKU:	1004547
Span:	12'
Room Size:	7' x 4'
Left Overhang:	1'
Right Overhang:	1'
Heel:	7-7/16"
Top Chord:	2 x 6
Bottom Chord:	2 x 6
Pitch:	10/12

Job	Truss	Truss Type	Qty	Ply	
QTREC0548938	GA1	ATTIC	11	1	Job Reference (optional)



Scale = 1:60.7

Plate Offsets (X, Y): [5:0-3-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.22	10-11	>651	240	MT20	197/144
Snow (Ps/Pg)	19.3/30.0	Lumber DOL	1.15	BC	0.56	Vert(TL)	-0.38	10-11	>370	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.01	8	n/a	n/a		
BCLL	0.0 *	Code	IRC2006/TPI2002	Matrix-R		Attic	-0.12	10-11	>622	360		
BCDL	10.0										Weight: 42 lb	FT = 15%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF Stud

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS (lb/size) 2=708/0-3-8, (min. 0-1-8), 8=708/0-3-8, (min. 0-1-8)
Max Horiz 2=-120(LC 7)
Max Uplift 2=-36(LC 9), 8=-36(LC 10)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-862/0, 3-12=-527/54, 4-12=-445/66, 4-5=-10/464, 5-6=-10/464, 6-13=-445/66, 7-13=-527/54, 7-8=-862/0
BOT CHORD 2-11=0/518, 10-11=0/518, 8-10=0/518
WEBS 4-6=-1123/103, 3-11=0/378, 7-10=0/378

JOINT STRESS INDEX
2 = 0.80, 3 = 0.39, 4 = 0.87, 5 = 0.80, 6 = 0.87, 7 = 0.39, 8 = 0.80, 10 = 0.45 and 11 = 0.45

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 90mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) exterior zone and C-C Exterior(2) 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) TCLL: ASCE 7-05; Pr=20.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=30.0 psf (ground snow); Ps=19.3 psf (roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.1
4) Roof design snow load has been reduced to account for slope.
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.8 psf on overhangs non-concurrent with other live loads.
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) Ceiling dead load (5.0 psf) on member(s). 3-4, 6-7, 4-6; Wall dead load (5.0psf) on member(s).3-11, 7-10
10) Bottom chord live load (25.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 10-11
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 2 and 36 lb uplift at joint 8.
12) This truss is designed in accordance with the 2006 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	PERRUZZI
QTREC0436148	GA1	ATTIC	4	1	Job Reference (optional)

Midwest Manufacturing, Eau Claire, WI, Mitch Loesel — 7.610 s Jan 29 2015 MiTek Industries, Inc. Tue Nov 24 11:49:57 2015 Page 1
ID:N0ZjDwidTLT6yamaYau2heyG_5_-CAw_TznO3BDFgVEjur?SwvhO9QFGVO3l2aONuayG_4

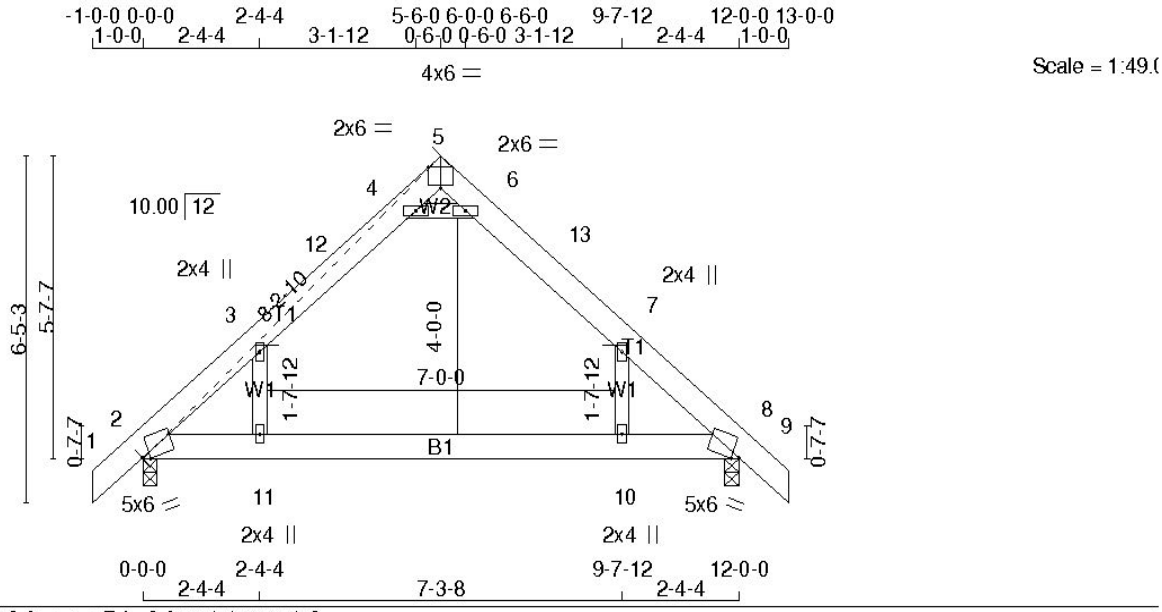


Plate Offsets (X,Y)-- [2:0-1-12,0-0-13], [5:0-3-0,Edge], [8:0-1-12,0-0-13]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	30.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	-0.15	10-11	>927	240	MT20	197/144
Snow (Ps/Pg)	27.0/42.0	Lumber DOL	1.15	BC	0.51	Vert(TL)	-0.25	10-11	>572	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.33	Horz(TL)	0.01	8	n/a	n/a		
BCLL	0.0 *	Code IRC2006/TPI2002		(Matrix)		Attic	-0.09	10-11	935	360	Weight: 61 lb	FT = (
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x4 SPF Stud

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-10-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 2=1020/0-3-8 (min. 0-1-10), 8=1020/0-3-8 (min. 0-1-10)
Max Horz 2=-121(LC 7)
Max Uplift2=-15(LC 9), 8=-15(LC 10)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1292/0, 3-12=-743/32, 4-12=-606/53, 4-5=0/645, 5-6=0/645, 6-13=-606/53, 7-13=-743/32, 7-8=-1292/0
BOT CHORD 2-11=0/712, 10-11=0/712, 8-10=0/712
WEBS 4-6=-1551/51, 3-11=0/728, 7-10=0/728

JOINT STRESS INDEX
2 = 0.88, 3 = 0.54, 4 = 0.90, 5 = 0.29, 6 = 0.90, 7 = 0.54, 8 = 0.88, 10 = 0.65 and 11 = 0.65

NOTES- (14)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 90mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) 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) TCLL: ASCE 7-05; Pr=30.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=42.0 psf (ground snow); Ps=27.0 psf (roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.1
4) Roof design snow load has been reduced to account for slope.

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	
QTRTH0005710	T1	COMMON	7	1	Job Reference (optional)

Midwest Manufacturing, Eau Claire, WI 54703 — 7.640 s Nov 10 2015 MiTek Industries, Inc. Wed Mar 22 15:30:03 2017 Page 1
ID:KmjXaKJfYwWqdqEOcLAhl6zYTH3-3MvqT_9F??vLYxDKls9kgcoSkE7Alu6mmBRAHEzYM3

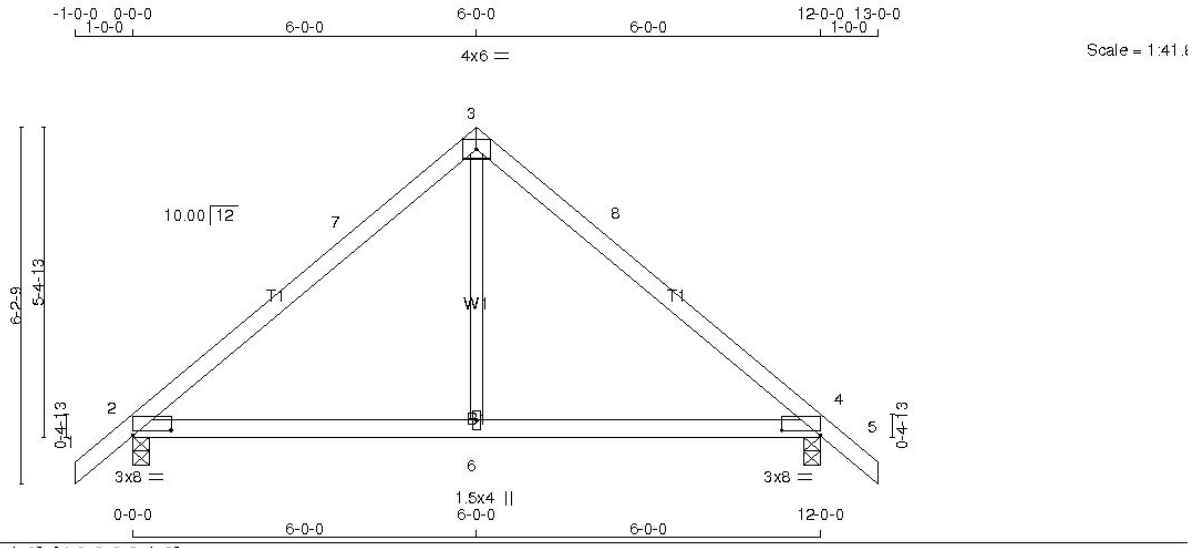


Plate Offsets (X,Y)-- [2:0-8-0,0-1-2], [4:0-8-0,0-1-2]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	30.0	Plate Grip DOL	1.15	TC	0.44	Vert(LL)	-0.04	4-6	>999	240	MT20	197/144
Snow (Ps/Pg)	25.8/40.0	Lumber DOL	1.15	BC	0.35	Vert(TL)	-0.09	4-6	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.15	Horz(TL)	0.01	4	n/a	n/a		
BCLL	0.0 *	Code IRC2006/TPI2002		(Matrix)								
BCDL	10.0										Weight: 39 lb	FT = 2

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF Stud

BRACING-
TOP CHORD Sheathed or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

MiTek recommends that Stabilizers and required cross bracing be installed during truss erection, in accordance with Stabilizer Installation guide.

REACTIONS. (lb/size) 2=635/0-3-8 (min. 0-1-8), 4=635/0-3-8 (min. 0-1-8)
Max Horz 2=120(LC 8)
Max Uplift2=-79(LC 9), 4=-79(LC 10)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-7=-630/64, 3-7=-375/80, 3-8=-375/80, 4-8=-630/64
BOT CHORD 2-6=0/381, 4-6=0/381
WEBS 3-6=0/274

JOINT STRESS INDEX
2 = 0.66, 3 = 0.89, 4 = 0.66 and 6 = 0.29

NOTES- (10)
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-05; 90mph; TCDL=4.2psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; enclosed; MWFRS (low-rise) gable end zone and C-C Exterior(2) 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) TCLL: ASCE 7-05; Pr=30.0 psf (roof live load: Lumber DOL=1.15 Plate DOL=1.15); Pg=40.0 psf (ground snow); Ps=25.8 psf (roof snow: Lumber DOL=1.15 Plate DOL=1.15); Category II; Exp B; Fully Exp.; Ct=1.1
4) Roof design snow load has been reduced to account for slope.
5) Unbalanced snow loads have been considered for this design.

Continued on page 2