MWPS-30' Truss 30' span, 2-web trusses

CAUTION!

Additional professional services will be required to tailor this plan to your situation, including but not limited to: assurance of compliance with codes and regulations; review of specifications for materials and equipment; supervision of site selection, bid letting and construction; and provision for utilities, waste management, roads or other access. **Furthermore, any deviation from the given specifications may result in structural failure, property damage, and personal injury including loss of life.**

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30' Trusses 8x12 12x10 14x10 8x8 8x10 10x10 10×10 12×12 14×12 18×12 8x8 ". 8x10 8×10 10×12 12×12 16×12 8×10 10×10 10×12 12×12 16×14 18×14 10x10 10x12 14x12 18x12 8×8 8×10 10×10 12×12 14×12 16×14 8×8 8×10 " 6×12 8×8 8×10 8×12 v≩ Gusset Sizes. in. Gusset Sizes, in. 8×12 10×12 12×12 12x16 16x16 16x20 8×12 10×12 10×16 10×16 12×16 16×16 16×20 8x12 0x16 12x16 14x16 16x20 8x12 10x16 12×20 14x16 14x20 18x20 8×12 10×16 14×16 14×20 18×20 8×12 0x16 16×20 18×24 3 14×20 3/8x3¹2x16 ¹2x4x16 3/8×3¹2×18 3/8×3¹₂×14 1₂×4×13 3/8×4×24 3/8×3¹₂×21 3/8x3¹5x18 ⁵x4x16 3/8x4x30 3/8x3¹5x16 \sx4x15 3/8x4x27 ¹5x4x22 1₅x4x30 1₅x4x36 3/8x4x58 3/8x4x36 ¹5x4x20 l₂x4x27 l₂x4x30 l₂x4x34 ¹5x4x18 1₂x4x25 1₅x4x27 1₅x4x28 5×4×27 5×4×36 07×7×5 ⁵×4×24 5x4x28 5x4x36 ¹2×4×21 2x4x25 5x4x33 2x4x33 źx4x19 5×4×18 3×4×15 74×4×3 ¥ × H x4x17 ×4×36 TH W 2x4 Web member sizes W1 W2 W3 2x4 .. 2x4 :: 2x4 2×4 2×4 Web member sizes W1 W2 W3 2×4 -2x4 ... 2×4 2x4 :: : : : 5×4 2×4 . Igent Service, Ames, Iowa 50011 2x4 484 ... 2x4 484 484 2x4 484 484 2×4 : : 2×4 2×4 2×4 2×4 2×4 5 Ŧ z 2×4 :: 2x4 .. 2×4 2×4 2x4 :: 2×4 = ÷ 2×4 2x4 2×4 2×4 2×4 2×4 :: 1300 3500 0018 for the lumber quality, slope, spacing, and ceiling dead load you will use. For more information see back page and MWPS-9, Designs for Glued Trusses, 4th Edition, 1981. 000 000 select a truss to carry at least the total roof load 000 000 000 000 0 °. 5 0 00 0 0 1 8 determine appropriate snow load roof design roof dead load plus snow load = roof design စဂ္ကစ္တ n o o 000 0 25 24 000 13 30 29 0 12 15 125 1 337.50 100 40 40 40 000 19 37 35 000 26 26 45 45 0 23 30 29 1300 220 0 8 o ja snow + roof dead load. Celling dead load, psf eiling dead load, psf Truss specing. N. 10 522 002 32.59 002 £389 Truss specing. ft. Ξ 9 8 9 000 9007 00 1 48 59 86 80 80 ool de ad 49 86 83 83 83 200 252 500 50 50 54 50 2100 41 55 55 69 0 2 1 3 5 5 517 1911 325 estimate roof dead load
determine appropriato = 39 57 74 70 32 32 17 35 35 52 93 90 33 61 58 40 54 70 67 2.82 84 831 53 27 26 14 30 29 44 61 77 75 MOL 2 82 t01+ +10 28 49 56 100+ 31 53 62 92 100+ 29 51 57 34 66 66 38 74 Max 24 47 65 100+ Max 4 +101 85 100+ 35 71 69 101+ 38 76 1014 3 69 68 100+ 29 58 32 66 64 95 100+ 53 82 To select a truss: +[0] 101+ 76 76 91 00+ 101+ 37 75 73 39 87 80 33 69 67 100+ 6 load, psf 555 31 63 61 99 1.1 0 . . 1600f Lumber 1400f Lumber Bottom chord Bottom 2x4 2x4 2x6 2×6 4+4 6+6 2x4 2x6 2x6 2x6 2x6 4+4 4+6 6+6 2×6 4+4 4+6 6+6 2×4 2×4 2×6 2x6 4+4 4+6 6+6 2×4 2×4 2×6 2×6 2+4 6+6 6+6 2x4 2x4 2x6 2×6 4+4 6+6 2x4 2x4 2x6 2x8 2x10 2x12 2x12 2×8 2×10 2×12 2×12 2x8 2x10 2x12 2x12 2x8 2x10 2x12 ന് 2×8 2×10 2×12 2×12 2×10 4 Top 2×12 Top 2×12 2x6 2x6 2x6 2x4 2x6 2x6 2x4 2x6 2x6 2x6 2x6 2x6 2×8 2x4 2x6 2x6 2x6 2x6 2x6 3/12 Slope adol2 21/4 edois 21/2 3/12 Slope 4/12 Slope 2/15 Slope This sheet is to help you SELECT and ERECT trusses. DO NOT try to BUILD trusses from it, gluing, joints, splices, and fabrication. See "Designs for Glued Trusses," MWPS-9. If you buy metal-plate trusses, use their designer's data. because it does not include enough information on 8×10 10×10 12×12 14×12 12×10 14×12 16×12 10×10 12×12 16×10 8×10 8×10 10×10 8×10 8x8 8x8 8x8 ÷ Gussel Sizes, in. B H W 1 12x16 14x16 16x16 8×12 10×12 12x16 14x16 18x16 14×12 14×16 18×16 8×12 10×12 8x12 0×12 10×16 3/8×3¹5×11 3/8×4×19 3/8×4×20 3/8x3¹₂x14 3/8×3¹5×13 3/8x4x23 3/8x4x25 ¹2×4×28 1₂×4×36 3/8×4×48 3/8×4×21 3/8×4×22 ³x4x20 ³x4x22 3/8x4x40 3/8x4x31 3/8x4x29 3/8x4x26 /8x4x44 5x4x22 5x4x28 M H L Bottom Chord: 18' + 12' Bottom Chord -16' + 14' -18' + 12' W3 W3 2×4 2x4 2x4 5×5 2x4 2x4 **W**3 ÷+i∩io Web member : W1 W2 2x4 2x4 464 :: 2x4 .. 2×4 484 2x4 :: *** *** Ö 22 ia ia i 5×4 2x4 : x4 Gussets B and C are ^{3/6"} thick plywood. 5×4 2×4 2×4 Ξ - Splice -Splice 0004 000 0000 000 000 000 Braces ž ຕໍ ຕໍ ທີ 18 18 18 0 22 22 22 0 0 000 0 0 8 7 8 000 ÉM doj 0 00 4 + 4, 4 + 6, 6 + 6 indicates stacked lower chord. 484, 684, indicate double web; a 2x4 is attached to the web member to increase its stifthess. 61 52 5 22 1228 -Chord roof dead load Top esi y Celling dead load, psi 17 20 0 fruss spacing, ft. 200 20 20 200 19 0 46 48 23 52 54 **Table of lengths** 30' span, 2-web trusses 7'-6" 2825 0 00 5 61 5238 5 32,86 ŝ Rise 0 0 0 0 0 0 0 0 0 100 19 18 25 38 47 22 21 32 44 55 0 24 23 49 63 61 Top Chord 49 78 00+ 67 94 100+ 24 24 50 74 100+ Waw 30 17 Slope Roof 5/12 5/12 2/12 with plywood gussets -do--IN 69 92 100+ 25 53 77 100+ 23 48 47 58 88 100+ 27 55 54 100+ 74 7'-6" 22 44 25 51 49 1100f Lumber Bottom chord 2x4 2x4 2x6 2×6 4+4 4+6 6+6 2x4 2x4 2x6 2×6 4+4 4+6 6+6 2x4 2x5 2x6 2x6 2x6 4+4 4+6 6+6 2x8 2x10 2x12 2x12 2x12 2 ₹ 2×10 2×10 2×12 2×12 2x8 2x10 2x12 2x12 2x12 Top 2x6 2x6 2x6 2x6 2x6 2x6 2x6 2x6 2×4 3,4,5 4/12 Slope s/12 Slope 3/12 Slope U

"我们的你能让我的人?"

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Approximate weights of trusses, psf. Example: a 4-web truss for 4-spacing with 2x8 top chord and 2x6 bottom chord weighs about 13 + 0.7 = 2.0 psf. Dashed lines in table indicate example. Add the weights of the truss, purlins or decking, roofing, and roof insulation to get the dead load on the top chord. ROOF DEAD LOAD tables. 8' spacing uses least material and labor for build-ings without ceilings such as machinery storages, un-insulated livestock buildings, etc. Total cost may be greater if a ceiling is needed. Roof and ceiling materials and wall framing in-fluence truss spacing selection. In pole buildings it is desirable to support each truss on a pole. 2' **spacing** uses more material and labor. It is common for buildings with ceilings and plywood roof short spans and narrow spacings. 4/12 slope—most common for farm buildings. 5/12 slope—used in high snow load areas or for long spans and wide spacings. Roof slope significantly affects the forces in the truss members. A steeper roof allows higher roof loads. 3/12 slope—used in low snow load areas or for CEILING DEAD LOAD storage buildings. 4' spacing is common in insulated livestock buildings with ceilings and metal roofs, and in some decks. ROOF SLOPE (inches of rise/inches of run) FRUSS SPACING buildings)
B psi ceiling dead load allows for a gypsum board ceiling with insulation (residential or light com-mercial buildings). 5 psf ceiling dead load allows for a metal or plywood ceiling with insulation (warm livestock 0 psf allows for no materials in addition to the Three ceiling dead load cases are included in the

		Tr	Truss spacing	
Chord	5 70	2"	4.	8,
Top	Bottom	Truss	Truss dead weight, psf	psf
2×4	2×4	1.6	0.8	0.4
2×6	2×4	2.0	1.0	0.5
2x6	2x6	2.4	1.2	0.6
2 x 8	2×6	2.7	1.3	0.7
2×10	2x4+2x4	ω.υ υ	1.6	0.8
2x12	2x4+2x6	4.0	2.0	1.0

Ceiling framing 1x3 furring, 16 'o.c. 2x4 furring, 2' o.c Sheathing, etc. 1 Jumber, solid

> 0.4 psf 0.7 0 7 pst 1 1

Root framing 2x4 purlins, 2" o.c. 2x6 purlins, 2" o.c.

Weights of roofing and ceiling materials

120 8 120 8	Map load 200 30 60 80	SNOW LOAD Use the map above and the table below I termining snow load for your building. Recommended snow loads. Recommended by the MWS and MARS Committees for roots up frambulangs. Soly map load x 0.9 the 2.5 yr x0.8 the snow on root forthe buildings. Soly map load x 0.9 the 2.5 yr x0.8 the snow on on the statistical soly in map load x 0.9 the covert from snow on Other buildings. Soly map load x 1.9 the covert from snow on the ateas where all of the maximum noor load may equal the gro winfour significant wind the maximum noor load may equal the gro load	Show lead on the See table below
64.8 72.0 86.4	Farm Oth psf 0th 112.0 1 14.4 1 28.8 2 28.8 2 28.8 2 50.4 4 432 4 55.4 5 57.6 6	loads. loads. loads. loads. loads. load x 0 9 for 25 yr 1 load x 0 9 for 25 yr 1 load x 0 8 for car amount stow ha maximum roof loa	or conversion
96 88 87 72 96 88 87 72	645 645 645 645 645 645 645 645 645 645	SNOW LOAD Use the map above and the table below for de- termining snow load for your building. Recommended snow loads. Recommended snow loads. Recommended snow loads. Recommended snow loads. Recommender by the MMS2 and NARE. Commender to the snow of a building code familulatings. Sky map load s 08 to covert form snow or ground to your buildings. Sky map load s 08 to covert form snow or ground to the stast where all of the maximum snow load may equal the ground snow Minimum recommender loads is 12 psf Minimum recommender loads is	Show load on the ground. Solyr recurrence interval. See table below for conversion to roof snow design load
Southern Pine (15%) N Southern Pine (19%) N Spruce—Pine—Fir S	(North)	ups are ir s in each 2x10, 2x12 rral ontent att	
No. 2 No. 1 SS	NO 1 NO 2 SS SS SS	ndicate group 2 2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	

Wind Loads

Add the following for: 2-64-Web Truss 1.4 6 Web Truss 2.1

0.7 2.2

2×12 2x6+2x6

4.4

1.1 0.6

> 28 ga steel .2 plywood 0.024 aluminum

2.2 pst 1 1 0.4 0.4 2.6 2.6 2.6

Insulation, per inch of thickness Asphalt shingles

Trusses are designed to withstand winds of 80 mph on a building less than 30' high.

Hem---Fir (North) Southern Pine (15%) Southern Pine (19%) Spruce Pine Fir Douglas Fir (South) Douglas Fir (North) 1100 Group Douglas Fir—Larch Spruce—Pine—Fir Hem—Fir (North) Hem—Fir (North) Hem—Fir at time of milling. indicated in the tables. ch group are listed below 2 NO 2 2 1 NO 2 2 1 NO 2 2 1 NO 2 2 1 NO 2 2 2 NO 2 1 NO 2 2 1 NO 2 2 1 NO 2 2 1 NO 2 1 No. 1 SS SS No. 2 No. 2 dense No. 1 No. 1 No. 2 dense No. 2 Grade 2x4 2x6 2x6 2x6 2x6 2x4 2x4 2x4 2x4 2x4 2x4 2x6 2x6 2x6 2x4 2x6 2x6 2x6 Size

Plywood

Use exterior, C-C grade '/_a" or '/'_i" plywood with outer plues of Group 1 species wood. Identification In-dexes, 2406 and 2216 respectively. Use 3-ply '/_a" plywood and 5-ply '/_a" plywood or use Structural I. 4-ply, '/_a" plywood.

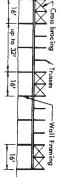


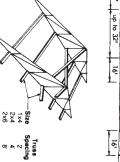




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Brace and anchor the trusses as they are placed. Bottom chord stiffeners are required at panel points unless a rigid ceiling is to be installed. Use king post crossbracing in all buildings.



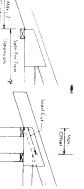


Wind Anchorage

of each truss. Minimum fasteners for wind anchorage, both ends

A = metal framing anchor 4-30d ring-shank naits = 1	52'-60'	48-50	32-46	26-30	20'-24	Truss Span	
A = metal framing anchor 4-30d ring-shank naits = 1/2" both	1A or 1B	Ņ	Truss				
bolt	2A or 2B	9	2A or 1B	1A or 1B	q	Þ.	Truss Spacing
$\mathbf{B} = 1/2$ " bolt	4A or 3B	4A or 2B	3A or 2B	2A or 2B	2A or 1B	œ	

withing strain - Cubii





Overhang

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Stagger purlin joints for continuity across the trusses. Purlins may be laid flat with 2 and 4 truss spacings and buttjoints used. Alternating purlin lengths may be used in pole buildings where the poles are spaced evenly and the trusses are not. For poles 8' oc. they may be of alternating 16' and 18' lengths with staggered and lapped end joints if pairs of trusses are mounted on

alternate sides of the poles



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Poles 8' o.c

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This page is a summary of the information in "Designs for Glued Trusses," MWPS-9. Refer to this publication before building trusses

79.2 888

Overhang

For a 2' to 4' overhang, use the top chord and heel gusset design for a v_1 larger snow load.

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