

## **APPENDIX D: SPAN TABLES**

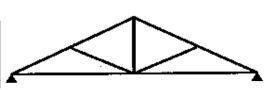
The representative truss span tables provided in this appendix are included in order to give architects, builders, designers and engineers an idea of the truss spans available for a particular load condition, load duration, lumber type and truss configuration.

These tables are intended only to be guidelines, as they do not contain all of the available designs, loadings, and/or configurations available to the user through today's sophisticated computer software programs. Individuals needing assistance beyond the scope of these span tables should consult their local WTCA member truss manufacturer (see Addendum to this text), or call WTCA Offices at 608/274-4849 for assistance.

Floor truss span tables are courtesy of Trussway, Ltd.

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

DESIGN CRITERIA TORICHORD LIVE : # 20 PSF TÓP CHÓRD GEAD = 10 PSF GETA GHORD LEVE = 0 PSF GETA GHORD DEAD = 10 PSF



24",.. 40 15% PSF

SOUTHERN PINE					
3/12	TOP C	HORD	воттом	BOTTOM CHORD	
3/12	2x4	2x6	2x4	2x6	
#1 DENSE	21'-6" <sup>3</sup>	28'-2" 3	21'-6' <sup>3</sup>	28' <b>-2'</b> <sup>3</sup>	
<b>#</b> 1	21'-6" <sup>3</sup>	28'-2" 3	20'-8" 3	27"-5" <sup>3</sup>	
#2 DENSE	21'-6" 3	28'-2' 3	20'-1" 3	27'-3' <sup>3</sup>	
#2	21'-6' 3	28'-2" <sup>3</sup>	18'-9" <sup>3</sup>	26'-3' <sup>3</sup>	
4/12	TOP C	HORD	воттом снояв		
4/12	2x4	2x6	2x4	2x6	
#1 DEN\$E	21'-6" 3	28'-2" 3	21'-6' <sup>3</sup>	28'-2' <sup>S</sup>	
<b>#</b> 1	21'-6' <sup>3</sup>	28'-2" <sup>3</sup>	20'-8' 3	27"-5" <sup>3</sup>	
#2 DENSE	21'-6' 3	28'-2' <sup>8</sup>	20'-1' 3	27°-3" <sup>3</sup>	
#2	21'-6' 3	28'-2" <sup>3</sup>	18'-9' <sup>5</sup>	26'-3" <sup>3</sup>	
5/12	TOP C	HORD	воттом смояр		
3/12	2x4	2x6	2x4	2x6	
#1 DEN\$E	21'-6' 3	28'-2" 3	21'-6' <sup>3</sup>	28'-2" 3	
#1	21'-6' 3	28'-2" <sup>3</sup>	20'-8' <sup>3</sup>	27°-5" <sup>3</sup>	
#2 DENSE	21'-6" 3	28'-2" 3	201-115	27"-3" <sup>3</sup>	
#2	21'-6' <sup>3</sup>	28'-2'' <sup>3</sup>	187-91-3	26'-3" <sup>3</sup>	

DOUGLAS FIR-LARCH					
3/12	TOP C	HORD	BOTTOM CHORD		
3/12	2x4	2x6	2x4	2×6	
SEL. STA.	22'-4" 3	29'-0" 3	22'-4" 3	29'-0" 3	
#1 & BETTER	22'-4" 3	29'-0" <sup>3</sup>	20'-7' 3	28'-0' <sup>3</sup> _	
#1	22'-4" 3	29'-0' <sup>3</sup>	19'-0' <sup>3</sup>	27'-0" <sup>3</sup>	
#2	22'-4' 3	29'-0" <sup>3</sup>	17'-3' <sup>3</sup>	26'-0' <sup>3</sup>	
4/12	TOPC	HORD	ВОТТОМ	CHORD	
<del></del>	2x4	2x6	2)(4	2x6	
SEL, STR.	22'-4* 3	29'-0'-3	22'-4' 3	29'-0' 3	
#1 & 6ETTER	22'-4' 3	29'-0'-3	20'-7" 3	28'-0' 3	
#1	22'-4' 8	29'-0' <sup>3</sup>	19'-0' <sup>3</sup>	27'-0' 3	
#2	22'-4' 3	29'-01 <sup>3</sup>	17'-3" <sup>3</sup>	28'-0"	
5/12	TOP C	<b>Д</b> ЯОН	BOTTOM CHORD		
5/12	2x4	2x6	2x4	2x6	
SEL STR.	22'-4' 3	29'-0' <sup>3</sup>	22'-4" <sup>3</sup>	29'-0" <sup>3</sup>	
#1 & BETTER	22'-4' 3	29'-01 3	20'-7" 3	28'-0" 3	
#1	22'-4' 3	29'-0' <sup>3</sup>	19'-0" 3	27'-0' 3	
#2	22'-4' <sup>3</sup>	29'-0'-1	17'-3" <sup>3</sup>	26'-0" 3	

SPRUCE - PINE - FIR					
3/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4 <sup>1</sup>	2x6	
SEL. STR.	19'-9' <sup>3</sup>	25'-10" <sup>3</sup>	19'-9" <sup>a</sup>	25'-10" <sup>3</sup>	
#1	19'-9' <sup>3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>3</sup>	24'-6" <sup>3</sup>	
#2	19'-9" <sup>3</sup>	25'-10' <sup>8</sup>	15'-10' <sup>3</sup>	24'-6" <sup>3</sup>	
4/12	TOP CHORD		SOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
SEL STR.	18,48, 3	25'-10' <sup>3</sup>	19'-9" <sup>3</sup>	25'-10' <sup>8</sup>	
#1	19'-9' <sup>3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>2</sup>	24'-6" 3	
#2	19'-9" <sup>3</sup>	25 · 10 · 3	16'-10' <sup>3</sup>	24'-6'' <sup>3</sup>	
5/12	TOP C	HORD	BOTTOM	CHORD	
5/12	2×4	2x6	2x4	2x6	
SEL STR.	19"-9" <sup>3</sup>	25'-10" <sup>3</sup>	19'-9' 3	25'-10" <sup>3</sup>	
#1	19'-9" <sup>3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>3</sup>	24'-6' 3	
#2	19'-9" <sup>3</sup> .	25'•10" <sup>3</sup>	16'-10 <sup>c 3</sup>	24 6 <sup>3</sup>	

HEM-FIR					
3/12	TOP CI	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2×4	2x6	
SEL \$TR.	201-8" <sup>5</sup>	26'-8' <sup>3</sup>	20'-8' 3	25'-8" <sup>3</sup>	
#1	207-8" 3	26'-8" <sup>3</sup>	18'-1' <sup>3</sup>	25'-5" <sup>3</sup>	
#2	201-8" 3	26'-8' <sup>8</sup>	16'-6' <sup>3</sup>	23'-8' 8	
4/12	TOP CHORD		воттом снояв		
4/12	2x4	2x6	2x4	2x6	
SEL. STR.	201-8" 3	26'-8' <sup>3</sup>	20'-8' 8	26'-8" <sup>3</sup>	
#1	201-8" 3	2 <b>6'-8'</b> <sup>3</sup>	18'-1 <sup>-3</sup>	25'-5' 3	
 #2	20°-8" <sup>3</sup>	26'-8'-3	16'-6' <sup>8</sup>	23'-8' 3	
5/12	TOP C	HORD	воттом снояр		
3/12	2x4 !	2x6	2x4	2x6	
SEL. STA.	20'-8" <sup>3</sup>	26'-8' <sup>3</sup>	201-8*3	26'-8' <sup>3</sup>	
. #1	20'-8" <sup>3</sup>	26'-8' <sup>3</sup>	18'-1" 3	25'-5' <sup>8</sup>	
#2	20'-8" <sup>3</sup>	26'-8" <sup>3</sup>	16'-6" <sup>3</sup>	23 <b>'-8"</b> <sup>8</sup>	

GENERAL NOTES

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANS/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. Seeyour WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches
(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>0</sub> in NDS®.

FOOTNOTES

Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

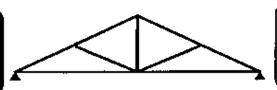
- Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

  Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS

DESIGN CHITERIA TOP CHORO UVE : 30 PSF TOP CHORD DEAD: =: 7: PSF BTM CHORD UVE : H | D PSF BINICHORD DEAD = 10 PSF



SPACING / 24"。。 (14.**P**-10.) 15%

SOUTHERNPINE					
3/12	TOPO	HORD	BOTTOM	CHORD	
5/12	2×4	2x6	2x4	2x6	
#1 DENSE	21'-6' <sup>3</sup>	28'-2" 3	21'-6" <sup>3</sup>	28'•2" <sup>3</sup>	
<b>#</b> 1	21′-6′ <sup>3</sup>	28'-2" 3	201-8" 3	27'-5" 3	
#2 DENSE	21'-6' <sup>3</sup>	281-2113	201-11 3	27'-9" 3	
#2	21'-6' <sup>3</sup>	281-2113	18-9 <sup>3</sup>	261-31-3	
4/12	TOP C	HORD	воттом	CHORD	
4/12	2)(4	2x6	2x4	2x6	
#1 DENSE	21'-6' <sup>3</sup>	28'-2' 3	21'-6' <sup>3</sup>	28'-2" 3	
#1	21'-6" <sup>3</sup>	28'-2" 3	20'- <b>8' <sup>3</sup></b>	27'-5' 3	
#2 DENSE	21'-6" <sup>3</sup>	28'-2" <sup>3</sup>	20'-1" 3	27"-3" <sup>3</sup>	
#2	21'-6" <sup>3</sup>	28'-2' 3	18'-9' <sup>3</sup>	26'-3' 3	
5/12	TOP C	HORD	воттом	CHORD	
	2x4	2x6	2x4	2x6	
#1 DENSE	21'-6" <sup>3</sup>	28'-2' 3	21'-6" <sup>3</sup>	28'-2' 3	
#1	217-61-3	28'•2' <sup>3</sup>	20'-8" <sup>3</sup>	27'•5" <sup>3</sup>	
#2 DENSE	21'-6' <sup>8</sup>	28'-2" <sup>3</sup>	20°-1" <sup>3</sup> ;	27'-3" <sup>3</sup>	
#2	21'-6' <sup>\$</sup>	28'-2" <sup>3</sup>	18'-9" <sup>3</sup>	26'-3" <sup>3</sup>	

DOUGLAS FIR-LARCH					
3/12	торс	HORD	воттом	воттом сново	
3/12	2x4	2x6	2x4	2x6	
SEL. STR.	22'-4' 5	29'-D' <sup>3</sup>	22'-4" 3	29'-0'- <sup>3</sup>	
#1 & BETTER	22'-4" 3	29'-0' 3	20'-7" <sup>3</sup>	28'-D'' <sup>3</sup>	
#1	22'-4" 3	29'-0' <sup>3</sup>	19'-0'' <sup>3</sup>	27'-D' <sup>3</sup>	
#2	22'-4" <sup>3</sup>	29'-0' <sup>3</sup>	17'-3" <sup>3</sup>	26'-0" <sup>3</sup>	
4/12	TOP C	HORD	воттом снояв		
4/12	2x4	2x6	2x4	2x8	
SEL. STAL	22'-4' 3	59°-0°-3	22'-4" <sup>3</sup>	29'-0" 8	
#1 & BETTER	22'-4" <sup>3</sup>	58,-0,-3	20°-7" <sup>3</sup>	28'-0" 3	
#1	22'-4" <sup>3</sup>	29'-0' <sup>8</sup>	19'-0"	27'-0" 3	
#2	22'-4" <sup>3</sup>	29'-0" <sup>3</sup>	17'-3' <sup>3</sup>	26'-0" <sup>3</sup>	
5/12	TOP C	HORD	BOTTOM CHORD		
	2x4	2x6	284	288	
SEL STR.	22'-4' <sup>3</sup>	29'-0' <sup>3</sup>	22'-4' 3	29'-0" 3	
#1 & BETTER	22'-4' <sup>3</sup>	29'-0' <sup>3</sup>	20'-7' 3	28'-0" 3	
#1	22'-4* 3	29'-0" 3	19'-0' 3	27'-0" <sup>3</sup>	
#2	22'-4' 8	29'-0' <sup>3</sup>	17'-3" <sup>3</sup>	26'-0" <sup>3</sup>	

SPRUCE - PINE - FIR						
3/12	TOP C	HORD	BOTTOM	BOTTOM CHORD		
0/12	2)(4	2x6	2x4	2x6		
SEL STR	19'-9' <sup>3</sup>	25"-10" <sup>3</sup>	19"-9" <sup>1</sup>	25"-10" <sup>3</sup>		
#1	19 <sup>1</sup> -9 <sup>1-3</sup>	25'-10' <sup>3</sup>	16'-10' <sup>3</sup>	24'-6" <sup>3</sup>		
#2	19'-9" <sup>3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>3</sup>	24'-6" <sup>3</sup>		
4/12	TOP C	HORD	BOTTOM CHORD			
4/12	2x4	2x6	2x4	2x6		
SEL, STA.	19'-9" <sup>3</sup>	25'-10" <sup>3</sup>	19'-9' 3	25'-10" <sup>3</sup>		
#1	19'-9" 3	25'-10" <sup>a</sup>	15'-10" <sup>3</sup>	24'-6' <sup>3</sup>		
#2	19'-9" <sup>3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>\$</sup>	24'-6' <sup>3</sup>		
5/12	TOP C	HORD	BOTTOM CHORD			
3/12	2x4	2x6	2×4	2x6		
SEL STR.	19'-9" <sup>3</sup>	25'-10" <sup>3</sup>	19'-9" <sup>3</sup>	25'-10" <sup>8</sup>		
<b>∌</b> 1	19'-9' <sup>8</sup>	25'-10" <sup>3</sup> ;	16"-10" <sup>3</sup>	24'-6' <sup>3</sup>		
<b>#</b> 2	19"-9" <sup>3</sup>	25 - 10 <sup>3</sup>	16'-10' <sup>3</sup>	24'-6" <sup>3</sup>		

HEM-FIR					
3/12	TOP C	TOP CHORD		CHORD	
3/12	2x4	2x8	2x4	2x6	
ŞEL. ŞTRL	20'-8" 3	26'-8" <sup>3</sup>	20`-8" 3	26'-8" <sup>3</sup>	
#1	20'-8" 3	26°-8" <sup>3</sup>	18'-1" <sup>3</sup>	25'-5" <sup>8</sup>	
#2	20'-8" <sup>3</sup>	26'-8' <sup>3</sup>	16'-6' <sup>3</sup>	238 <sub>1.3</sub>	
4/12	TOP C	HORD	воттом	CHORD	
4/12	2x4	2x6	2x4	2x6	
SEL STR.	20"-8" <sup>3</sup>	26'-8" <sup>3</sup>	20'-6" 3	26'-8" <sup>3</sup>	
#1	20,-8,, 5	26'-8" 3	18'-1' <sup>3</sup>	25'-5' <sup>3</sup>	
#2	20'-8" 3	26'-8"	16'-6" <sup>3</sup>	23'-8' 3	
5/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL, STR.	20'-8" 3	261-811 <sup>3</sup>	20'-8'-3	26'-8" 3	
#1	20'-8" <sup>8</sup>	25'-8" <sup>3</sup>	18'-1" <sup>3</sup>	25'-5" <sup>3</sup>	
#2	20'-8" 3	26'-8" <sup>3</sup>	16'-6" <sup>3</sup>	23'-8" <sup>3</sup>	

GENERAL NOTES

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

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Spans are given for 3/12, 4/12, and 5/12 roof pitches
(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>D</sub> in NDS®.

FOOTNOTE:

Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

- Representative span for this lumber species and grade has been limited to the representative trus span that can be achieved by the lumber grades provided in this table. Representative span for this lumber grade has been limited by the maximum bottom chord panel
- been limited by the maximum bottom croord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

SPACING ( DESIGN CRITERIA 24"。 TOP CHORD LIVE : (# 20 ; PSF TOP CHORD DEAD = 10 PSF BTANCHORD LIVE (H) 0 PSR 25% PSF BIMICHOAD DEAD # 10 PSF

SOUTHERNPINE						
3/12	TOP C	HORD	BOTTOM	CHORD		
3/12	2x4	2x8	2x4	2x6 .		
#1 DENSE	21'-6' <sup>8</sup>	28'-2" <sup>3</sup>	21′-6″ <sup>3</sup>	28'-2" <sup>3</sup>		
#1	21'-6" 3	28`-2" <sup>3</sup>	20'-8' 3	27'-5" 3		
#2 DEN\$E	21'-6' <sup>3</sup>	28'-2' <sup>3</sup>	20'-1' 3	27'-3' <sup>3</sup>		
#2	21'-6" <sup>3</sup>	28'•2" 3	18'-9" 3	26'-3" <sup>8</sup>		
4/12	TOP CHORD		BOTTOM CHORD			
7/12	2x4	2x6	2x4	2x6		
#1 DENSE	21'-6" <sup>3</sup>	28'-2' 3	21'-6" <sup>3</sup>	28'-2' 3		
#1	21'-6' <sup>3</sup>	28'-2" 3	201-811 <sup>3</sup>	27'-5" <sup>3</sup>		
#2 DENSE	21'-6' <sup>3</sup>	28'-2' <sup>3</sup>	207-1" <sup>3</sup>	27'-3" <sup>3</sup> :		
#2	21'-6' <sup>3</sup>	281-21-3	18'-9' 3	26'-3" <sup>3</sup>		
5/12	TOP C	HORD	BOTTOM CHORD			
5/12	2x4	2x6	2x4	2x6		
#1 DENSE	21'-6" <sup>3</sup>	26'-2' <sup>3</sup>	21'-6" <sup>3</sup>	28'-2* <sup>3</sup>		
#1	21'-6" <sup>3</sup>	28'-2" 3	20'-8' 3	27'-5" <sup>3</sup>		
#2 DENSE	21'-6" <sup>3</sup>	28'-2" 3	20'-1" 3	2 <b>7'-3' <sup>3</sup></b>		
<b>#</b> 2	21'-5" <sup>3</sup> .	28'-2" <sup>3</sup>	18'-9' 3	26'-3'- <sup>3</sup>		

DOUGLAS FIR-LARCH					
3/12	TOP O	HORD	BOTTON	BOTTOM CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL. STR.	22'-4' <sup>3</sup>	29'-0' <sup>3</sup>	22'-4' 3	29'-0' <sup>3</sup>	
#18 BETTER	22'-4' 3	29'-0'' <sup>3</sup>	20'-7" <sup>3</sup>	28'-0" 3	
#1	22'-4' 3	29°-0" <sup>3</sup>	19'-0" <sup>3</sup>	27'-0' <sup>. a</sup>	
#2	22'-4" 3	29'-0" <sup>3</sup>	177-9" 3	26'-0" <sup>3</sup>	
4/12	TOP	HORD	BOTTON	CHORD	
4/12	2x4	2x6	2x4	2x6	
SEL STR.	22'-4" 3	29'-0" <sup>3</sup>	22'-4' <sup>8</sup>	29'-0' <sup>3</sup>	
#1 & BETTER	22*-4".3	29'-0" 3	20'-7" 3	28'-0" 3	
#1	22'-4' <sup>5</sup>	29'-0" <sup>3</sup>	19'-0' 3	27'-0" 3	
#2	22'-4' 3	29'-0' 3	17'-3'-3	26'-0" <sup>3</sup>	
5/12	TOP C	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2×4	2x6	
SEL, STR.	22'-4" <sup>3</sup>	29'-0" <sup>3</sup>	22'-4" 3	29'-0" <sup>3</sup>	
#1 & BETTER	22'-4" 3	29'-0' <sup>3</sup>	20°-7" <sup>3</sup>	28'-0" <sup>8</sup>	
<b>#</b> 1	22'-4" 3	29'-0' <sup>3</sup>	19'-0' <sup>\$</sup>	27'-0' <sup>3</sup>	
#2	22'-4" 3	29'-0' 3	17'-3' <sup>3</sup>	26'-0" <sup>3</sup>	

SPRUCE - PINE - FIR					
3/12	TOP C	HORD	BOTTON	CHORD	
J/ 12	2x4	2x6	2x4	2x6	
SEL. STR.	19'-9' <sup>3</sup>	25'-10' <sup>8</sup>	19'-9' <sup>3</sup>	25°-10° <sup>3</sup>	
_#1	191-91-3	25°-10° <sup>3</sup>	16'-10" <sup>3</sup>	24'-6" <sup>3</sup>	
#2	19 <sup>4</sup> -9 <sup>4,3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>3</sup>	24'-6' <sup>3</sup>	
4/12	TOP CHORD		BOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
SEL STR.	197-91.3	25'-10' <sup>3</sup>	19'-9" <sup>3</sup>	25'-10" <sup>3</sup>	
#1	19'-9" <sup>2</sup>	25'-10" <sup>3</sup> j	16'-10" <sup>3</sup>	24'-6" 3	
#2	19'-9' <sup>3</sup>	25'-10" <sup>3</sup>	16'-10' <sup>3</sup>		
5/12	TOP C	HORD	ВОТТОМ СНОЯВ		
5/ 12	2x4	2x8	2x4	2x6	
SEL, STR.	19'-9' <sup>3</sup>	25'-10' <sup>3</sup>	19'-9' <sup>3</sup>	25'-10" <sup>3</sup>	
#1	19'-9' <sup>3</sup>	25'-10" <sup>3</sup>	16'-10" <sup>3</sup>	24'-6' <sup>3</sup>	
#2	19'-9' <sup>3</sup>	25'-10' <sup>-3</sup>	16'-10" <sup>3</sup>	24'-6" 3	

HEM-FIR					
3/12	TOP C	HORD	BOTTON	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL. STR.	20'-8' 3	26'-8" <sup>3</sup>	20'-8" <sup>3</sup>	26'-8" <sup>3</sup>	
<b>#</b> 1	20'-8" <sup>3</sup>	26'-8" <sup>3</sup>	18"-1" <sup>3</sup>	25'+5" <sup>3</sup>	
#2	20'-8" 3	26`-8* <sup>3</sup>	161-6 <sup>6, 3</sup>	23'-8' 3	
4/12	TOP C	TOP CHORD		CHORD	
4/12	2x4	2x6	2x4	2x6	
SEL STR.	20'-8' <sup>3</sup>	26'-8" <sup>3</sup>	20'-8" 3	26'-8' 3	
#1	20'-8' 3	26'-8" <sup>3</sup>	18'-1" 3	25'-5" 3	
#2	20'-8" 3	26'-8" <sup>3</sup>	16'-6" <sup>3</sup>	23'-8" <sup>3</sup>	
5/12	TOP CHORD		BOTTOM CHORD		
3/12	2x4	2x6	2x4	2x6	
SEL, STA.	20'-8" <sup>3</sup>	26'-8" <sup>3</sup>	20°-8" <sup>3</sup>	26'-8' <sup>3</sup>	
#1	20°-8" <sup>3</sup>	26'-8' <sup>3</sup>	18 <sup>-</sup> -1 <sup>-3</sup>	25'-5' <sup>3</sup>	
#2	201-811 <sup>3</sup>	26'-8' <sup>3</sup>	16'-6' <sup>3</sup>	23'-8" <sup>3</sup>	

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struction" (NDS®) of the American Forest & Paper Association (AFPA).
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Spans are given for 3/12, 4/12, and 5/12 roof pitches
(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTQA engineers. LDI = Load Duration Increase, also known as C<sub>D</sub> in NDS®.

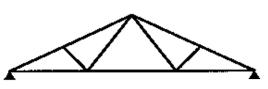
- Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.
- Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

  Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS





3PACING 24" a.s.	40
15%	PSF

SOUTHERN PINE					
3/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
#1 DENSE	29'-9"	<b>4</b> 2'-0" <sup>3</sup>	31'-11" <sup>3</sup>	42'-0" <sup>2</sup>	
#1	28'-11'	42'-0" <sup>3</sup>	30'-8' 3	40'-9" 3	
#2 DENSE	28'-7"	42'-0" <sup>3</sup>	28'-8"	40'-7" 3	
#2	27'-6"	40'-6"	27'-1"	38'-4"	
4/12	1/10 TOP CHORD		воттом	CHORD	
4/12	2x4	2x6	2x4	2x6	
#1 DENSE	31'-11' <sup>3</sup> .	42'-0' <sup>3</sup>	31'-11' <sup>3</sup>	42'-0' <sup>3</sup>	
#1	31'-11" <sup>3</sup>	42'-0' <sup>3</sup>	30'-8" <sup>3</sup>	40'-9" <sup>3</sup>	
#2 DENSE	317-81	42'-0" <sup>3</sup>	29'-10" <sup>3</sup>	40'-7" <sup>3</sup>	
#2	30'-7"	42'-0'' <sup>3</sup>	27'-10" <sup>3</sup>	39'-1" 3	
5/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
#1 DENSE	31'-11" <sup>3</sup>	42'-0"-3	31'-11" <sup>3</sup>	42'-0" <sup>3</sup>	
#1	31'-11" <sup>3</sup>	42'-0" <sup>3</sup>	30'-8' <sup>3</sup>	40'-9" 3	
#2 DENSE	31'-11" <sup>3</sup>	42'-0" <sup>3</sup>	29'-10" <sup>3</sup>	40*-7* 3	
#2	31'-10"	42'-0" <sup>8</sup>	27'-10' <sup>3</sup>	39'-1" <sup>3</sup>	

DOUGLAS FIR-LARCH					
3/12	тор с	HORD	BOTTOM CHORD		
3/12	2x4	2x6	2x4	2x8	
SEL, STR.	30'-5"	43'-2" 3	33'-2" 3	43'-2' 8	
#1 & BETTER	26'-10"	42'-9"	30'-5" <sup>3</sup>	41'-9" <sup>3</sup>	
: #1	27'-10"	41'-3'	28'-3' 3	40'-3" <sup>3</sup>	
#2	26'-8"	39'-5'	25'-7' <sup>3</sup>	37'-9"	
4/12	TOP CHORD		BOTTOM	CHORD	
4/12	2x4	2x6	2x4	2x6	
SEL. STR.	33°-2" <sup>3</sup>	43'-2' <sup>3</sup>	93'-2" <sup>3</sup>	43'-2" 3	
#1 & BETTER	32'-0*	43'-2" 3	30'-6' <sup>3</sup>	41'-9' <sup>3</sup>	
#1	30'-111	43'-2" 3	28'-3" 3	40'-3' 3	
#2	29'-7'	43'-2" 3	25'-7' 3	38'-8' <sup>3</sup>	
5/12	E/49 TOP CHORD		воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
\$EL. STR.	33'-2" 2	43'-2" 3	33'-2" <sup>3</sup>	43'-2" 3	
#1&BETTER	33'-2" 3	43'-2" 3	30'-6" 3	41'-9" <sup>3</sup>	
#1	32'-3"	43'-2" <sup>3</sup>	28'-3" <sup>3</sup>	40'-3" <sup>3</sup>	
#2	30'-10"	43'-2" <sup>3</sup>	25'-7" <sup>3</sup>	38'-8" <sup>3</sup>	

SPRUCE - PINE - FIR					
3/12	TOP C	HORD	BOTTOM	CHORD	
3/12	2×4	2x6	2x4	2x6	
SEL, STR.	28'-2"	38'-5' <sup>2</sup>	29'•4' <sup>3</sup>	38'-5' <sup>3</sup>	
#1	25'-9"	38'-0"	23'-4"	32'-7"	
#2	25'-9"	38'-0"	23'-4"	32'-7"	
4/12	TOP CHORD		BOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
SEL STR.	29°-4" <sup>3</sup>	38'-5' <sup>3</sup>	29'-4" 3	38'-5" 3	
#1	28'-9"	38'-5" <sup>3</sup>	25'-0" <sup>3</sup>	36'-5" <sup>3</sup>	
#2	28'-9"	38'-5" <sup>3</sup>	25'-0". <sup>3</sup>	36'-5" <sup>3</sup>	
5/12	тор с	HORD	BOTTON	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL STR.	29'-4" <sup>3</sup>	38'-5" <sup>3</sup>	29'-4" 5	38'-5" <sup>3</sup>	
<b>#1</b>	29'-4" 5	38'-5" <sup>8</sup>	25'-0" <sup>3</sup>	36′-5″ <sup>a</sup>	
#2	29 <sup>-4</sup> <sup>3</sup>	38'-5" <sup>3</sup>	25'-0" <sup>3</sup>	36'-5" <sup>3</sup>	

HEM-FIR					
3/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
ŞEL. ŞTR.	29'-1"	39'-9" 8	30'-9' <sup>3</sup>	39'-9" 3	
<b>∌</b> 1	26'-10"	39'-7"	26'-10' <sup>3</sup>	37"-11" <sup>3</sup>	
#2	25'-8"	37'-9"	24'-5' <sup>3</sup>	35'-2' <sup>3</sup>	
4/12	TOP CHORD		воттом	CHORD	
4/12	2x4	2x6	2x4	2x6	
SEL STR.	30°-9° <sup>3</sup>	39'-9' <sup>3</sup>	30'-9" 3	39'-9' 3	
#1	29'-10"	39'-9" 3	26'-10" <sup>3</sup>	37'-11' <sup>3</sup>	
#2	28'-6'	39'-9" 3	24'-51 <sup>3</sup>	35'-2' <sup>3</sup>	
5/12	TOP C	HORD	BOTTOM	CHORD	
5/12	2x4	2x6	2x4	2x6	
SEL, STR.	305. 3	39'-9'' <sup>3</sup>	30'-9" <sup>3</sup>	39'-9" <sup>3</sup>	
#1	30'-9" 3	39'-9" <sup>3</sup>	26'-10" <sup>3</sup>	37'-11' <sup>3</sup>	
#2	29'-8"	39'-9" 3	24'-5" <sup>3</sup>	35'-2" <sup>3</sup>	

GENERAL NOTES

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(Y). For scissors trusses (sloped bottom chords), the

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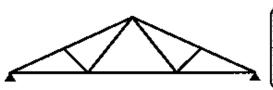
FOOTNOTE:

Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

- Representative span for this lumber species and grade has been limited to the representative trus span that can be achieved by the lumber grades provided in this table. Representative span for this lumber grade has been limited by the maximum bottom chord panel
- been limited by the maximum bottom croord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

DESIGN CRITERIA TOP CHORD DIVE # 30 PSF
TOP CHORD DEAD # 7 PSF
BTM CHORD LIVE # 0 PSF BTM CHORD DEAD (# 10 PSF



SPACING	$\{0,0\},\{0,0$
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	SOUTHERN PINE					
3/12	TOP C	HORD	воттом	CHORD		
3/12	2)(4	2)(6	2x4	2x8		
#1 DENSE	27'-7"	40′-11″	30'-10'	40-11 <sup>-2</sup>		
#1	26'-10"	39'-11"	29'-7"	40'-9' 3		
#2 DENSE	25'-5"	39'-1'	26'-6"	37'-10"		
#2	25'-5"	37'-5'	25'-0"	35'-4"		
4/12	TOP CHORD		воттом снояр			
4/12	2×4	2x6	2x4	2x6		
#1 DENSE	30`-7"	42'-0' <sup>3</sup>	31'-11 <sup>-3</sup>	42'-0" <sup>3</sup>		
#1	29	42'-0' <sup>3</sup>	30,-6, 3	40'-9* <sup>3</sup>		
#2 DENSE	29'-4'	42'-D' <sup>3</sup>	29'-10' <sup>8</sup>	40'-71 <sup>3</sup>		
#2	28'-2"	41'-5"	27'-10" <sup>3</sup>	39'-1" <sup>3</sup>		
5/12	TOP CHORD		BOTTOM CHORD			
3/12	2x4	2x8	2x4 .	2x6		
#1 DENSE	31'•11" <sup>3</sup>	42'-0" <sup>3</sup>	317-1111	42'-0" <sup>3</sup>		
#1	31'1'	42°-0°-3	30°-8° <sup>3</sup>	40°-9" <sup>3</sup>		
#2 DENSE	30'-7"	42'-0' 3	29'-10' 3	40'-7".3		
#2	29'-5"	42'-0" <sup>3</sup>	27'-10' <sup>-3</sup>	39'-1' <sup>9</sup>		

D	DOUGLAS FIR-LARCH						
3/12	TOP C	HORD	воттол	1 CHORD			
3/12	2×4	2x6	2x4	2x6			
SEL. STR.	28'-2"	41'-10"	33'-2" <sup>3</sup>	41'-10" 2			
∦1&2ETTER	26'-8"	39'-7"	30'-2"	41'-9' 3			
#1	25'-8"	38'-1"	27'-5'	39'-1"			
#2	24'-6"	36'-4"	24'-10"	35'-11			
4/12	TOP CHORD		BOTTOM CHORD				
4/12	2x4	2x6	2x4	2x6			
SEL, STR.	31'-4'	43'-2" <sup>3</sup>	33'-2" <sup>3</sup>	43'-2" <sup>3</sup>			
#1 & BETTER	29'-7"	431-2" 3	30'-6" <sup>3</sup>	41'-9" 3			
<b>#</b> 1	28'-6"	42"-2"	28'-3" <sup>3</sup>	40'-3" <sup>3</sup>			
#2	271-3"	40'-3'	25°-7" <sup>3</sup>	38 -8" 5			
5/12	TOP C	HORD	BOTTON	CHORD			
5/12	2x4	2x6	2x4	2x8			
SEL. STR.	32'-9"	43'-2" 3	33'-2' <sup>3</sup>	43'-2' 3			
#1 & BETTER	30'-10'	43'-2" <sup>3</sup>	30'-6" 3	41'-9' 3			
#1	29'-8'	43'-2' 3	28'-3" <sup>3</sup>	40'-3" <sup>3</sup>			
#2	28'-5"	41'-10"	25'-7" <sup>3</sup>	38'-8' <sup>3</sup>			

SPRUCE-PINE-FIR					
3/12	TOPO	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL STR.	26'-0"	38'-5" 3	29'-0"	38'-5' <sup>3</sup>	
<b>#1</b>	23'-8'	34'-11"	21'-4"	29'-8'	
#2	23'-8"	34'-11'	21'-4"	29'-8"	
4/12	TOP CHORD		BOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
SEL. STR.	29'-0"	381-5" <sup>3</sup>	29°-4" <sup>3</sup>	38'•5" <sup>3</sup>	
#1	26'-5"	381-5" <sup>3</sup>	24'-7'	34'-5"	
#2	26'-5'	381-5 <sup>6 3</sup>	24'-7'	34"-5"	
5/12	TOP C	HORD	BOTTOM	CHORD	
J/ 12	2x4	2x6	2x4	2x6	
SEL. \$TR.	29'-4" <sup>3</sup>	38'-5" <sup>3</sup>	29'-4" 3	38'-5' <sup>2</sup>	
#1	27'-7"	38'-5" <sup>8</sup>	25'-0" <sup>3</sup>	36'-5' <sup>3</sup>	
#2	27'-7"	38'-5" <sup>3</sup>	25'-0" <sup>3</sup>	36"-5" <sup>3</sup>	

HEM-FIR					
3/12	TOP C	HORD	BOTTON	CHORD	
1 3/12	2x4	2x6	2×4	2x6	
SEL STR.	26'-11'	39:-9* 3	30°-9" <sup>3</sup>	. 39'-9" 3	
#1	24'-9"	36'-7"	25'-10"	36'-5"	
<b>#</b> 2	23'-8"	34'-10'	23'-0"	32'-5"	
4/12	TOP CHORD		BOTTOM	CHORD	
7/12	2x4	2x6	2x4	2x6	
SEL, STR.	30'-0"	39'-9' <sup>3</sup>	30'-9' <sup>3</sup>	39'-9" <sup>3</sup>	
#1	27"-6"	39'-9' 3	26'-10' <sup>3</sup>	37'-11" <sup>3</sup>	
#2	26'-3'	36'-7"	24'-5' <sup>3</sup>	35'-2" <sup>3</sup>	
5/12	To⊧ c	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL, STR.	30'-9" 3	39'-9'-3	30'-9' <sup>3</sup>	39'-9' 3	
#1	28'-9"	39'-9" <sup>3</sup>	25'-10' <sup>3</sup>	37'-11' 3	
#2	27'-5"	39°-9" <sup>3</sup>	24'-5" <sup>3</sup>	35'-2" <sup>3</sup>	

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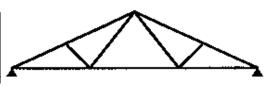
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# WTCA REPRESENTATIVE ROOF TRUSS SPANS

CESIGN CRITERIA TOP/CHORD/LIVE () + 20 PSF TOPICHORDIOBAD(#:10 PSF BTM/CHORDLIVE # 0 PSF BOM CHORD DEAD # 10 PSF



24" ((**L!D**J()) 25%

SOUTHERN PINE					
3/12	TOP C	ФЯФ	воттом	CHORD	
0/12	2x4	2x6	2x4	2x6	
#1 DENSE	30"-2"	42'-0" <sup>3</sup>	31'-1 <b>1'</b> <sup>2</sup>	42'-0' <sup>3</sup>	
#1	29:-5"	42'-0" <sup>3</sup>	30°-8" <sup>3</sup>	40'-9" <sup>3</sup>	
#2 DENSÉ	29:-0*	42′-0″ <sup>3</sup>	29°-10° <sup>3</sup>	40'- <b>7</b> '' <sup>3</sup>	
#2	26'-0'	41'-3"	27'-10" <sup>3</sup>	39'-1" <sup>3</sup>	
4/12	TOP CHORD		BOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
#1 DENSE	91'-11" <sup>3</sup>	42°-0° <sup>3</sup>	31'-11" <sup>3</sup>	42°-0° <sup>3</sup>	
#1	31'-11" <sup>3</sup>	42'-0" <sup>3</sup>	30'-8" <sup>2</sup>	40'-9" <sup>3</sup>	
#2 DENSE	31'-11" <sup>3</sup>	42'-0" <sup>8</sup>	29'-10" <sup>3</sup>	40'-7' <sup>8</sup>	
<b>#</b> 2	31'-1"	42'-0" <sup>3</sup>	27"-10" <sup>3</sup>	39'-1" <sup>3</sup>	
5/12	TOP CI	HORD	воттом	CHORD	
3/12	2x4	2×6	2x4	2x6	
#1 DEN\$E	31'-11' <sup>3</sup> .	42'-0" <sup>3</sup>	31'-11' 3	42'-0' <sup>3</sup>	
<b>#</b> 1	31'-11' <sup>3</sup> '	42'-0' <sup>3</sup>	30'-8" <sup>3</sup>	40'-9" 3	
#2 DENSE	31'-11' 3	42'-0' <sup>3</sup>	29'-10" <sup>3</sup>	40'-7" 3	
<b>#</b> 2	31'-11' <sup>3</sup> .	42'-0' <sup>3</sup>	27°-10° <sup>3</sup>	39'-1" <sup>3</sup>	

DOUGLAS FIR-LARCH					
3/12	TOP C	нояр	BOTTON	CHORD	
3/12	2×4	2x6	2x4	2x6	
SEL, STR.	30'-10"	43'-2' 3	33'-2' 3	43'-2" <sup>3</sup>	
#1 & BETTER	29'-4'	43'-2" <sup>3</sup>	30'-6" 3	41'-9" <sup>3</sup>	
#1	28'-4"	42'-0"	28'-3" 3	40'-3" <sup>3</sup>	
#2	27'-3"	40'-3"	25'-7" <sup>3</sup>	38'-8" 3	
4/12	тор с	HORD	BOTTON	CHORD	
4/12	2)(4	2)(8	2x4	2x6	
ŞEL. ŞTRL	33'-2' <sup>3</sup>	43'-2" 3	33'-2"-3	43'-2" 3	
#1 & BETTEЯ	32'-7'	43'-2" <sup>3</sup>	30'-6" <sup>3</sup>	41'-9" 3	
#1	31'-6'	43'-2" 3	281-31-3	40'-3' <sup>8</sup>	
#2	30'-2"	43'-2" <sup>8</sup>	25'-7' <sup>3</sup>	38'-8' <sup>3</sup>	
5/12	ТОРС	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL STR.	33'-2" <sup>3</sup>	43'-2" 3	33'-2' 3	43'-2' 3	
#1 & BETTER	33'-2" <sup>3</sup>	43'-2' <sup>3</sup>	30'-6" <sup>3</sup>	41'-9' 3	
#1	32'-9'	43'-2" 3	26'-3" <sup>3</sup>	40'-3" 3	
#2	31'-6'	43°-2" <sup>3</sup>	25'-7" <sup>3</sup>	38'-8' 3_	

SPRUCE-PINE-FIR				
3/12	TOP C	HORD	BOTTON	CHORD
0/ 12	2x4	2x6	2x4	2x6
SEL. STR.	28'-7"	38′-5′ <sup>\$</sup>	29'-4' "	38′-5′ <sup>S</sup>
#1	26'-4"	38'-5' <sup>3</sup>	24'-10"	347-61
#2	26'-4"	38'-5' <sup>3</sup>	24'-10"	34'-8"
4/12	TOP CHORD		BOTTOM CHORD	
4/12	2x4	2x6	2x4	2x6
\$EL. \$TH.	29'-4" <sup>3</sup>	38'-5" <sup>3</sup>	29'-4" <sup>3</sup>	38'-5"
#1	29'-4" <sup>3</sup>	38'-5' <sup>3</sup>	25'-0" <sup>3</sup>	36'-5' <sup>3</sup>
#2	29'-4" 3	38'-5" <sup>3</sup>	25'-0' <sup>(1</sup>	36'-5' <sup>3</sup>
5/12	TOP C	HORD	BOTTOM	CHORD
5/12	2x4	2x6	2x4	2x6
\$EL. STR.	29'-4" <sup>3</sup>	38'-5" <sup>3</sup>	29'-4" 3	38'-5" <sup>3</sup>
#1	29'-4" 3	38'-5" <sup>3</sup>	25'-0" <sup>3</sup>	36'-5" <sup>9</sup>
#2	29'-4" <sup>3</sup>	38'-5" <sup>3</sup>	25'-0" <sup>3</sup>	36'-5" <sup>3</sup>

	HE	M-FIR		
3/12	TOP C	HORD	воттом	CHORD
3/12	2x4	2x6	2x4	2x8
SEL. SYR.	29'-6'	39'-9'' <sup>3</sup>	307-91-3	397-91/3
#1	27'-4"	39'-9" <sup>3</sup>	26'-10' <sup>3</sup>	37'-11" <sup>3</sup>
#2	26'-2"	38'-5'	24'-5' <sup>3</sup>	35'-2" <sup>3</sup>
4/12	ТОР СНОЯВ		воттом снояз	
4/12	2x4	2x6	2x4	2x6
SEL, STA.	30°-9" <sup>3</sup>	39'-9" <sup>3</sup>	30'-9' 3	39'-9' 3
#1	307-5"	39'-9" <sup>2</sup>	26'•10' <sup>• 3</sup>	37'-11' <sup>3</sup>
#2	290*	391-91 3	24'-5" <sup>3</sup>	35'-2' <sup>3</sup>
5/12	тор с	HORD	BOTTOM CHORD	
3/12	2x4	2x6	2x4	2x6
SEL. STR.	30,-8, 3	39'-9'' <sup>3</sup>	30'-9" 3	39'-9" 3
#1	30'-9" <sup>3</sup>	39'-9" <sup>3</sup> :	26'-10' <sup>3</sup>	37'-11' <sup>3</sup>
#2	30'-3"	39°-9" <sup>3</sup>	24'-5" <sup>3</sup>	35'-2"- <sup>3</sup>

GENERAL NOTES

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (NSNYTPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).
Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. Seeyour WTCA member truss manufacture for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches
(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values. These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_0$  in NDS®.

FOOTNOTE:

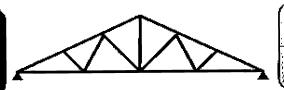
Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

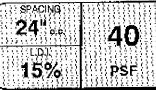
- Representative span for this lumber species and grade has been limited to the representative trus span that can be achieved by the lumber grades provided in this table. Representative span for this lumber grade has been limited by the maximum bottom chord panel
- been limited by the maximum bottom croord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

**APPENDIX D: SPAN TABLES** 

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

DESIGN CHITCHIA TOP CHORO LIVE H 20 PSE TOP CHORD DEAD(:= 10 PSF) BTM CHORD DEAD := 10 RSF





SOUTHERN PINE				
3/12	TOP C	HORD	воттом	CHORD
3/12	2×4	2x6	2x4	2x6
#1 DENSE	36'-1"	51'-2'-2	36'-5"	51'-2'
#1	35'-1"	51'-2" <sup>2</sup>	34'-10"	49'-1"
#2 DENSE	34'-8"	51'-2" <sup>2</sup>	30'-11'	43'-11'
#2	33'-5'	49'-6"	29'-2"	41'-0"
4/12	тор снояр		воттом снояв	
4/12	2)(4	2x6	2x4	2x6
#1 DENSE	41'-5"	55'-10" <sup>3</sup>	41'-9"	55'-10' <sup>-3</sup>
#1	40`-4"	55'-10" <sup>3</sup>	40'-0"	54'-2" <sup>2</sup>
#2 DENSE	39'-10'	55'-10' <sup>3</sup>	35'-1 <b>1'</b>	51'-2'
#2	38'-5'	55'-10" <sup>3</sup>	33'-11'	47'-10"
5/12	TOP CHORD		BOTTOM CHORD	
5/12	2x4	2x6	2x4	2x6
#1 DENSE	42'-5" <sup>3</sup>	55'-10" <sup>3</sup>	42'-5' <sup>3</sup>	55'-10' <sup>-3</sup>
#1	42"-5" <sup>3</sup>	55'-10" <sup>5</sup>	4D'-9' <sup>3</sup>	54'-2" 3
#2 DENSE	42'-5" <sup>3</sup>	55'-10" <sup>S</sup>	39'-8" <sup>3</sup>	53'-10' <sup>3</sup>
#2	41'-10"	55'-10' <sup>3</sup>	367-111 <sup>0</sup>	51'-11' <sup>3</sup>

DOUGLAS FIR-LARCH				
3/12	тор с	HORD	воттом	CHORD
3/14	2x4	2x6	2x4	2x6
ŞEL ŞTA.	36'-9"	54 -10	43'-2"	54'-10' <sup>2</sup>
#1 & BETTER	34'-11'	52'-1"	35'-111'	50'-11"
#1	33'-10'	50'-4"	32'-5'	45'-11"
#2	32'-4"	4B' 1"	29'-3"	40'-11"
4/12	TOP C	TOP CHORD		CHORD
4/12	2x4	2x6	2x4	2x6
SEL. STA.	42'-31	57'-5" <sup>3</sup>	44'-0" <sup>3</sup>	57'-5" <sup>3</sup>
#1 & BETTER	40'-2"	57*-5" <sup>3</sup>	40′-6" <sup>3</sup>	55'-5" <sup>3</sup>
<b>#1</b>	38'-10"	57'-5' <sup>3</sup>	36'-11'	52'-8'
#2	37'-3"	55'-3"	33'-7"	47°-3"
5/12	тор с	HORĎ	воттом	CHORD
3/12	2x4	2x6	2x4	2x6
SEL, STA.	44'-0" <sup>3</sup>	57'-5" <sup>a</sup>	44'-0" <sup>3</sup>	57'•5" <sup>a</sup>
#1 & BETTER	43'-10'	57'-5" <sup>3</sup>	40°-6" <sup>3</sup>	55'-5" <sup>3</sup>
	42'-4"	57'-5" <sup>3</sup>	37'-5' <sup>3</sup> j	53'-6' <sup>3</sup>
#2	40'-9"	57'-5" <sup>3</sup>	33'-10' <sup>3</sup>	51'-4' <sup>3</sup>

SPRUCE - PINE - FIR					
3/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL STR.	33'-10"	48'-2'- <sup>2</sup>	34'-1"	48'-2"	
<b>#</b> 1	30'-11'	45'-10"	24'-6"	33'-9'	
#2	307-111	45'-10"	24'-5"	33'-9'	
4/12	TOP CHORD		Воттом снояв		
4/12	2)(4	2x6	2x4	2x6	
SEL. STR.	38'-11" <sup>3</sup>	51'-0" <sup>3</sup>	38'-11" <sup>3</sup>	51°-0°	
#1	35'-9"	51'-0' <sup>8</sup>	29'-0"	40'-3"	
#2	35'-9"	51'-0" <sup>3</sup>	29'-0"	40'-3"	
5/12	TOP CI	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL STR.	38°-11″ <sup>3</sup> ¦	51'-0" <sup>3</sup>	38'-11" <sup>3</sup>	51'-0" <sup>3</sup>	
#1	38'-11" <sup>3</sup>	51'-0" <sup>9</sup>	32'-5"	45'-3"	
#2	38'-11" <sup>3</sup>	51'-0" <sup>3</sup>	32'-5'	45*-3"	

HEM-FIR					
2/12	TOP C	HORD	BOTTOM	CHORD	
3/12	2x4	2x6	2x4	2x6	
\$EL \$TR.	35'-0"	52'-1"	40'-10" <sup>3</sup>	52'-1" <sup>2</sup>	
#1	32'-5"	46'-2'	30'-4"	42'-6"	
#2	31'-0"	45'-11"	26'-9"	37'-6"	
4/12	TOP CHORD		BOTTOM	CHORD	
4/12	2x4	2x6	2)(4	2x6	
SEL. STAL	40'-4"	52-10 <sup>-3</sup>	40'-10" <sup>3</sup>	52'-10" <sup>8</sup>	
#1	37'-5"	52'-10" <sup>3</sup>	34'-10'	49'-2"	
#2	35' B"	52'-9"	31'-1"	43'-10"	
5/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL. STR.	40'-10' <sup>3</sup>	52'-10" <sup>3</sup>	40'-10' <sup>3</sup>	52'-10" <sup>3</sup>	
#1	40'-10' <sup>3</sup>	52'-10" <sup>a</sup>	35'-6' <sup>3</sup>	50'-4' <sup>3</sup>	
#2	39'-0"	52'-10' <sup>3</sup>	32'-5' <sup>3</sup>	46'-9' <sup>3</sup>	

GENERAL NOTES

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSVIPT 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

Association (NDS/B) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. Seeyour WTCA member truss manufacturer for actual trus designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches
(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

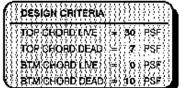
These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>D</sub> in NDS®.

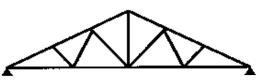
- Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.
- Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

  Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS





A TO COMPANIE (AND LAYER AND LAYER)	
SPACING 24" 65 17	\$ 10 mm
15% PSF	

	SOUTH	ERN PIN	iE	
3/12	TOP C	HORD	BOTTON	CHORD
3/12	2x4	2x6	2x4	2x6
#1 DENSE	33'-2'-2	46'.5'. <sup>2</sup>	33'-2'	46'-5"
<b>#</b> 1	32'-5"	46'- <b>5'</b> <sup>2</sup>	31'-9'	44'-6"
#2 DENSE	32'-1"	46'-5" <sup>2</sup>	27"-11"	39'-7"
#2	30'-9"	45'-7"	26'-4"	371-0*
4/12	TOP CHORD		BOTTON	CHORD
4/12	2x4	2x6	2x4	2x6
#1 DENSE	36'-4"	54'-6" <sup>2</sup>	33'-8'	54'-6'
#1	37'-4"	54'-6" <sup>2</sup>	97'-0 <b>'</b>	52 -4"
#2 DENSE	36'-10"	54'-6" <sup>2</sup>	33'-0"	46'-11"
<b>#</b> 2	35'-5"	52'-6"	31'-1"	43'-10"
5/12	TOP CHORD		воттом скояр	
5/12	2x4	2x6	2x4	2x6
#1 DENSE	41'-10"	55'-10" <sup>3</sup>	42'-5" <sup>3</sup>	55'-10" <sup>3</sup>
#1	40'-9"	55'-10" <sup>3</sup>	40'-9' <sup>3</sup>	54'-2" <sup>3</sup>
#2 DENSE	40'-2"	55'-10" <sup>3</sup>	36'-11'	52'-7"
#2	38'-8"	55'-10" <sup>3</sup>	34'-9"	49'-1"

DOUGLAS FIR-LARCH					
3/12	TOP C	HORD	воттом	CHORD	
3/12	2x4	2x6	2x4	216	
SEL STR	34'-0"	50'-10"	4D'-0 <b>'</b>	50'-10" <sup>2</sup>	
#1 & BETTER	32'-2"	48'-1"	33'-0"	46'-6"	
#1	31'-1"	48'-4"	29'-7"	41'-10'	
#2	29'-8"	44'-1"	26'-8"	37'-2"	
4/12	1/10 TOP CHORD		воттом	CHORD	
4/12	2)(4	2x8	2x4	2x6	
SEL. STR.	39'-2"	57′-5″ <sup>3</sup>	44'-0'-3	57'-5" <sup>a</sup>	
#1 & BETTER	37'-1"	55'-4"	37'-11'	53'-10"	
#1	35'-10°	59'-4"	34'-4"	48'-9"	
#2	34'-2"	50'-9"	31'-1"	43'-7"	
5/12	TOP C	HORD	BOTTOM CHORD		
3/12	2×4	2x6	2x4	2x6	
ŞEL STA.	42'-9"	57'-5' <sup>3</sup>	447-0" 3	57°-5" <sup>3</sup>	
∲1&BETTER	40'-6"	57'•5" <sup>3</sup>	40'-6" <sup>3</sup>	55'-5" <sup>3</sup>	
#1	391-1"	57'-5' <sup>8</sup>	37'-5" <sup>3</sup>	53'-6' <sup>8</sup>	
#2	37'-5"	55'-5'	33'-10' <sup>3</sup>	48'-5'	

SPRUCE - PINE - FIR					
3/12	TOPICH	daoi	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL, STA.	307-1112	43'-7' 2	30'-11"	43'-7"	
#1	28'-3"	41'-10"	21'-11'	30'-1"	
#2	28'-3"	41'-10"	21'-11'	30'-1"	
4/12	TOP CHORD		BOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
SEL STA.	36'-1"	51'-0" <sup>8</sup>	36'-3"	51'-0" <sup>3</sup>	
#1	32'-9"	48'-6"	26'-4"	36'-5"	
#2	32'-9"	48'-6"	26'-4"	36'-51	
5/12	TOP CH	ORD	воттом	CHORD	
3/12	2x4	2x6	2x4	2x6	
SEL STR.	38'-11' <sup>3</sup>	51'-0' <sup>0</sup>	38'-11' <sup>3</sup>	51'-0' <sup>8</sup>	
<b>#</b> 1	361-0"	51'-0" <sup>3</sup>	29'-10"	41'-5"	
#2	36-0"	51'-0" <sup>3</sup>	29'-10"	41'-5"	

£	HE	M-FIR		
3/12	TOP C	HORD	воттом снояв	
3/12	2x4	2x6	2x4	2x6
SEL STR.	32'-5"	48'-3'	37'-7"	48'-3" <sup>2</sup>
<b>#</b> 1	29'-10"	44'-3'	27'-7"	38'-6'
#2	28'-6"	42'-3'	247-11	33'-9'
4/12	TOP CHORD			CHORD
4/12_	2x4	2x6	2x4	2x6
SEL STR.	37'-4"	52'-10" <sup>3</sup>	40°-10° <sup>3</sup>	52'-10" <sup>3</sup>
#1	34"-5"	51'-0"	32'-3"	45'-3'
#2	32'-10"	48'-7"	28'-6"	40"-1"
5/12	TOP CHORD		BOTTOM	CHORD
3/12	2x4	2x6	2x4	2x6
SEL STR.	40'-10' <sup>3</sup>	52'-10" <sup>3</sup>	40'-10' <sup>3</sup>	52'-10" <sup>3</sup>
#1	37"-8"	52'-10" <sup>3</sup>	35'-6' <sup>3</sup>	50'-4" 3
#2	35'-1t"	52'-10"	31'-11"	45'-1"

GENERAL NOTES

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (NSNTPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

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Spans are given for 3/12, 4/12, and 5/12 roof pitches

(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values. These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_{\rm D}$  in NDS®. FOOTNOTES

FOOTNOTE:

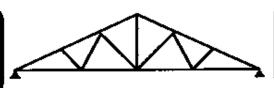
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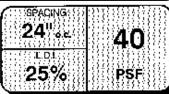
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been limited by the maximum bottom croord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

OESIGN CRITERIA TOP CHORD LIVE : # 20 PSF TOP CHORD DEAD: # 10 PSF 16TM CHORD LIVE # 10 PSF 16TM CHORD DEAD: # 10 PSF





SOUTHERN PINE					
3/12	TOP CI	HORD	воттом	CHORD	
5/14	2x4	2x6	2x4	2x6	
#1 DENSE	36"-7"	54'-7"	38'-9"	54'-7' <sup>2</sup>	
<b>#</b> 1	35'-8"	53'-3"	37'-2"	52'-5'	
#2 DENSE	35'-3"	52'-5"	33'-0"	46'-10"	
#2	341-011	5D'-5'	31'-1"	43'-10"	
4/12	TOP CHORD		BOTTOM CHORD		
4/12	2x4	2x6	2x4	2x6	
#1 DENSE	42'-0"	55'-10" <sup>\$</sup>	42'-5" <sup>3</sup>	55'-10 <sup>- 3</sup>	
#1	40'-11'	55'-10" <sup>3</sup>	40'-9" 3	54'-2' <sup>3</sup>	
#2 DENSE	40°-6°	55'-10" <sup>3</sup>	36'-3"	53'-10' <sup>3</sup>	
<b>≠</b> 2	391-11	55'-10' <sup>3</sup>	36'-0"	50'-10"	
5/12	TOP CI	TOP CHORD		CHORD	
3/12	2x4	2x6	2×4	2x6	
#1 DENSÉ	42'-5' <sup>. 3</sup>	55'-10" <sup>3</sup>	42'-5" <sup>3</sup>	55'-10" <sup>3</sup>	
#1	42°-5° <sup>3</sup>	55'-10" <sup>3</sup>	40'-9" <sup>3</sup>	54'•2" <sup>3</sup>	
#2 DENSE	42"-5" 3	55'-10" <sup>3</sup>	39'-8" <sup>3</sup>	53'-10" <sup>2</sup>	
#2	42°-5° 3	55'-10' <sup>3</sup>	36"-11" <sup>3</sup>	51'-11' <sup>3</sup>	

DOUGLAS FIR-LARCH							
2/12	TOP CHORD		BOTTOM CHORD				
3/12	2x4	2x6	2x4	2x6			
ŞEL STR.	37'-4"	55'-8"	44'-0' <sup>3</sup>	55'-8' <sup>2</sup>			
#1 & BETTER	35'-7"	53'-1"	38'-2'	54'-2"			
#1	341-6"	51'-4"	34'-6"	48'-11"			
#2	331-1"	49'-2"	31'-2'	43'-8"			
4/12	ТОР СНОЙО		BOTTOM CHORD				
4/12	2×4	2x6	2x4	2x6			
SEL STR.	42'-11'	57'-5' <sup>3</sup>	44'-0' <sup>3</sup>	57'-5' <sup>3</sup>			
#1 & BETTER	40'-10"	57'-5' <sup>3</sup>	40'-6' <sup>8</sup>	55'-5' <sup>3</sup>			
#1	39"-7"	57'-5" <sup>3</sup>	97'-5' <sup>3</sup>	53'- <b>6'</b> <sup>3</sup>			
#2	38'-0"	56'-5'	33'-10" <sup>3</sup>	50'-2"			
5/12	TOP CHORD		BOTTOM CHORD				
5/12	2x4	2x6	2x4	2x6			
SEL STR.	44'-0" <sup>3</sup>	57'-5" <sup>3</sup>	44'-0' 3	57'-5" <sup>3</sup>			
#1 & BETTER	44*-0" 3	57'-5' <sup>3</sup>	40'-6° ³	55'-5" <sup>3</sup>			
#1	43'-1"	57'-5' <sup>3</sup>	37'-5' <sup>3</sup>	53'-6' <sup>3</sup>			
#2	417-5"	57'-5' <sup>3</sup>	33'-10" <sup>3</sup>	51 <u>'-4' <sup>a</sup> </u>			

SPRUCE - PINE - FIR							
3/12	ТОР СНОЙО		BOTTOM CHORD				
	2x4	2x6	2x4	2x6			
ŞEL ŞTR.	34'-5"	51'-0' <sup>3</sup>	36'-3"	51'-0' <sup>8</sup>			
<b>#</b> 1	31'-8"	46'-11"	26'-3"	36'-2"			
#2	31'-8"	46'-11"	26'-3"	36'-2"			
4/12	TOP CHORD		BOTTOM CHORD				
4/12	2x4	2x6	2x4	2x6			
SEL. STR.	38'-11' <sup>3</sup>	51'-0" <sup>3</sup>	38'-11" <sup>3</sup>	51'-0' <sup>3</sup>			
#1	36'-7"	51'-0' <sup>3</sup>	30'-11"	42'-11"			
#2	36'-7"	51'-0" <sup>3</sup>	30'-11'	42'-11"			
5/12	TOP CHORD		BOTTOM CHORD				
3/12	2x4	2x6	2x4	2x6			
SEL. STR.	38'-11' <sup>31</sup>	51'-0' <sup>3</sup>	3B'-11' <sup>3</sup>	51'-0' <sup>3</sup>			
#1	38'-11' <sup>3</sup> :	51'-0" <sup>3</sup>	33'-2' <sup>3</sup>	48'-1"			
#2	38'-11' <sup>3</sup>	51'-0' <sup>3</sup>	33'-2'-3	48'-1"			

HEM-FIR							
2x4	2x6	2x4	2x6				
35'-7"	52'-10" <sup>3</sup>	40'-10" <sup>3</sup>	52'-10"				
33"-2"	49'-2"	32'-4"	45'-4"				
31'-8"	46'-10"	28'-6'	40'-1"				
TOP CHORD		BOTTOM CHORD					
<b>2</b> x4	2×6	2x4	2x6				
40°-10° <sup>3</sup>	52'-10' <sup>-3</sup>	40'-10" <sup>3</sup>	52'-10" <sup>3</sup>				
38'-1"	52'-10" <sup>3</sup>	35'-6' <sup>8</sup>	50'-4" <sup>3</sup>				
361-5"	52'-10" <sup>3</sup>	32'-5' <sup>3</sup>	46'-8"				
ТОР СМОЯО		BOTTOM CHORD					
2x4	2x6	2x4	2x6				
40°-10° <sup>2</sup>	52'-10" <sup>3</sup>	40'-10' <sup>3</sup>	52'-10" <sup>3</sup>				
40'-10" <sup>3</sup> -	52'-10" <sup>3</sup>	35'-6' <sup>3</sup>	50'-4" 3				
39"-9"	52'-10" <sup>3</sup>	32'-5' <sup>3</sup>	46'-9" <sup>3</sup>				
	TOP CH 2x4 35'-7" 33'-2" 31'-8" TOP CH 2x4 40'-10' 3' 38'-1" 36'-5" TOP CH 2x4 40'-10' 2' 40'-10' 3'	TOP CHORD  2x4 2x6  35'-7" 52'-10" 3  33'-2" 49'-2'  31'-8" 46'-10"  TOP CHORD  2x4 2x6  40'-10' 3 52'-10" 3  38'-1" 52'-10" 3  36'-5" 52'-10" 3  TOP CHORD  2x4 2x6  40'-10' 3 52'-10" 3  40'-10' 3 52'-10" 3	TOP CHORD BOTTOM  2x4 2x6 2x4  35'-7" 52'-10" 40'-10" 3  33'-2" 49'-2' 32'-4'  31'-6" 46'-10" 28'-6'  TOP CHORD BOTTOM  2x4 2x6 2x4  40'-10' 52'-10" 3 35'-6' 3  38'-1" 52'-10" 3 32'-5' 3  TOP CHORD BOTTOM  2x4 2x6 2x4  40'-10' 52'-10" 3 32'-5' 3  TOP CHORD BOTTOM  2x4 2x6 2x4  40'-10' 52'-10" 3 40'-10" 3  40'-10" 3 52'-10" 3 35'-6' 3				

GENERAL NOTES
Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSUTPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches
(Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>D</sub> in NDS®.

- Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.
- Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

  Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.