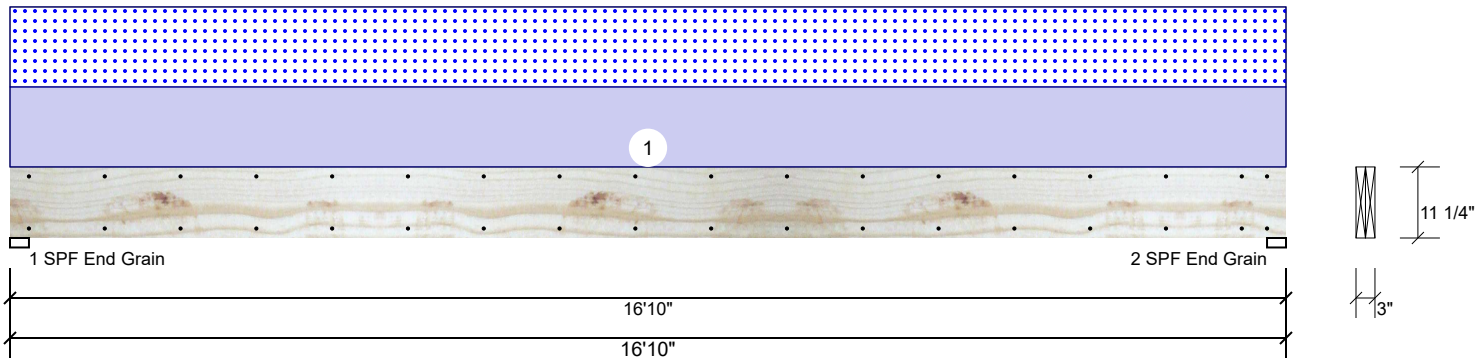
Client:		Date:	1/17/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	32 LIBERTY MEADOWS
		Project #:	

GDH SP #2 2.000" X 12.000" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	337	337	0	0
2	Vertical	0	337	337	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	13%	337 / 337	673	L	D+S
2 - SPF End Grain	3.000"	Vert	13%	337 / 337	673	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2709 ft-lb	8'5"	4548 ft-lb	0.596 (60%)	D+S	L
Unbraced	2709 ft-lb	8'5"	2710 ft-lb	1.000 (100%)	D+S	L
Shear	578 lb	1'2 1/4"	4528 lb	0.128 (13%)	D+S	L
LL Defl inch	0.133 (L/1490)	8'5 1/16"	0.411 (L/480)	0.322 (32%)	S	L
TL Defl inch	0.265 (L/745)	8'5 1/16"	0.549 (L/360)	0.483 (48%)	D+S	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at a maximum of 14' 3/16" o.c.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	40 PLF	0 PLF	40 PLF	0 PLF	0 PLF	P3

This design is valid until 11/3/2024

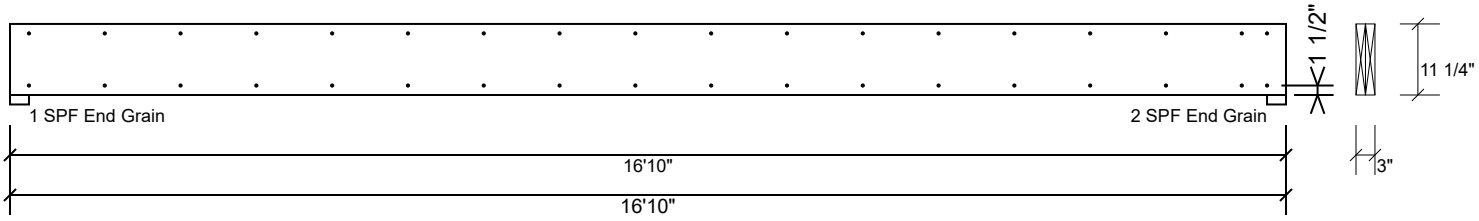
Manufacturer Info

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:		Date:	1/17/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	32 LIBERTY MEADOWS
		Project #:	

GDH SP #2 2.000" X 12.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	202.6 PLF
Yield Limit per Fastener	101.3 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Manufacturer Info

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Fayetteville, NC
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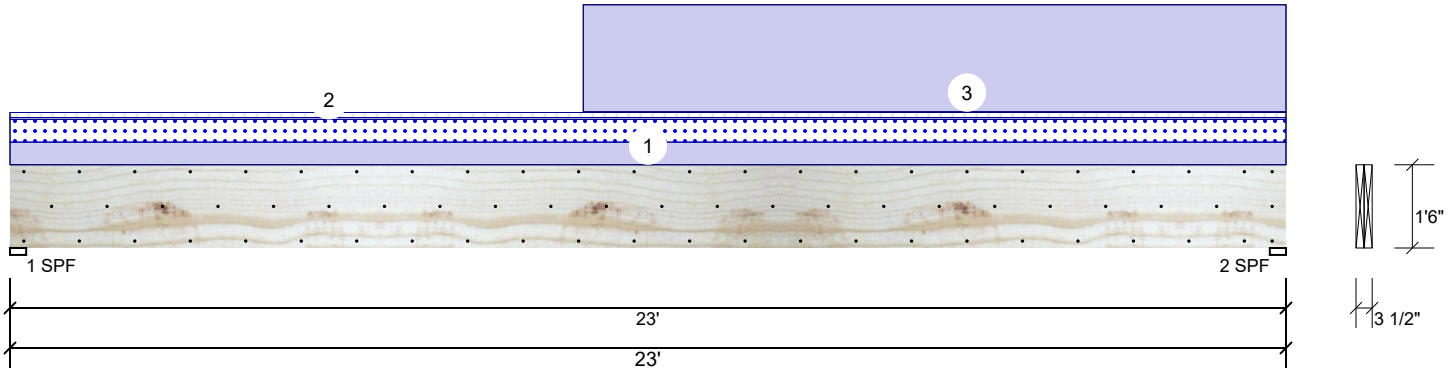
28314
910-864-TRUS

This design is valid until 11/3/2024

Client:		Date:	1/17/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	32 LIBERTY MEADOWS
		Project #:	

DB1 Kerto-S LVL 1.750" X 18.000" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	278	1762	621	0	0
2	Vertical	278	3241	621	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	47%	1762 / 674	2436	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	75%	3241 / 674	3915	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	15112 ft-lb	13'2 7/8"	38683 ft-lb	0.391 (39%)	D	Uniform
Unbraced	18767 ft-lb	12'11 3/4"	18779 ft-lb	0.999 (100%)	D+0.75(L+S)	L
Shear	2761 lb	21'2 1/2"	12096 lb	0.228 (23%)	D	Uniform
LL Defl inch	0.107 (L/2523)	11'6 1/16"	0.564 (L/480)	0.190 (19%)	0.75(L+S)	L
TL Defl inch	0.522 (L/519)	11'11 11/16"	0.752 (L/360)	0.694 (69%)	D+0.75(L+S)	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at a maximum of 7'1 3/8" o.c.
7 Bottom must be laterally braced at end bearings.
8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	54 PLF	0 PLF	54 PLF	0 PLF	0 PLF	P TRUSSES
2	Tie-In Far	0-0-0 to 23-0-0	0-7-4	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	FLOOR LOADING
2	Tie-In Near	0-0-0 to 23-0-0	0-0-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	FLOOR LOADING
3	Part. Uniform	10-4-0 to 23-0-0		Top	255 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL & C1GE
	Self Weight				14 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

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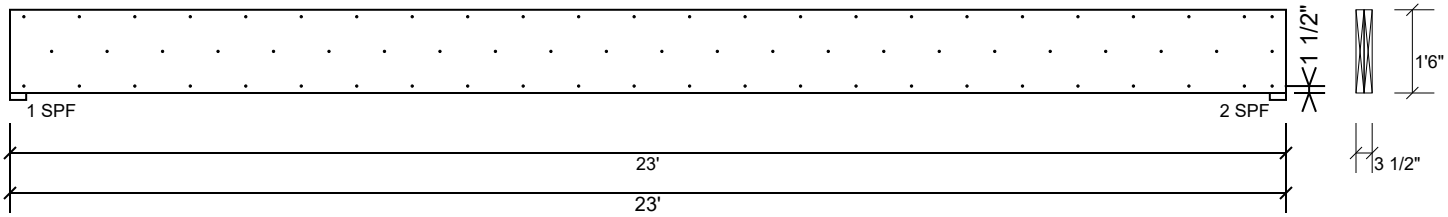
DB1 Kerto-S LVL 1.750" X 18.000" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	19.1 %
Load	54.0 PLF
Yield Limit per Foot	282.4 PLF
Yield Limit per Fastener	94.1 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+S
Duration Factor	1.15

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
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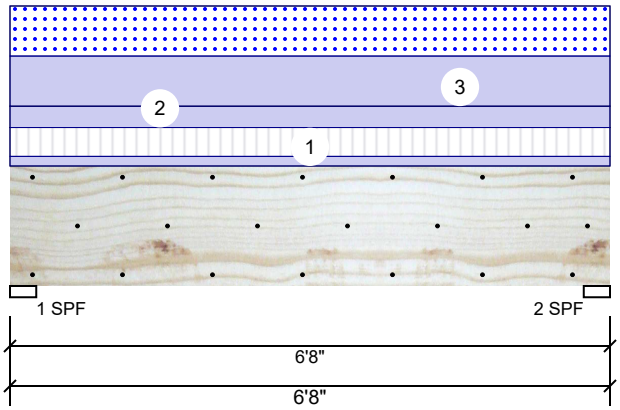
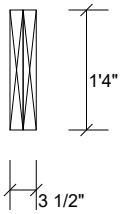
Client:		Date:	1/17/2023
Project:		Input by:	Neal Baggett
Address:		Job Name:	32 LIBERTY MEADOWS
		Project #:	

FB2 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	540	1558	937	0	0
2	Vertical	540	1558	937	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	51%	1558 / 1108	2666	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	51%	1558 / 1108	2666	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3879 ft-lb	3'4"	39750 ft-lb	0.098 (10%)	D+0.75(L+S)	L
Unbraced	3879 ft-lb	3'4"	18821 ft-lb	0.206 (21%)	D+0.75(L+S)	L
Shear	1617 lb	5' 1/2"	13739 lb	0.118 (12%)	D+0.75(L+S)	L
LL Defl inch	0.008 (L/9314)	3'4"	0.156 (L/480)	0.052 (5%)	0.75(L+S)	L
TL Defl inch	0.019 (L/3870)	3'4"	0.208 (L/360)	0.093 (9%)	D+0.75(L+S)	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Girders are designed to be supported on the bottom edge only.
5. Top loads must be supported equally by all plies.
6. Top must be laterally braced at end bearings.
7. Bottom must be laterally braced at end bearings.
8. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	54 PLF	162 PLF	0 PLF	0 PLF	0 PLF	F2
2	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
3	Uniform			Top	281 PLF	0 PLF	281 PLF	0 PLF	0 PLF	B2-A
	Self Weight				12 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

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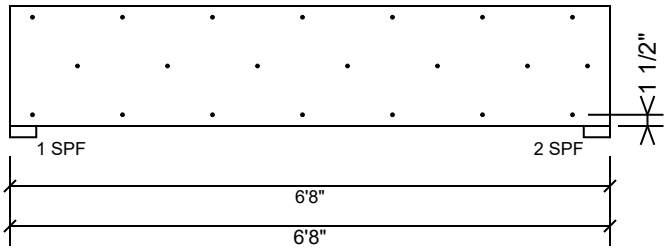
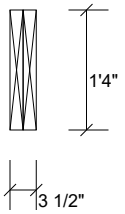
FB2 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level





Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	44.0 %
Load	108.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
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Client:		Date:	1/17/2023
Project:		Input by:	Neal Baggett
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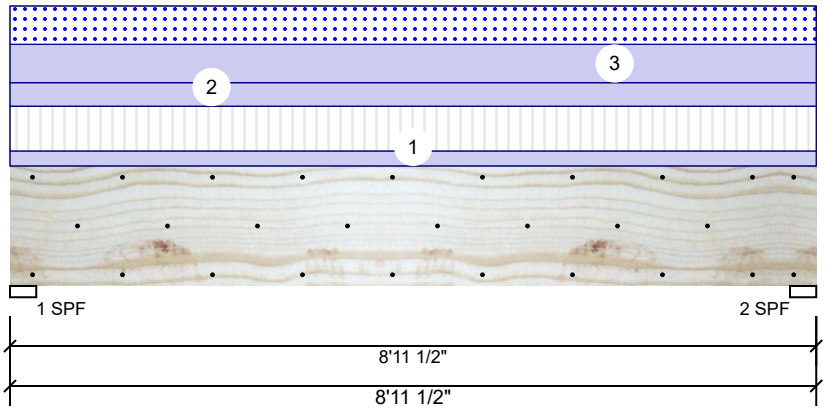
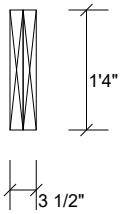
		Project #:	

FB1 Kerto-S LVL 1.750" X 16.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	360	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1021	1807	873	0	0
2	Vertical	1021	1807	873	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	62%	1807 / 1421	3228	L	D+0.75(L+S)
2 - SPF	3.500"	Vert	62%	1807 / 1421	3228	L	D+0.75(L+S)

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5731 ft-lb	4'5 3/4"	34565 ft-lb	0.166 (17%)	D+L	L
Unbraced	6541 ft-lb	4'5 3/4"	13975 ft-lb	0.468 (47%)	D+0.75(L+S)	L
Shear	2224 lb	1'7 1/2"	11947 lb	0.186 (19%)	D+L	L
LL Defl inch	0.022 (L/4718)	4'5 13/16"	0.213 (L/480)	0.102 (10%)	0.75(L+S)	L
TL Defl inch	0.049 (L/2077)	4'5 13/16"	0.284 (L/360)	0.173 (17%)	D+0.75(L+S)	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Girders are designed to be supported on the bottom edge only.
5 Top loads must be supported equally by all plies.
6 Top must be laterally braced at end bearings.
7 Bottom must be laterally braced at end bearings.
8 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Near Face	76 PLF	228 PLF	0 PLF	0 PLF	0 PLF	F4
2	Uniform			Top	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
3	Uniform			Top	195 PLF	0 PLF	195 PLF	0 PLF	0 PLF	B4
	Self Weight				12 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

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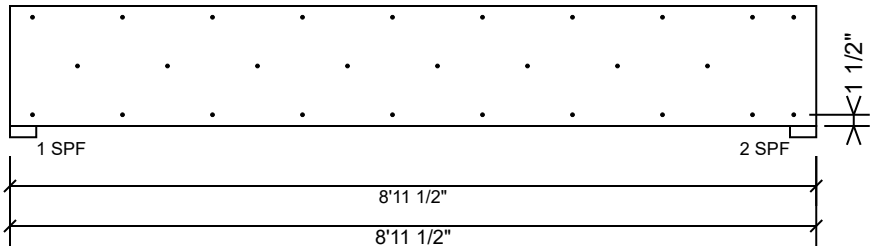

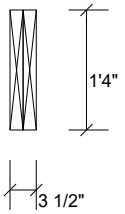

Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. Maximum end distance not to exceed 6".

Capacity	61.9 %
Load	152.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	D+L
Duration Factor	1.00

Notes

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Lumber

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2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

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