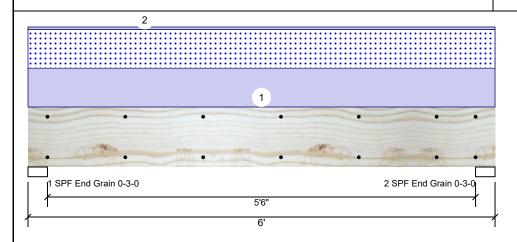


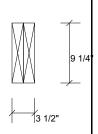
Project: Address: Date: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

1.750" X 9.250" 2-Ply - PASSED HDR-1 **Kerto-S LVL**

Level: Level





Page 1 of 8

Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II Temperature: Temp <= 100°F Application: Design Method: ASD

Load Sharing: No

Building Code:

Deck: Not Checked

IBC/IRC 2015

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1576	1464	0	0
2	Vertical	0	1576	1464	0	0

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4007 ft-lb	3'	14423 ft-lb	0.278 (28%)	D+S	L
Unbraced	4007 ft-lb	3'	10944 ft-lb	0.366 (37%)	D+S	L
Shear	2011 lb	1' 1/4"	7943 lb	0.253 (25%)	D+S	L
LL Defl inch	0.031 (L/2200)	3'	0.141 (L/480)	0.218 (22%)	S	L
TL Defl inch	0.064 (L/1060)	3'	0.188 (L/360)	0.340 (34%)	D+S	L

Bearings

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.000" 1576 / 1464 3040 L D+S Vert 34% End Grain 2 - SPF 3.000" 1576 / 1464 3040 L D+S Vert 34% End Grain

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 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			Тор	488 PLF	0 PLF	488 PLF	0 PLF	0 PLF	B2 TRUSS
2	Uniform			Тор	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
	Self Weight				7 PLF					

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
 - approvals

 Damaged Beams must not be used Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation

This design is valid until 6/28/2026

Manufacturer Info 6. For flat roofs provide proper drainage to prevent ponding Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us

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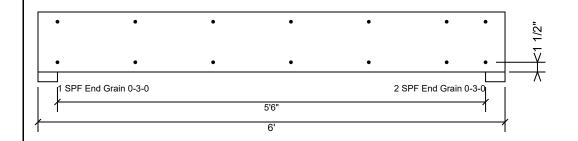
Project: Address:

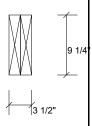
Date: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED HDR-1

Level: Level





Page 2 of 8

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	163.7 PLF
Yield Limit per Fastener	81.9 lb.
CM	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

- Handling & Installation

 1. UVI 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 6/28/2026

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

Manufacturer Info

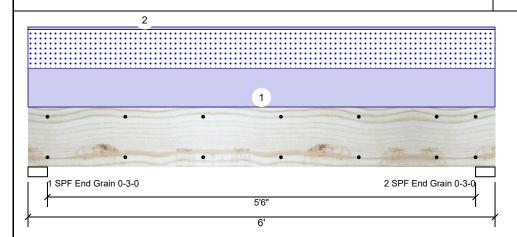


Project: Address: Date: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

1.750" X 9.250" HDR-2 **Kerto-S LVL** 2-Ply - PASSED

Level: Level



Application:

Design Method:

Building Code:

Load Sharing:

Deck:

ASD

No

Capacity

IBC/IRC 2015

Not Checked

Comb.

Case

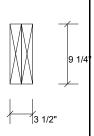
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Ld. Comb.

Page 3 of 8

Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II Temperature: Temp <= 100°F

Reactions UNPATTERNED Ib (Uplift)

Dir.

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1498	1386	0	0
2	Vertical	0	1498	1386	0	0

Analysis Results Analysis Actual Location Allowed 3' 14423 ft-lb Moment 3802 ft-lb

0.264 (26%) D+S Unbraced 3802 ft-lb 3' 10944 ft-lb 0.347 (35%) D+S Shear 1908 lb 1' 1/4" 7943 lb 0.240 (24%) D+S LL Defl inch 0.029 (L/2324) 3' 0.141 (L/480) 0.207 (21%) S TL Defl inch 0.060 (L/1117) 3' 0.188 (L/360) 0.322 (32%) D+S

Bearings

Grain

Cap. React D/L lb Bearing Length 1-SPF 3.000" D+S Vert 1498 / 1386 2884 I End Grain 2 - SPF 3.000" 1498 / 1386 D+S Vert 2884 L End

Total Ld. Case

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 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			Тор	462 PLF	0 PLF	462 PLF	0 PLF	0 PLF	B2 TRUSS
2	Uniform			Тор	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
	Self Weight				7 PLF					

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation
- 6. For flat roofs provide proper drainage to prevent ponding

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

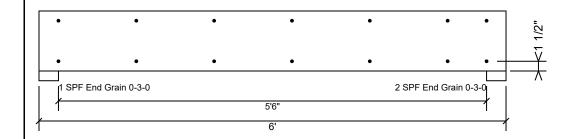
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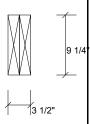
Project: Address: Date: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED HDR-2

Level: Level





Page 4 of 8

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	163.7 PLF
Yield Limit per Fastener	81.9 lb.
CM	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

- Handling & Installation

 1. UVI 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 6/28/2026

Manufacturer Info

(800) 622-5850 www.metsawood.com/us

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851



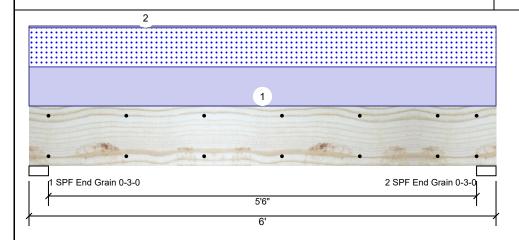
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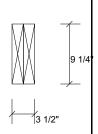
Date: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

1.750" X 9.250" 2-Ply - PASSED **Kerto-S LVL** HDR-3

Level: Level





Page 5 of 8

Member Information

Type: Plies: Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II Temperature: Temp <= 100°F

Load Sharing: Deck:

Application:

Design Method:

Building Code:

ASD

No

IBC/IRC 2015

Not Checked

Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2044	1932	0	0
2	Vertical	0	2044	1932	0	0

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5241 ft-lb	3'	14423 ft-lb	0.363 (36%)	D+S	L
Unbraced	5241 ft-lb	3'	10944 ft-lb	0.479 (48%)	D+S	L
Shear	2628 lb	1' 1/4"	7943 lb	0.331 (33%)	D+S	L
LL Defl inch	0.040 (L/1667)	3'	0.141 (L/480)	0.288 (29%)	S	L
TL Defl inch	0.083 (L/810)	3'	0.188 (L/360)	0.444 (44%)	D+S	L

Moment	5241 ft-lb	3'	14423 ft-lb	0.363 (36%) D+S	L	
Unbraced	5241 ft-lb	3'	10944 ft-lb	0.479 (48%) D+S	L	
Shear	2628 lb	1' 1/4"	7943 lb	0.331 (33%) D+S	L	
LL Defl inch	0.040 (L/1667)	3'	0.141 (L/480)	0.288 (29%) S	L	
TL Defl inch	0.083 (L/810)	3'	0.188 (L/360)	0.444 (44%) D+S	L	
		·		<u> </u>		

Bearings

Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	45%	2044 / 1932	3976	L	D+S
2 - SPF End Grain	3.000"	Vert	45%	2044 / 1932	3976	L	D+S

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 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			Тор	644 PLF	0 PLF	644 PLF	0 PLF	0 PLF	A2 TRUSS
2	Uniform			Тор	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL
	Self Weight				7 PLF					

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used
- For flat roofs provide proper drainage to prevent ponding

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

- - Design assumes top edge is laterally restrained
 Provide lateral support at bearing points to avoid
 lateral displacement and rotation
- This design is valid until 6/28/2026

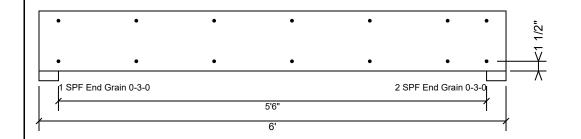
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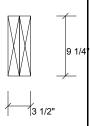
Project: Address: Date: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED HDR-3

Level: Level





Page 6 of 8

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	163.7 PLF	
Yield Limit per Fastener	81.9 lb.	
См	1	
Yield Mode	IV	
Edge Distance	1 1/2"	
Min. End Distance	3"	
Load Combination		
Duration Factor	1.00	

Notes

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

Handling & Installation

- Handling & Installation

 1. UVI 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 6/28/2026

Manufacturer Info

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850



Member Information

Client:

Project: Address: Signature Homes

2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

Page 7 of 8

Wind

Total Ld. Case

3069 L

3069 L

0

0

Const

Ld. Comb.

D+0.75(L+S)

D+0.75(L+S)

0

0

Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED **GDH-18**

Level: Level

Reactions UNPATTERNED Ib (Uplift)

Dir.

Vert

Vert

Live

377

377

Dead

2504

2504

Cap. React D/L lb

30%

2504 / 565

2504 / 565

Snow

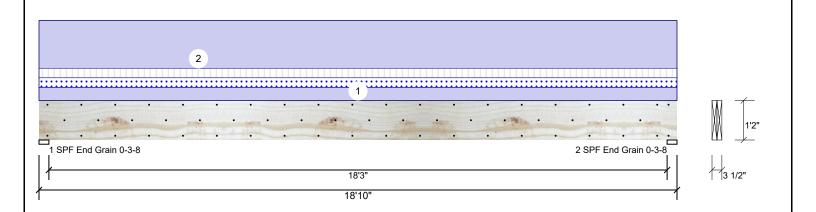
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Direction

Vertical

Vertical



Application: Type: Brg Plies: 2 Design Method: ASD 1 Moisture Condition: Dry **Building Code: IBC/IRC 2015** 2 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temperature: Temp <= 100°F **Bearings** Bearing Length

							1 - SPF End	3.500"
Analysis Ro	esults						Grain	
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case	2 - SPF End	3.500"
Moment	12910 ft-lb	9'5"	26999 ft-lb	0.478 (48%)	D+L	L	Grain	
Unbraced	13754 ft-lb	9'5"	13784 ft-lb	0.998 (100%)	D+0.75(L+S)	L		

0.234 (23%) D+L Shear 2447 lb 1'5 1/2" 10453 lb LL Defl inch 0.102 (L/2160) 9'5 1/16" 0.459 (L/480) 0.222 (22%) 0.75(L+S) TL Defl inch 0.555 (L/398) 9'5 1/16" 0.612 (L/360) 0.905 (91%) 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 7'5 9/16" o.c.
- 7 Bottom must be laterally braced at end bearings.
- 8 Lateral slenderness ratio based on single ply width.

		F-)									
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
1	Uniform			Тор	55 PLF	40 PLF	40 PLF	0 PLF	0 PLF	R + F	
2	Uniform			Тор	200 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL	
	Self Weight				11 PI F						

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.

- Dry service conditions, unless noted otherwise
 LVL not to be treated with fire retardant or corrosive

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- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code
- approvals

 Damaged Beams must not be used Design assumes top edge is laterally restrained
 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 6/28/2026

Manufacturer Info Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851

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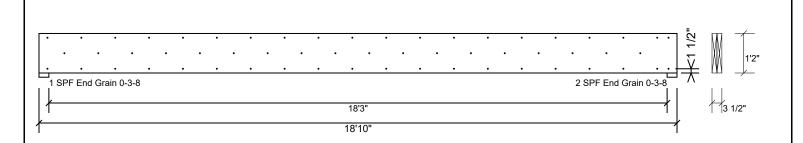
Project: Address: 2/29/2024

Input by: Anthony Williams Job Name: Lot 38 Cottlestone Project #: J0224-1253

Page 8 of 8

1.750" X 14.000" 2-Ply - PASSED **Kerto-S LVL GDH-18**

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	0.0 %
Load	0.0 PLF
Yield Limit per Foot	245.6 PLF
Yield Limit per Fastener	81.9 lb.
CM	1
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

Notes

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.

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

Handling & Installation

Handling & Installation

1. UVI 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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

Manufacturer Info

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