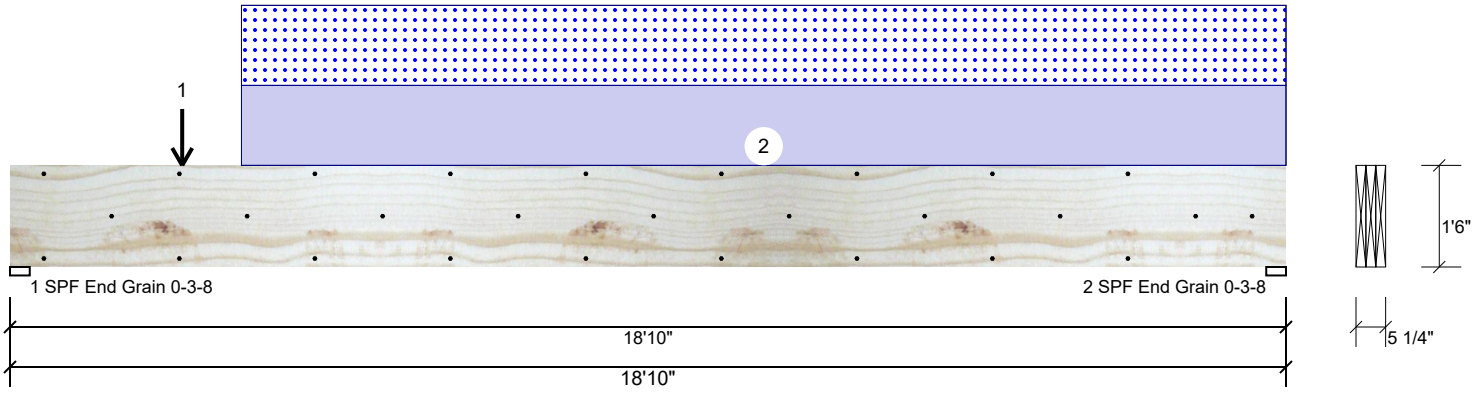
Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

GDH (Side Load) Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	3	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	Yes
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	4290	4092	0	0
2	Vertical	0	3868	3670	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	54%	4290 / 4092	8382	L	D+S
2 - SPF End Grain	3.500"	Vert	49%	3868 / 3670	7538	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	35311 ft-lb	9' 3/8"	77108 ft-lb	0.458 (46%)	D+S	L
Unbraced	35311 ft-lb	9' 3/8"	35414 ft-lb	0.997 (100%)	D+S	L
Shear	8375 lb	1'9 1/2"	23184 lb	0.361 (36%)	D+S	L
LL Defl inch	0.229 (L/964)	9'3 3/8"	0.613 (L/360)	0.373 (37%)	S	L
TL Defl inch	0.470 (L/470)	9'3 3/8"	0.920 (L/240)	0.510 (51%)	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 3 rows of SDW22500 at 24" o.c. Maximum end distance not to exceed 12".
3. Refer to last page of calculations for fasteners required for specified loads.
4. Simpson fasteners applied from a single side of the member use tip values where published.
5. Girders are designed to be supported on the bottom edge only.
6. Top loads must be supported equally by all plies.
7. Top must be laterally braced at a maximum of 5'7 1/4" o.c.
8. Bottom must be laterally braced at end bearings.
9. 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	Point	2-6-8		Top	1996 lb	0 lb	1996 lb	0 lb	0 lb	B4
	Bearing Length	0-3-8								
2	Part. Uniform	3-5-0 to 18-10-0		Top	374 PLF	0 PLF	374 PLF	0 PLF	0 PLF	B3
	Self Weight				21 PLF					

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
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

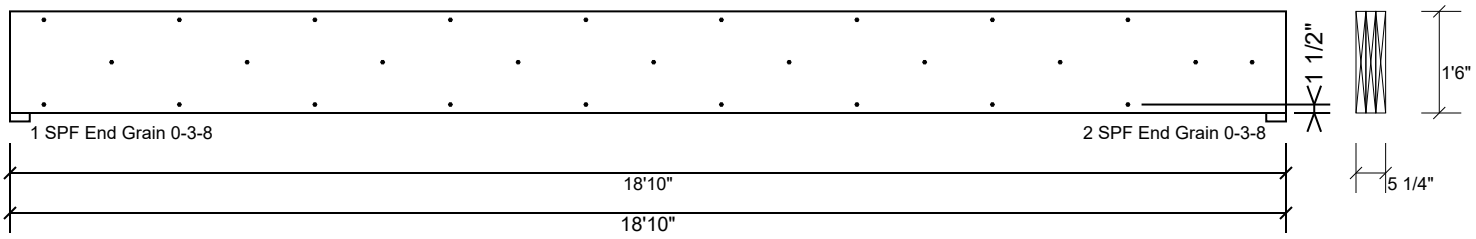
Manufacturer Info

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

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

GDH (Side Load) Kerto-S LVL 1.750" X 18.000" 3-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 3 rows of SDW22500 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	382.5 PLF
Yield Limit per Fastener	255.0 lb.
C_M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
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
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

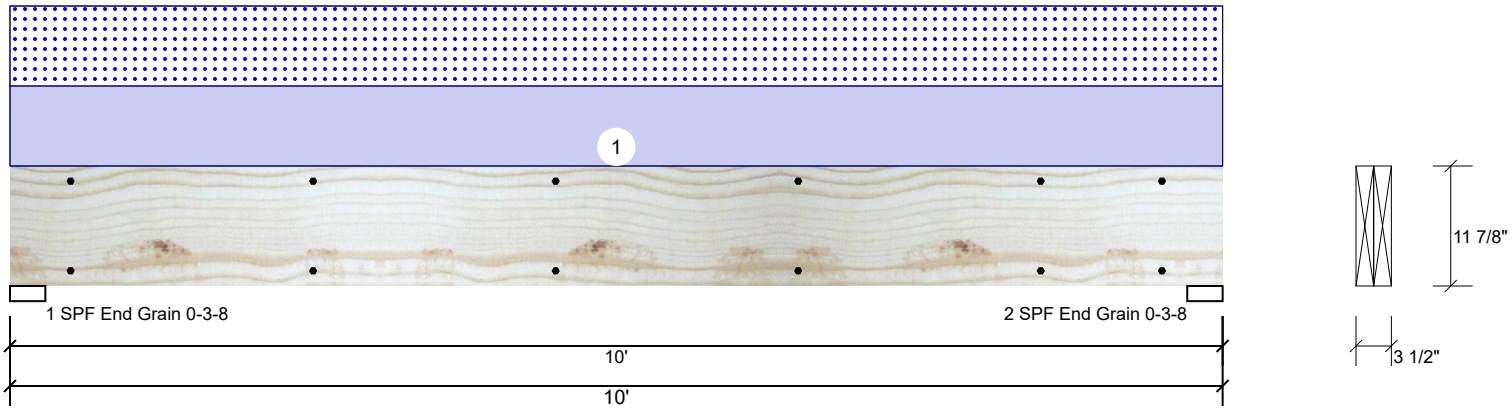
Manufacturer Info

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

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1196	1150	0	0
2	Vertical	0	1196	1150	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	23%	1196 / 1150	2346	L	D+S
2 - SPF End Grain	3.500"	Vert	23%	1196 / 1150	2346	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5340 ft-lb	5'	22897 ft-lb	0.233 (23%)	D+S	L
Unbraced	5340 ft-lb	5'	9721 ft-lb	0.549 (55%)	D+S	L
Shear	1754 lb	8'8 5/8"	10197 lb	0.172 (17%)	D+S	L
LL Defl inch	0.051 (L/2238)	5'	0.318 (L/360)	0.161 (16%)	S	L
TL Defl inch	0.104 (L/1097)	5'	0.477 (L/240)	0.219 (22%)	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 SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Simpson fasteners applied from a single side of the member use tip values where published.
5 Girders are designed to be supported on the bottom edge only.
6 Top loads must be supported equally by all plies.
7 Top must be laterally braced at end bearings.
8 Bottom must be laterally braced at end bearings.
9 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	230 PLF	0 PLF	230 PLF	0 PLF	0 PLF	G1
	Self Weight				9 PLF					

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
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
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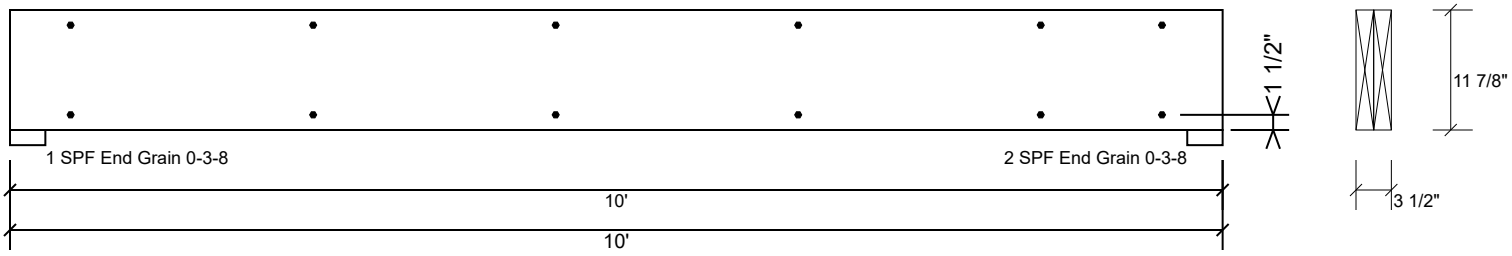
www.metsawood.com/us

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

GDH-1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C_M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
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
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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Manufacturer Info

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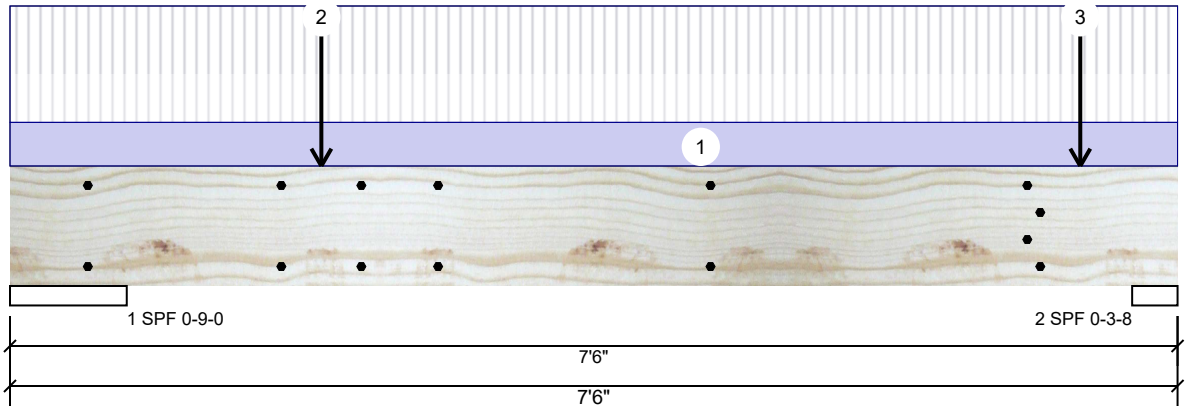
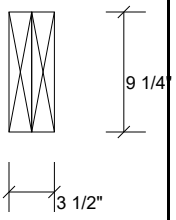
(800) 622-5850
www.metsawood.com/us

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	159	868	780	0	0
2	Vertical	141	1110	1032	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	9.000"	Vert	12%	868 / 780	1648	L	D+S
2 - SPF	3.500"	Vert	41%	1110 / 1032	2142	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2124 ft-lb	2'	14423 ft-lb	0.147 (15%)	D+S	L
Unbraced	2124 ft-lb	2'	10012 ft-lb	0.212 (21%)	D+S	L
Shear	2124 lb	6'5 1/4"	7943 lb	0.267 (27%)	D+S	L
LL Defl inch	0.018 (L/4389)	3'7 1/4"	0.219 (L/360)	0.082 (8%)	S	L
TL Defl inch	0.038 (L/2056)	3'7 5/8"	0.329 (L/240)	0.117 (12%)	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 SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Concentrated load fastener specification is in addition to hanger fasteners if a hanger is present.
5 Simpson fasteners applied from a single side of the member use tip values where published.
6 Girders are designed to be supported on the bottom edge only.
7 Top loads must be supported equally by all plies.
8 Top must be laterally braced at end bearings.
9 Bottom must be laterally braced at end bearings.
10 Lateral slenderness ratio based on single ply width.

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
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

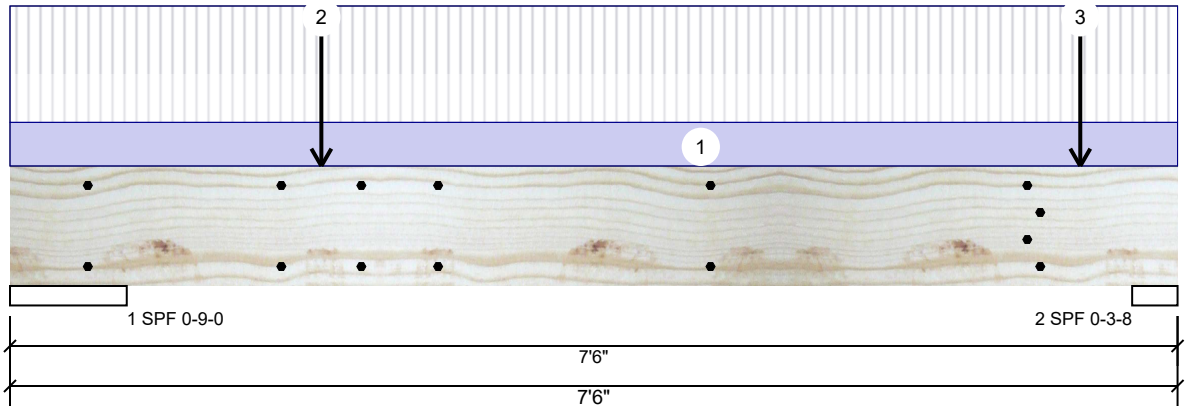
Manufacturer Info

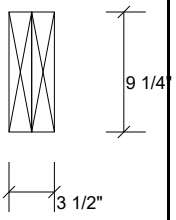
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





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	15 PLF	40 PLF	0 PLF	0 PLF	0 PLF	Floor
2	Point	2-0-0		Far Face	906 lb	0 lb	906 lb	0 lb	0 lb	A6
3	Point	6-10-8		Far Face	906 lb	0 lb	906 lb	0 lb	0 lb	A6
	Self Weight				7 PLF					

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
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

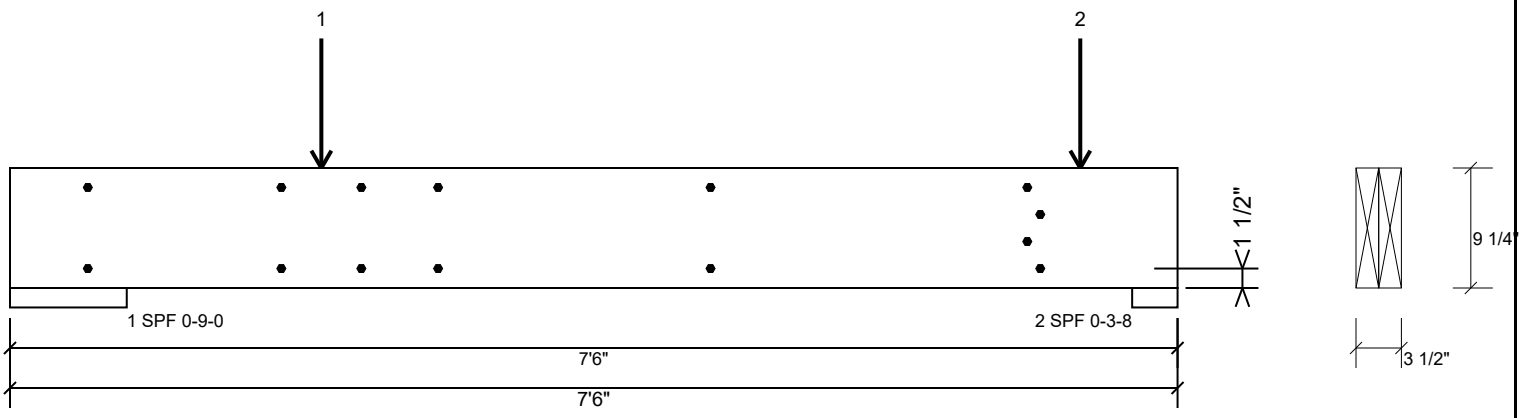
This design is valid until 6/28/2026

Manufacturer Info

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

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 12".

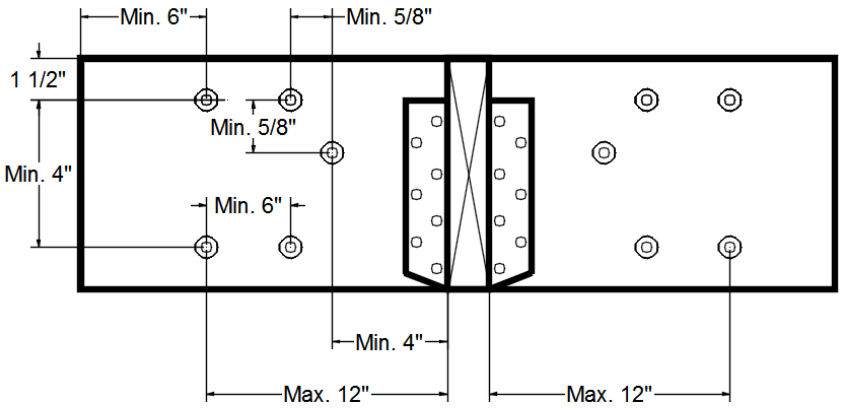
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C_M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
Duration Factor	1.00

Concentrated Load

Fasten at concentrated side load at 2-0-0 with a minimum of (4) – SDW22338 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	77.2 %
Load	906.0lb.
Total Yield Limit	1173.0 lb.
C_g	1.0000
C_M	1
Yield Limit per Fastener	293.3 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



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
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

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Norwalk, CT 06851
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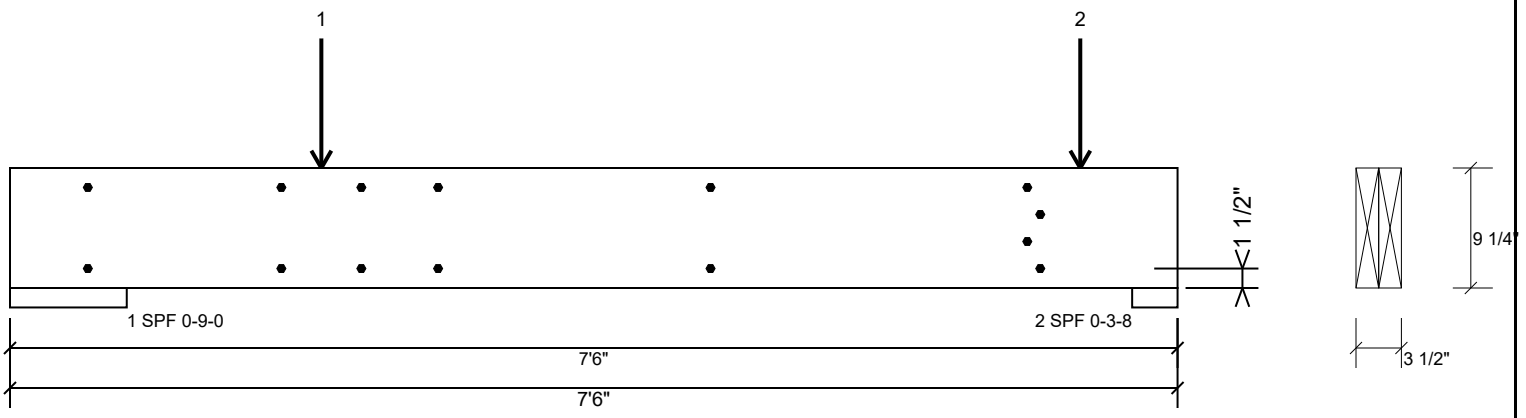
Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

BM1 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



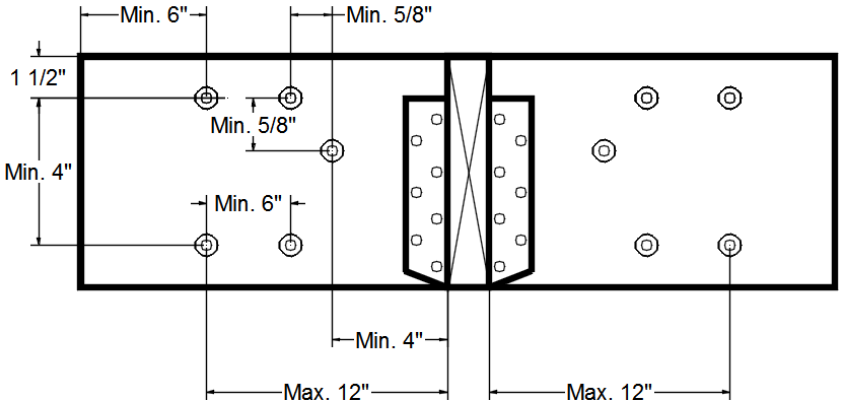
Multi-Ply Analysis

Concentrated Load

Fasten at concentrated side load at 6-10-8 with a minimum of (4) – SDW22338 in the pattern shown. All fasteners shall be installed with the head on the side of the applied load.

Capacity	77.2 %
Load	906.0lb.
Total Yield Limit	1173.0 lb.
Cg	1.0000
Cм	1
Yield Limit per Fastener	293.3 lb.
Yield Mode	Lookup
Load Combination	D+S
Duration Factor	1.15

Min/Max fastener distances for Concentrated Side Loads



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
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

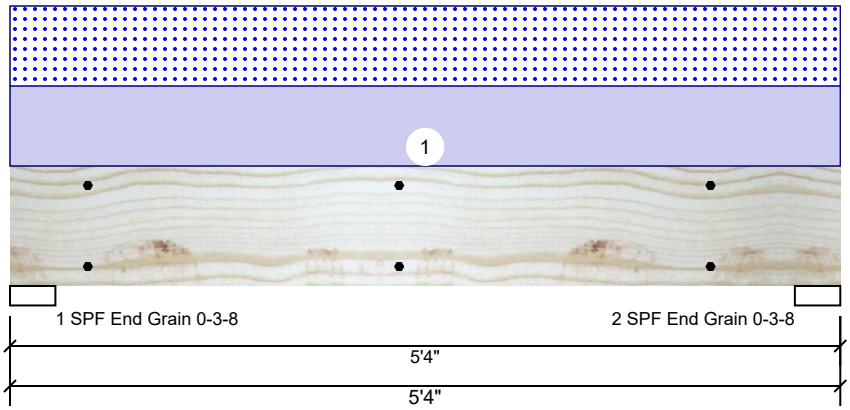
Manufacturer Info

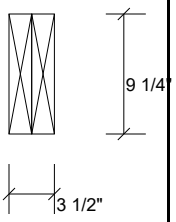
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1942	1923	0	0
2	Vertical	0	1942	1923	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	38%	1942 / 1923	3865	L	D+S
2 - SPF End Grain	3.500"	Vert	38%	1942 / 1923	3865	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4305 ft-lb	2'8"	14423 ft-lb	0.298 (30%)	D+S	L
Unbraced	4305 ft-lb	2'8"	11811 ft-lb	0.365 (36%)	D+S	L
Shear	2330 lb	4'3 1/4"	7943 lb	0.293 (29%)	D+S	L
LL Defl inch	0.027 (L/2130)	2'8"	0.162 (L/360)	0.169 (17%)	S	L
TL Defl inch	0.055 (L/1060)	2'8"	0.244 (L/240)	0.226 (23%)	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 SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Simpson fasteners applied from a single side of the member use tip values where published.
5 Girders are designed to be supported on the bottom edge only.
6 Top loads must be supported equally by all plies.
7 Top must be laterally braced at end bearings.
8 Bottom must be laterally braced at end bearings.
9 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	721 PLF	0 PLF	721 PLF	0 PLF	0 PLF	A3
	Self Weight				7 PLF					

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
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

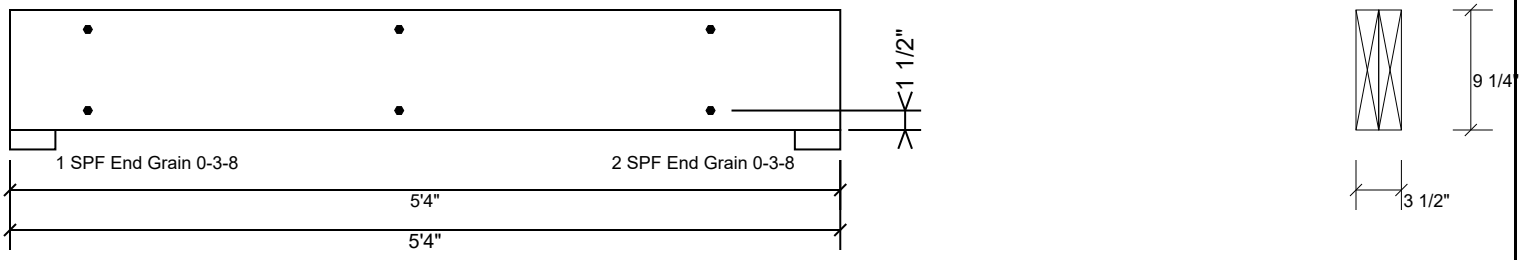
This design is valid until 6/28/2026

Manufacturer Info

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

BM2 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C_M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
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
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

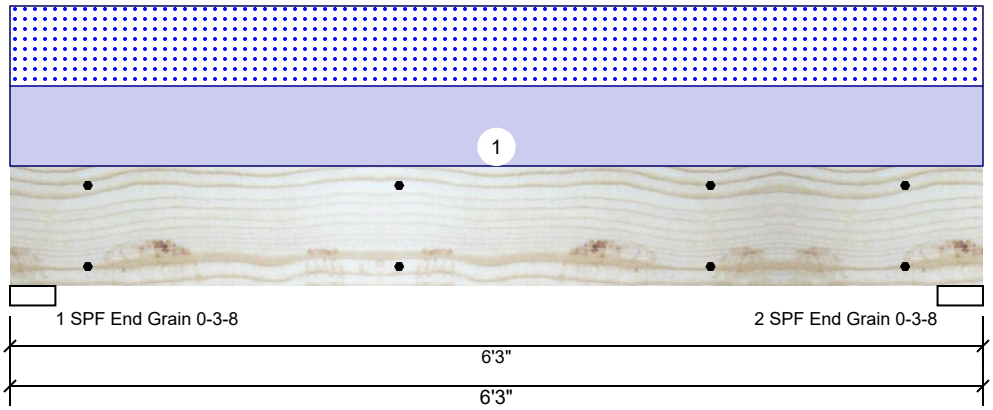
Manufacturer Info

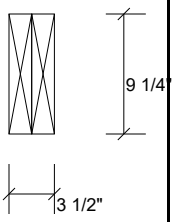
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Client:	Weaver Homes	Date:	6/11/2025
Project:		Input by:	Curtis Quick
Address:		Job Name:	The Lauren H Beams
		Project #:	

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level





Member Information

Type:	Header	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Header Supports Glass:	No
Importance:	Normal - II	Deck:	Not Checked
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	2391	2369	0	0
2	Vertical	0	2391	2369	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	46%	2391 / 2369	4760	L	D+S
2 - SPF End Grain	3.500"	Vert	46%	2391 / 2369	4760	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	6387 ft-lb	3'1 1/2"	14423 ft-lb	0.443 (44%)	D+S	L
Unbraced	6387 ft-lb	3'1 1/2"	10779 ft-lb	0.593 (59%)	D+S	L
Shear	3147 lb	1' 3/4"	7943 lb	0.396 (40%)	D+S	L
LL Defl inch	0.053 (L/1314)	3'1 1/2"	0.193 (L/360)	0.274 (27%)	S	L
TL Defl inch	0.106 (L/654)	3'1 1/2"	0.290 (L/240)	0.367 (37%)	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 SDW22338 at 24" o.c. Maximum end distance not to exceed 12".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Simpson fasteners applied from a single side of the member use tip values where published.
5 Girders are designed to be supported on the bottom edge only.
6 Top loads must be supported equally by all plies.
7 Top must be laterally braced at end bearings.
8 Bottom must be laterally braced at end bearings.
9 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	758 PLF	0 PLF	758 PLF	0 PLF	0 PLF	A2
	Self Weight				7 PLF					

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
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

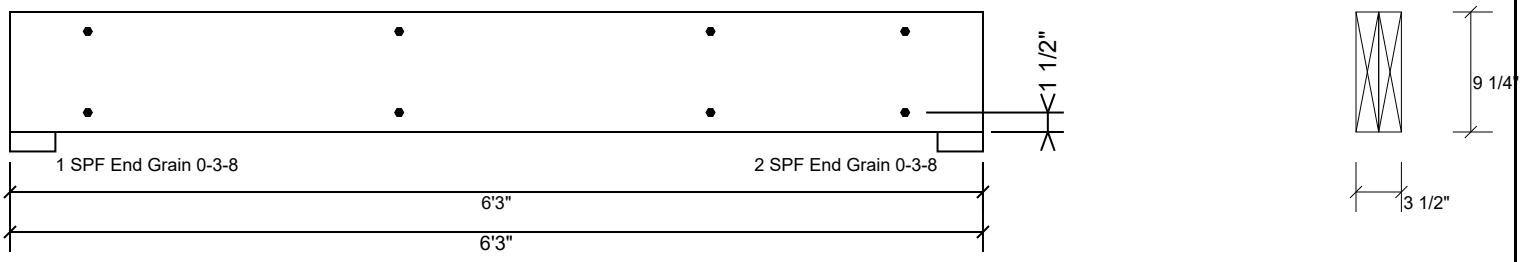
This design is valid until 6/28/2026

Manufacturer Info

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

BM3 Kerto-S LVL 1.750" X 9.250" 2-Ply - PASSED

Level: Level



Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22338 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	255.0 PLF
Yield Limit per Fastener	255.0 lb.
C_M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	
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
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

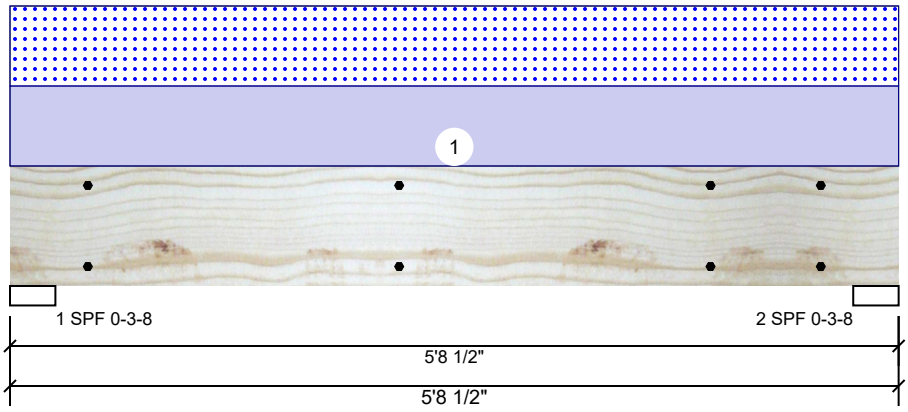
This design is valid until 6/28/2026

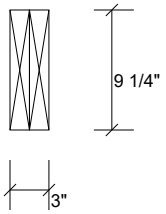
Manufacturer Info

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

BM4 S-P-F #2 2.000" X 10.000" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	756	756	0	0
2	Vertical	0	756	756	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	Vert	34%	756 / 756	1513	L	D+S
2 - SPF	3.500"	Vert	34%	756 / 756	1513	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1826 ft-lb	2'10 1/4"	3946 ft-lb	0.463 (46%)	D+S	L
Unbraced	1826 ft-lb	2'10 1/4"	3629 ft-lb	0.503 (50%)	D+S	L
Shear	1358 lb	1' 3/4"	2872 lb	0.473 (47%)	D+S	L
LL Defl inch	0.016 (L/3853)	2'10 1/4"	0.175 (L/360)	0.093 (9%)	S	L
TL Defl inch	0.033 (L/1926)	2'10 1/4"	0.262 (L/240)	0.125 (12%)	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 SDW22300 at 24" o.c. Maximum end distance not to exceed 12".
3 Refer to last page of calculations for fasteners required for specified loads.
4 Simpson fasteners applied from a single side of the member use tip values where published.
5 Girders are designed to be supported on the bottom edge only.
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.

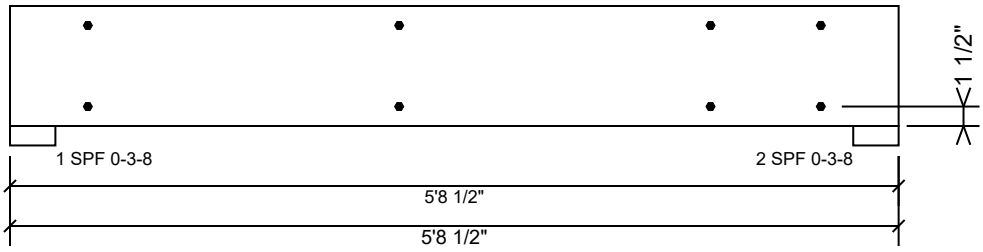
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Far Face	265 PLF	0 PLF	265 PLF	0 PLF	0 PLF	A4

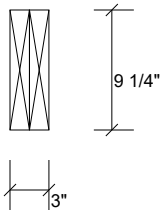
Manufacturer Info

This design is valid until 6/28/2026

BM4 S-P-F #2 2.000" X 10.000" 2-Ply - PASSED

Level: Level





Multi-Ply Analysis

Fasten all plies using 2 rows of SDW22300 at 24" o.c.. Maximum end distance not to exceed 12".

Capacity	90.4 %
Load	265.0 PLF
Yield Limit per Foot	293.3 PLF
Yield Limit per Fastener	293.3 lb.
C_M	1
Yield Mode	Lookup
Edge Distance	1 1/2"
Min. End Distance	6"
Load Combination	D+S
Duration Factor	1.15

Manufacturer Info

This design is valid until 6/28/2026