

Client:

Project: Address:

1691 Main Street Lillington, NC

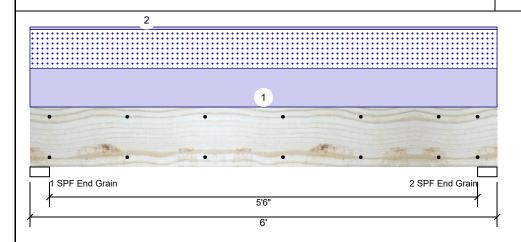
Signature Homes

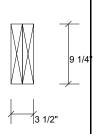
Date: 8/4/2020

Input by: Anthony Williams Hobson Road Job Name: Project #: J0820-3543

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

Level: Level





Page 1 of 6

### Member Information

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

Application: Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

# Reactions UNPATTERNED Ib (Uplift)

Brg	Live	Dead	Snow	Wind	Const	
1	0	1447	1335	0	0	
2	0	1447	1335	0	0	

# Analysis Results

Analysis Actual Location Allowed Capacity Comb. Case 3' 14423 ft-lb Moment 3667 ft-lb 0.254 (25%) D+S L 3667 ft-lb Unbraced 3' 10944 ft-lb 0.335 (34%) D+S L Shear 1893 lb 11 1/2" 7943 lb 0.238 (24%) D+S L LL Defl inch 0.028 (L/2413) 3' 0.141 (L/480) 0.200 (20%) S L TL Defl inch 0.058 (L/1158) 3' 0.188 (L/360) 0.310 (31%) D+S L

### **Bearings**

Bearing Length Cap. React D/L lb Total Ld. Case Ld. Comb. 1-SPF 3.000" 1447 / 1335 2782 L D+S End Grain 2 - SPF 3.000" 1447 / 1335 2782 L D+S End Grain

### **Design Notes**

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

Self Weight

		F-7								
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	445 PLF	0 PLF	445 PLF	0 PLF	0 PLF	B2 TRUSS
2	Uniform			Тор	30 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL

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

7 PLF

Metsä Wood 301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us ICC-ES: ESR-3633

**Manufacturer Info** 

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



This design is valid until 2/26/2023

isDesign

Client:

Project: Address: Signature Homes

1691 Main Street Lillington, NC

Date: 8/4/2020

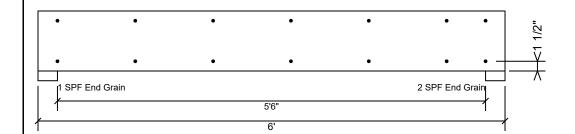
Project #:

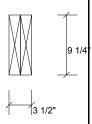
Input by: Anthony Williams Job Name: Hobson Road

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

Level: Level

J0820-3543





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# 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.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

### Notes

NOtes
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- 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
- This design is valid until 2/26/2023

6. For flat roofs provide proper drainage to prevent ponding

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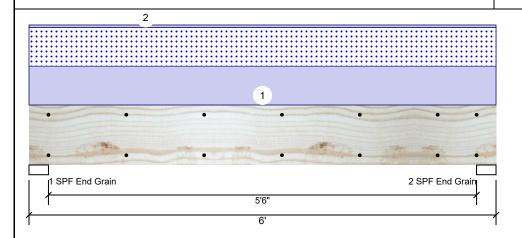
Project:

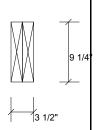
Address: 1691 Main Street Lillington, NC Date: 8/4/2020

Input by: Anthony Williams Job Name: Hobson Road Project #: J0820-3543

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

Level: Level





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### Member Information

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

Application: Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Brg Live Wind Const Dead Snow 0 1594 1482 0 0 1 2 0 1594 1482 0 0

## **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4055 ft-lb	3'	14423 ft-lb	0.281 (28%)	D+S	L
Unbraced	4055 ft-lb	3'	10944 ft-lb	0.370 (37%)	D+S	L
Shear	2093 lb	11 1/2"	7943 lb	0.264 (26%)	D+S	L
LL Defl inch	0.031 (L/2174)	3'	0.141 (L/480)	0.220 (22%)	S	L
TL Defl inch	0.064 (L/1047)	3'	0.188 (L/360)	0.340 (34%)	D+S	L

### **Bearings**

Bearing Leng	gth Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 3.000 End Grain	0" 34%	1594 / 1482	3076	L	D+S
2 - SPF 3.000 End Grain	)" 34%	1594 / 1482	3076	L	D+S

### **Design Notes**

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

		3 1 7								
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	494 PLF	0 PLF	494 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					

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- 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

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  Provide lateral support at bearing points to avoid
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6. For flat roofs provide proper drainage to prevent ponding

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Project: Address: Signature Homes

1691 Main Street Lillington, NC

Date: 8/4/2020 Input by: Anthony Williams

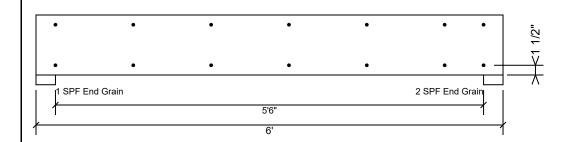
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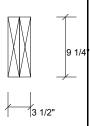
**Kerto-S LVL** HDR-3

1.750" X 9.250"

2-Ply - PASSED

Level: Level





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## 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"

1 3	` ,
Capacity	0.0 %
Load	0.0 PLF
Yield Limit per Foot	163.7 PLF
Yield Limit per Fastener	81.9 lb.
Yield Mode	IV
Edge Distance	1 1/2"
Min. End Distance	3"
Load Combination	
Duration Factor	1.00

### Notes

NOtes
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- 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

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  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

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Client:

Signature Homes

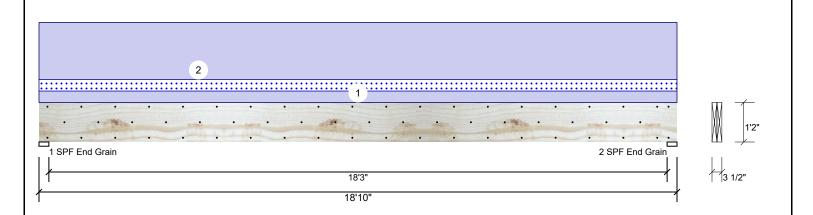
Project:

Address: 1691 Main Street Lillington, NC 8/4/2020

Input by: Anthony Williams Job Name: Hobson Road Project #: J0820-3543

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

Level: Level



Member Information								
Туре:	Girder							
Plies:	2							
Moisture Condition:	Dry							
Deflection LL:	480							
Deflection TL:	360							
Importance:	Normal							
Temperature:	Temp <= 100°F							

Application: Floor Design Method: ASD **Building Code: IBC/IRC 2015** Load Sharing: No Deck: Not Checked

Reactions UNPATTERNED Ib (Uplift) Wind Brg Live Dead Snow Const 0 2363 0 377 0 1 2 0 2363 377 0 0

Cap. React D/L lb

26%

2363 / 377

2363 / 377

Total Ld. Case

2739 L

2739 L

Ld. Comb.

D+S

# 1-SPF 3.500" End Grain 2 - SPF 3.500" End Grain

Bearings Bearing Length

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10589 ft-lb	9'5"	24299 ft-lb	0.436 (44%)	D	Uniform
Unbraced	12277 ft-lb	9'5"	12280 ft-lb	1.000 (100%)	D+S	L
Shear	2012 lb	17'5 1/4"	9408 lb	0.214 (21%)	D	Uniform
LL Defl inch	0.068 (L/3239)	9'5 1/16"	0.459 (L/480)	0.150 (15%)	S	L
TL Defl inch	0.495 (L/445)	9'5 1/16"	0.612 (L/360)	0.810 (81%)	D+S	L

### **Design Notes**

- 1 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6".
- 2 Refer to last page of calculations for fasteners required for specified loads.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top loads must be supported equally by all plies.
- 5 Top must be laterally braced at a maximum of 8'6" o.c.
- 6 Bottom braced at bearings.
- 7 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	40 PLF	0 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 PLF					

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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
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- 6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 2/26/2023

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**Manufacturer Info** 

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isDesign

Client:

Project: Address: Signature Homes

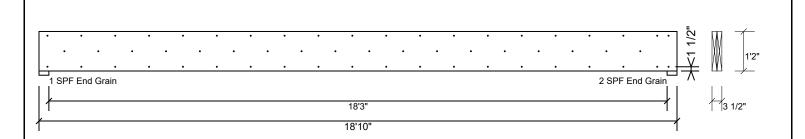
1691 Main Street Lillington, NC

Date: 8/4/2020

Input by: Anthony Williams Job Name: Hobson Road Project #: J0820-3543

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**GDH Kerto-S LVL** 1.750" X 14.000" 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	0.0 %
Load	0.0 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	
Duration Factor	1.00

### Notes

NOtes
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# Handling & Installation

- Handling & Installation

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 For flat roofs provide proper drainage to prevent ponding Manufacturer Info

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