

	Client:	Joe/Kim Daigle		Date:	8/20/2024	Page 2 of 14
	Project:			Input by:	Anthony Williams	
isDesign	Address:			Job Name:	Daigle Residence	
				Project #:	B0524-3238	
FB1 Kerto-S LVL	1.750'	' X 24.000"	2-Ply -		evel: Level	
					1	
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					<ul> <li></li></ul>	2'
1 SPF End Grain 0-3-8					2 SPF End Grain 0-3-8	
1		2	9'			3 1/2"
/		2	9'			

## Multi-Ply Analysis

Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c.. except for regions covered by concentrated load fastening. Maximum end distance not to exceed 6".

Capacity	92.9 %	
Load	228.0 PLF	
Yield Limit per Foot	245.6 PLF	
Yield Limit per Fastener	81.9 lb.	
См	1	
Yield Mode	IV	
Edge Distance	1 1/2"	
Min. End Distance	3"	
Load Combination	D+L	
Duration Factor	1.00	

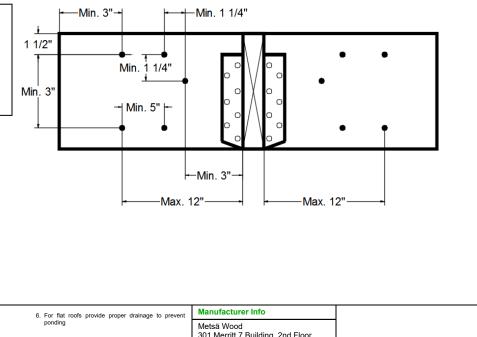
## Concentrated Load

Fasten at concentrated side load at 23-8-4 with a minimum of (6) – 10d Box nails (.128x3") in the

pattern shown.

Capacity	93.1 %	
Load	457.3lb.	
Total Yield Limit	491.0 lb.	
Cg	0.9998	
Cg Cm	1	
Yield Limit per Fastener	81.9 lb.	
Yield Mode	IV	
Load Combination	D+L	
Duration Factor	1.00	

## Min/Max fastener distances for Concentrated Side Loads

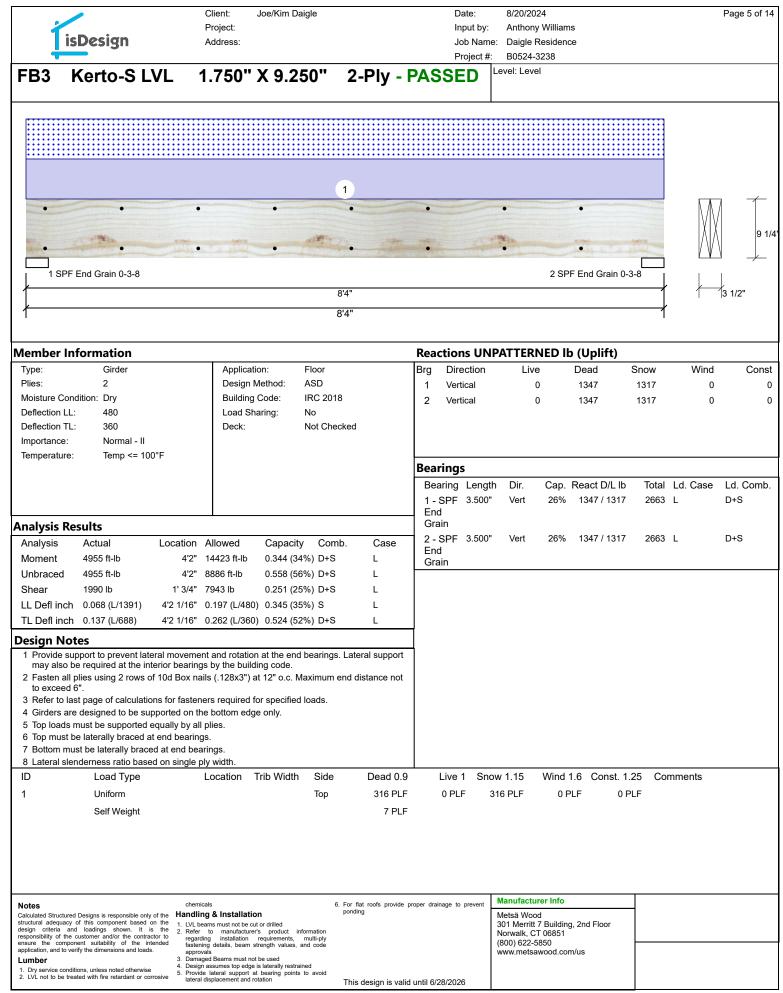


Notes	chemicals	6. For flat roofs provide proper drainage to prevent	Manufacturer Info	
Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads. <b>Lumber</b> 1. Dry service conditions, unless noted otherwise 2. LVL not to be treated with fire retardant or corrosive	1. LVL beams must not be cut or drilled     2. Refer to manufacturer's product information     regarding installation requirements, multi-phy fastering 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 sunport at bearing notifie to avoid	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	

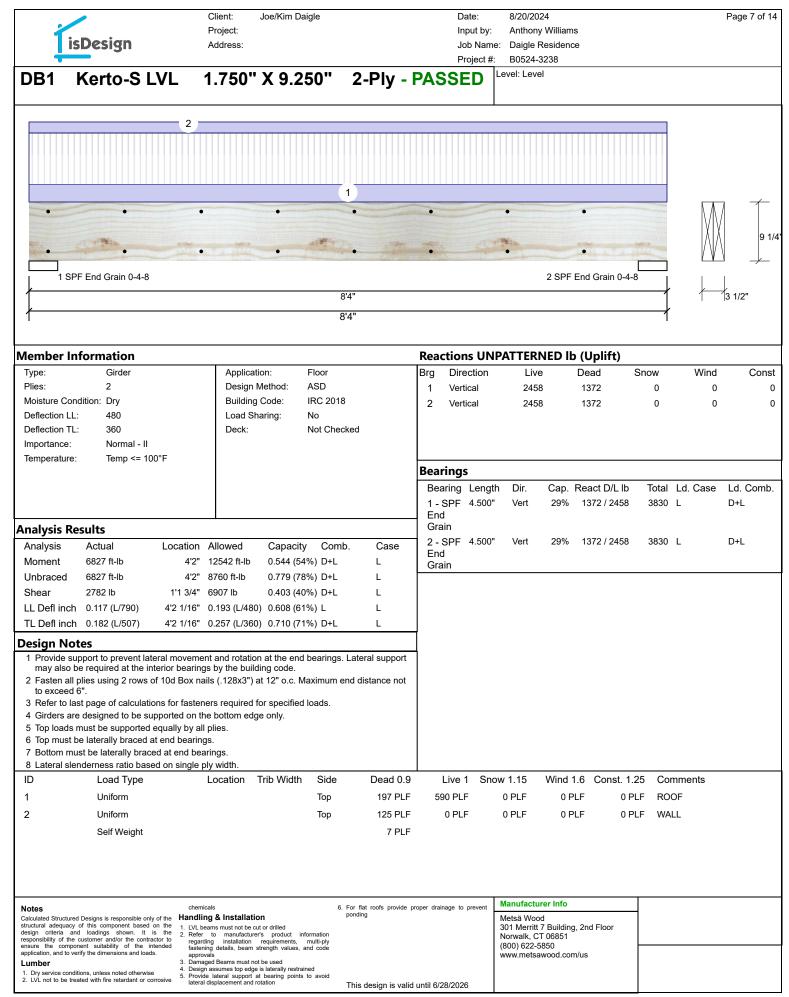
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	Design	А	ddress:				Job Na Projec		aigle Resider )524-3238	ice			
FB2 k	Kerto-S L	VL 1.	.750" X	( 24.00	0" 2	2-Ply -	PASSE	C Level	: Level				
				1									
1 SPF End	Grain 0-3-8				#19 79 -	17	2 SPF End G	Grain 0-3	· 				2'
ļ				401401									
ļ				16'10"								3 1/2"	
1				16'10"					1				
Member Inf	formation						Reactions U	NPAT	TERNED	b (Uplift)			
Туре:	Girder		Application				Brg Direction	n	Live	Dead	Snow	Wind	Con
Plies:	2		Design Me				1 Vertical		337	578	0	0	
Moisture Cond			Building Co		C 2018		2 Vertical		337	578	0	0	
Deflection LL: Deflection TL:	480 360		Load Shar Deck:	0	t Checked								
Importance:	Normal - II		Deck.	NO	Checked								
Temperature:	Temp <= 100	Ŋ°F											
lemperature.	Temp <= Too	01					Bearings						
							Bearing Ler	nath D	ir. Cap	React D/L lb	Total Ld. (	Case Lo	d. Coml
							1 - SPF 3.50	-	ert 9%		915 L		4. Com +L
							End	v	511 9%	510/33/	313 L	0	· L
Analysis Re	sults						Grain						
Analysis	Actual	Location A	llowed	Capacity	Comb.	Case	2 - SPF 3.50	00" V	ert 9%	578 / 337	915 L	D	+L
Moment	3652 ft-lb			0.050 (5%)		L	End Grain						
Unbraced	3652 ft-lb	8'5" 1 <sup>°</sup>		0.319 (32%)		L	Giain						
Shear	703 lb	14'6 1/2" 1	7920 lb	0.039 (4%)	D+L	L							
LL Defl inch	0.010	8'5 1/16" 0	.410 (L/480)			L							
	(L/19856)		· · · ·	( )									
TL Defl inch	0.027 (L/7309)	8'5 1/16" 0	.547 (L/360)	0.049 (5%)	D+L	L	J						
Design Not	es												
may also be	port to prevent late required at the int lies using 3 rows o	terior bearings	by the building	g code.	Ū								
3 Refer to las 4 Girders are 5 Top loads m 6 Top must be	t page of calculatio designed to be sup nust be supported e a laterally braced a	pported on the equally by all pl t end bearings.	bottom edge lies.	•	ds.								
	t be laterally brace		-										
8 Lateral sien	derness ratio base Load Type			b Width	Side	Dead 0.9	Live 1 S	Snow 1.	15 Wind	1.6 Const. 1.	25 Commer	nts	
1D	Uniform	L			Біце Тор	50 PLF	40 PLF	0 PI			25 Commer PLF FLOOR/R		
1					10H		+U F L F	UPI	_, 0		LI FLOUR/R		
structural adequacy of design criteria and responsibility of the c ensure the compone	Designs is responsible only of this component based of loadings shown. It is ustomer and/or the contra- ent suitability of the init fy the dimensions and loads	on the s the ctor to regarding fastening	& Installation ns must not be cut or o manufacturer's installation red details, beam strer	product informa quirements, mult	ponding ition i-ply		oper drainage to prever	Mets: 301 M Norw (800)	Ifacturer Info a Wood Aerritt 7 Buildii alk, CT 06851 622-5850 metsawood.cc	-	-		
Lumber 1. Dry service condition	ons, unless noted otherwise ted with fire retardant or cor	3. Damaged 4. Design as 5. Provide I	s d Beams must not be ssumes top edge is la lateral support at b splacement and rotat	aterally restrained earing points to a		1		www.	meteawoou.co	/11//US			
		aterai dis	-piavoineni anu iulal		This o	tesign is valid	until 6/28/2026						

	Client: Joe/Kim D Project:	aigle	Date: 8/20/2024 Input by: Anthony Williams	Page 4 of
isDesign	Address:		Job Name: Daigle Residence Project #: B0524-3238	
B2 Kerto-S	LVL 1.750" X 24.	000" 2-Ply - PA		
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			· · · · · · · · · · · · · · · · · · ·	2'
1 SPF End Grain 0-3-8	· · · · ·	· · · · · · 25		
·	16'10"			3 1/2"
/	16'10"			
Iulti-Ply Analysis				
asten all plies using 3 apacity	rows of 10d Box nails (.128x3")	at 12" o.c Maximum end d	istance not to exceed 6".	
ad	0.0 PLF			
eld Limit per Foot eld Limit per Fastener	245.6 PLF 81.9 lb.			
١	1			
ld Mode ge Distance	IV 1 1/2"			
. End Distance	3"			
ad Combination ration Factor	1.00			
otes	chemicals	<ol> <li>For flat roofs provide proper drain ponding</li> </ol>		
Calculated Structured Designs is responsible structural adequacy of this component ba design criteria and loadings shown.	e only of the Handling & Installation ased on the 1. LVL beams must not be cut or drilled It is the 2. Refer to manufacturer's product in		Metsä Wood 301 Merritt 7 Building, 2nd Floo Norwalk, CT 06851	r

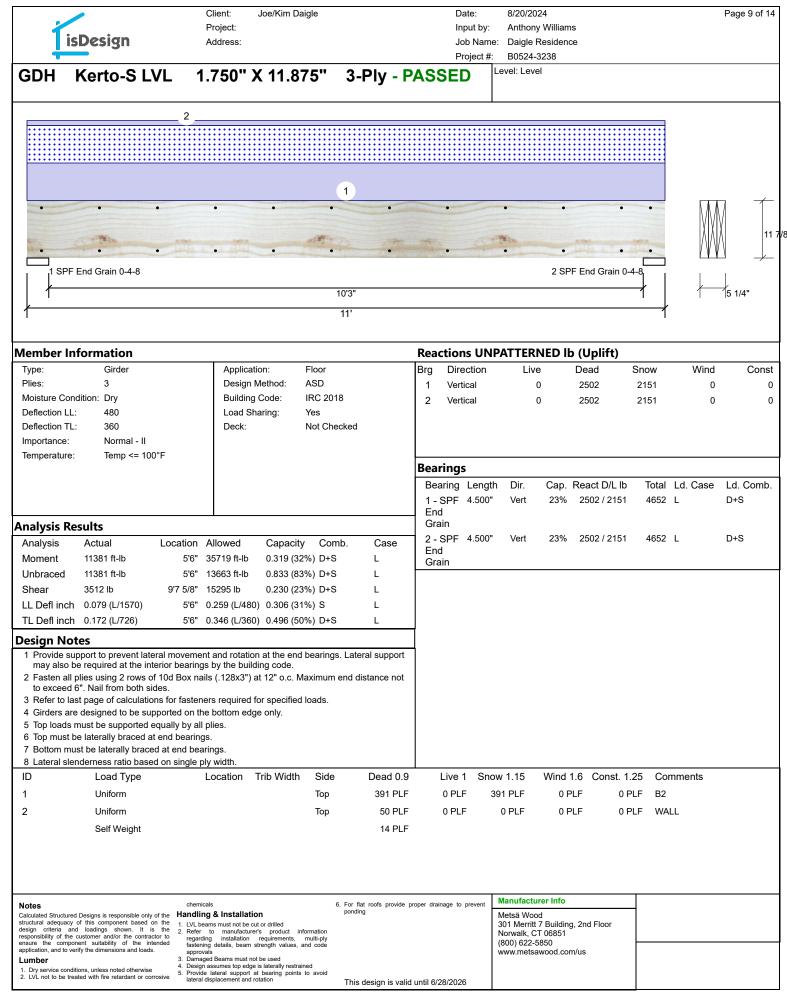
design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.	<ol> <li>Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals</li> </ol>	Norwalk, CT 06851 (800) 622-5850 www.metsawood.com/us
Lumber 1. Dry service conditions, unless noted otherwise	Damaged Beams must not be used     Design assumes top edge is laterally restrained	
<ol> <li>Dry service conditions, unless noted otherwise</li> <li>LVL not to be treated with fire retardant or corrosive</li> </ol>	5. Provide lateral support at bearing points to avoid lateral displacement and rotation This design is valid until 6/28/2026	



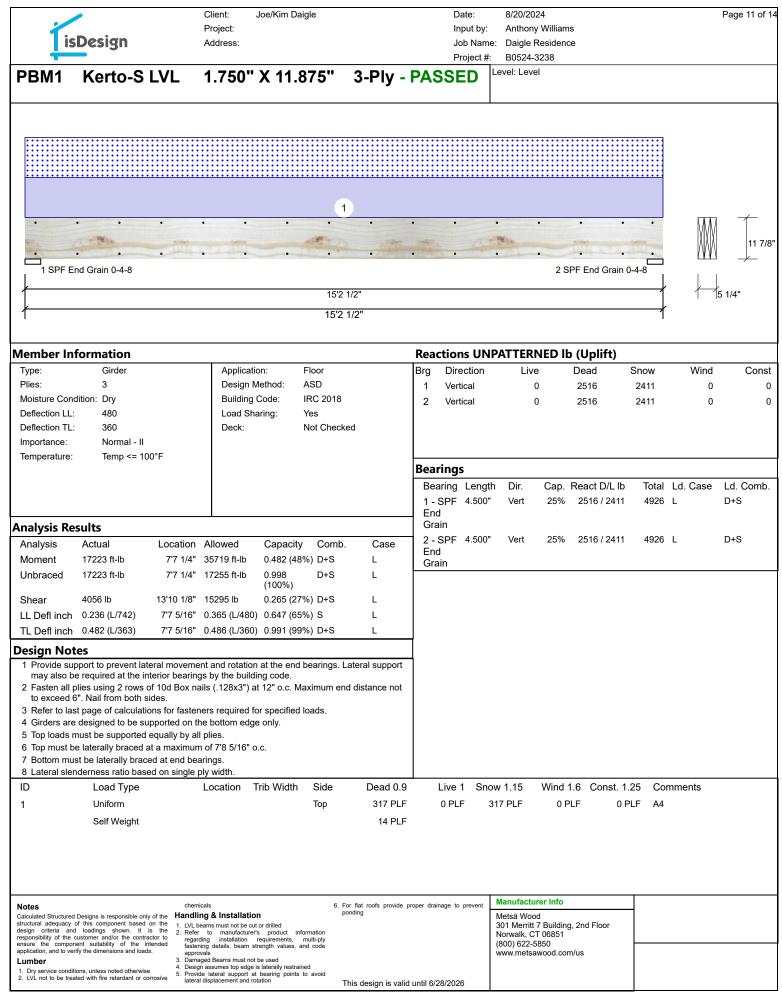
		Client:	Joe/Kim Daigle		Date:	8/20/2024	Page 6 of 14
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isC	Design	Address:			Job Nam		
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FB3 K	erto-S LVI	_ 1.750	' X 9.250"	2-Piy -	PASSED		
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1 SPF Er	nd Grain 0-3-8					2 SPF End Grain 0-3	3-8
<u>/</u>				8'4"			3 1/2"
<u>,</u>							
1				8'4"			.]
Multi-Ply An	alveis						
			(				
			(.128x3") at 12"	o.c Maximur	m end distance n	ot to exceed 6".	
Capacity		.0 %					
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field Limit per Fas		1.9 lb.					
Cm	1						
/ield Mode	١v						
dge Distance		1/2"					
/lin. End Distance .oad Combination							
Load Complication		.00					
		.00					
Notes		chemicals		6. For flat roofs provide	e proper drainage to prevent	Manufacturer Info	
Calculated Structured De	signs is responsible only of the	Handling & Installa		ponding		Metsä Wood	1
design criteria and	this component based on the loadings shown. It is the	2 Defer to menufactu	rer's product information			301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851	
responsibility of the cus ensure the component	tomer and/or the contractor to suitability of the intended	regarding installation fastening details, beam	requirements, multi-ply strength values, and code			(800) 622-5850	
application, and to verify Lumber	the dimensions and loads.	approvals 3. Damaged Beams must	not be used			www.metsawood.com/us	
1. Dry service conditions	s, unless noted otherwise	<ol> <li>Design assumes top ed</li> </ol>	ge is laterally restrained at bearing points to avoid				
2. LVL not to be treated	with fire retardant or corrosive	lateral displacement and	d rotation	This design is ve	alid until 6/28/2026		1



isDesign	Client: Joe/Kim Daigle Project:	Date: Input by	-	Page 8 of 14
	Address:	Job Nar Project	#: B0524-3238	
DB1 Kerto-S LVL	1.750" X 9.250"	2-Ply - PASSED	Level: Level	
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•	• •	• •	• •	9 1/
1 SPF End Grain 0-4-8			2 SPF End Grain 0-4-8	
		8'4"		3 1/2"
		8'4"		Ţ
Multi-Ply Analysis				
Fasten all plies using 2 rows of 10 Capacity 0.0 %		o.c Maximum end distance r	not to exceed 6".	
Load 0.0 PL Yield Limit per Foot 163.7	PLF			
Yield Limit per Fastener 81.9 lt Cm 1	b.			
Yield Mode IV Edge Distance 1 1/2"	,			
Min. End Distance 3"				
Load Combination Duration Factor 1.00				
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1. Dry service conditions, unless noted otherwise 4.	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		

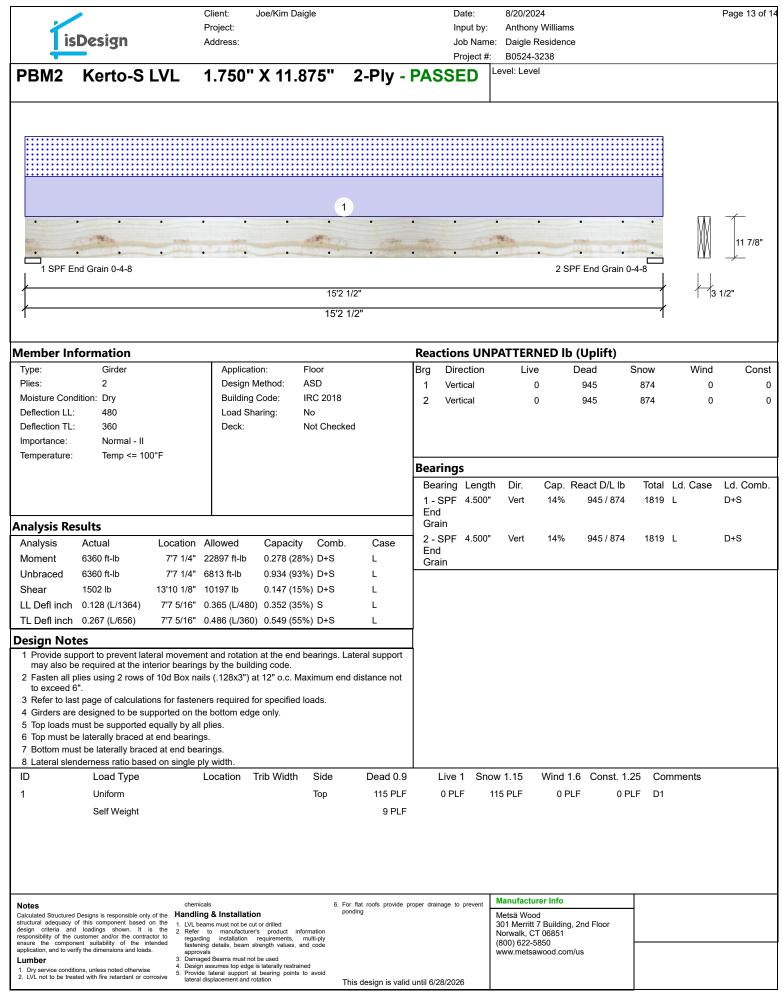


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	Design		ject:			Input by		
IS	Design	Ado	dress:			Job Nar Project		
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/					11'			
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NA 1-1 51 -								
Multi-Ply A								
	ies using 2 rov	ws of 10d Box	nails (.12	28x3") at 12	" o.c Nail fro	om both sides. Ma	ximum end distance not to	exceed
6".								
Capacity		0.0 %						
Load Yield Limit per F	oot	0.0 PLF 163.7 PLF						
Yield Limit per F		81.9 lb.						
См		1						
Yield Mode Edge Distance		IV 1 1/2"						
Min. End Distance	се	3"						
Load Combination								
Duration Factor		1.00						
							Manufactures Info	
Notes Calculated Structured	Designs is responsible only	chemicals	Installation		<ol><li>For flat roofs pro ponding</li></ol>	vide proper drainage to prevent	Manufacturer Info Metsä Wood	-
structural adequacy of	of this component based l loadings shown. It	on the 1. LVL beams	must not be cut or				301 Merritt 7 Building, 2nd Floor	
responsibility of the o ensure the compon	customer and/or the contra ient suitability of the in	actor to regarding ntended fastening de	installation req	product information uirements, multi-ply igth values, and code	/		Norwalk, CT 06851 (800) 622-5850	<u> </u>
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1. Dry service conditi	ions, unless noted otherwise ited with fire retardant or co	e 4. Design assu 5. Provide late	mes top edge is la ral support at be	aterally restrained earing points to avoid	ł			
<ol> <li>LVL HUL (0 DE třeá</li> </ol>	with the relardant of co	lateral displa	cement and rotati	on		valid until 6/28/2026		



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			Client: Project:	Joe/Kim Daigle		Date:				Page 12 of 1
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Fasten all p	plies using 2 ro	ws of Tud	Box nails	(.128x3 ) at 12	o.c Nall from	i both sides. Ivi	iaximum e	nd distance not to	exceed	
6".										
Capacity		0.0 %								
Load		0.0 PLF								
Yield Limit per		163.7 PLI	F							
Yield Limit per	r Fastener	81.9 lb.								
См		1								
Yield Mode		IV								
Edge Distance		1 1/2"								
Min. End Dista		3"								
Load Combina										
Duration Factor	or	1.00								
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Notes		chem			6. For flat roofs provide	proper drainage to preve			_	
Calculated Structure	red Designs is responsible on cy of this component based				ponding		Metsä Wo		1	
design criteria	and loadings shown. It	is the 2. Refer	eams must not be to manufactu	rer's product information			301 Merrit Norwalk, 0	t 7 Building, 2nd Floor CT 06851	1	
responsibility of the ensure the com	he customer and/or the contr ponent suitability of the i	actor to regar	ding installation	requirements, multi-ply strength values, and code			(800) 622-			
application, and to	verify the dimensions and load	ds. appro	ovals					awood.com/us	1	
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Version 23.40.705 Powered by iStruct™ Dataset: 24041701.1529

Į is	Design		Client: Project: Address:	Joe/Kim Daigle		Date: Input by: Job Narr Project #	ne: Daigle Residence	Page 14 of
PBM2	Kerto-S	LVL	1.750"	X 11.875	" 2-Ply	- PASSED	Level: Level	
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1 SPF E	• • End Grain 0-4-8	•	•••	•	• •	•••	2 SPF End Grain	
/ /					15'2 1/2" 5'2 1/2"			3 1/2"
/ulti-Ply /	-							
asten all p apacity bad	lies using 2 rov	vs of 10c 0.0 % 0.0 PLF		128x3") at 12"	o.c Maximur	n end distance n	ot to exceed 6".	
eld Limit per I eld Limit per I		163.7 P 81.9 lb.						
w eld Mode		1 IV						
dge Distance in. End Distar	200	1 1/2" 3"						
oad Combinat	ion							
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structural adequacy design criteria an	of this component based d loadings shown. It	on the 1. LVI is the 2 Re	beams must not be cu				301 Merritt 7 Building, 2nd Floor Norwalk, CT 06851	
ensure the compo	customer and/or the contra onent suitability of the ir erify the dimensions and load	actor to reg ntended fas	arding installation	requirements, multi-ply trength values, and code			(800) 622-5850 www.metsawood.com/us	
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This design is valid until 6/28/2026