	e Cascade®				-		ERSA-LA	-		-			P/	SSED
BC CAL	.C® Member F	Report	ĸ		Droppe		BM2(i21) (ns No cant.		и веат)		Apri	l 26, 202 [,]	1 15:10:40
Build 79		•				51	·					·		
Job nam							File name		00485A					
Address							Descriptio		oof\Drop	ped Be	ams\BM2	2(i21)		
City, Sta Custome							Specifier: Designer							
Code rep		ESR-1040					Company							
							Company							
	1/	2/	3/	4/		5	6	7	8		9/	10	11	
¥ ,	↓ 	· ↓ ↓	↓ ↓ ↓	¥	↓ ↓	¥ + ,	, 0 ↓ ↓	↓ ↓ ↓	, <u> </u>	↓ ↓	¥ ↓	↓ ↓	↓ ↓	↓ ↓
/	C	7-08-08		/		0	8-00-00		/			07-08-08		
B1				B2	Total H	orizontal Pr	oduct Length	= 23-05-0	B3					B4
Reacti	ion Summa	arv (Dow	n / Uplift) (lbs			g		•					
Bearing		Live		Dea		5	Snow	V	Vind			of Live		
B1, 2"					3/0				51 / 117			/ 17		
B2, 5-1/2					9/0				68 / 411		405			
B3, 5-1/2	2"				9/0				68 / 411		405			
B4, 2"				14,	3/0			5	51 / 117		131	/ 17		
									Live	Dead	Snow	Wind	Roof	Tributary
Load	Summary								LIVE	Deau	3110	wind	Live	mbutary
	scription		Load Type		Ref.		End	Loc.	100%	90%	115%	160%	125%	
	If-Weight		Unf. Lin. (,	L	00-00-00		Тор		14			00	00-00-00
	(c1)		Conc. Pt. Conc. Pt.		L	01-08-08		Top		85 77			96 01	n∖a n∖a
	(c1)		Conc. Pt. Conc. Pt.		L	03-08-08 05-08-08		Тор Тор		77 79			91 89	n∖a n∖a
	E(c1) E(c1)		Conc. Pt.		L	07-08-08		Тор Тор		79 79			88	n\a
	(c1) E(c1)		Conc. Pt.		L	09-08-08		Тор		79 79			87	n\a
	E(c1)		Conc. Pt.		L	11-08-08		Тор		73			75	n\a
	E(c1)		Conc. Pt.	· /	L	13-08-08		Тор		79			87	n\a
	E(c1)		Conc. Pt.	· /	L	15-08-08		Тор		79			88	n\a
	E(c1)		Conc. Pt.	• •		17-08-08				79			89	n\a
·	E(c1)		Conc. Pt.	· /	L	19-08-08				77			91	n\a
	E(c1)		Conc. Pt.		L		21-08-08			85			96	n\a
				(_									
	ols Summa				% Allow		Duration	Case	Loca					
Pos. Mo			ft-lbs		6.9%		125%	2	03-0					
Neg. Mo	oment	-557	′ ft-lbs		6.2%		125%	1	07-0					
					2.2%		125%	2	01-04					
End She		255												
Cont. Sh	near	355	lbs		3.0%		125%	4	06-0					
Cont. Sh Total Loa	near ad Deflection	355 L/99	lbs 99 (0.003")		3.0% n∖a		n∖a	4 2	03-0	7-00				
Cont. Sh Total Loa Live Loa	near ad Deflection ad Deflection	355 L/99 L/99	lbs 99 (0.003") 99 (0.002")		3.0% n∖a n∖a		n\a n\a	4 2 259	03-0 03-0	7-00 8-08				
Cont. Sh Total Loa Live Loa Total Ne	near ad Deflection ad Deflection eg. Defl.	355 L/99 L/99 L/99	lbs 99 (0.003") 99 (0.002") 99 (-0.001")		3.0% n\a n\a n\a		n\a n\a n\a	4 2 259 2	03-0 03-0 11-0	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne Max Def	near ad Deflection ad Deflection eg. Defl. fl.	355 L/99 L/99 L/99 0.00	lbs 99 (0.003") 99 (0.002") 99 (-0.001")		3.0% n∖a n∖a		n\a n\a	4 2 259	03-0 03-0	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne	near ad Deflection ad Deflection eg. Defl. fl.	355 L/99 L/99 L/99	lbs 99 (0.003") 99 (0.002") 99 (-0.001")		3.0% n\a n\a n\a		n\a n\a n\a	4 2 259 2	03-0 03-0 11-0	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne Max Def Span / D	near ad Deflection ad Deflection eg. Defl. fl. Depth	355 L/99 L/99 L/99 0.00 6.9	lbs 99 (0.003") 99 (0.002") 99 (-0.001")		3.0% n\a n\a n\a		n\a n\a n\a	4 2 259 2	03-0 03-0 11-0	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne Max Def Span / D	near ad Deflection ad Deflection eg. Defl. fl. Depth ng Support	355 L/99 L/99 L/99 0.00 6.9 S Dim. (Lx	lbs 99 (0.003") 99 (0.002") 99 (-0.001") 93"	Valu	3.0% n\a n\a n\a n\a	% Allow Support	n\a n\a n\a % Allow Member	4 259 2 2 Materi	03-0 03-0 11-0 03-0	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne Max Def Span / D Bearin B1	near ad Deflection ad Deflection eg. Defl. fl. Depth Depth Column	355 L/99 L/99 0.00 6.9 <u>S Dim. (Lx</u> 2" x 3-1	lbs 99 (0.003") 99 (0.002") 99 (-0.001") 93" (W) /2"	Valu 274	3.0% n\a n\a n\a n\a e Ibs	% Allow Support 5.4%	n\a n\a n\a Member 5.2%	4 259 2 2 <u>Materi</u> Unspe	03-0 03-0 11-0 03-0 03-0	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne Max Def Span / D Bearin B1 B2	near ad Deflection ad Deflection eg. Defl. fl. Depth Depth Column Column	355 L/99 L/99 0.00 6.9 S Dim. (Lx 2" x 3-1 5-1/2" x	lbs 99 (0.003") 99 (0.002") 99 (-0.001") 93 (-0.001") 93 (-0.001") 93 (-0.001") 93 (-0.001") 93 (-0.001") 93 (-0.001") 93 (-0.001") 94 (-0.002") 95 (-0.002") 95 (-0.002") 95 (-0.002") 97 (-0.002") 99 (-0.002") 90	Valu 274 864	3.0% n\a n\a n\a n\a e Ibs	% Allow Support 5.4% 6.2%	n\a n\a n\a % Allow <u>Member</u> 5.2% 6.0%	4 259 2 2 Materi Unspe	03-0 03-0 11-0 03-0 al ecified ecified	7-00 8-08 8-08				
Cont. Sh Total Loa Live Loa Total Ne Max Def Span / D Bearin B1	near ad Deflection ad Deflection eg. Defl. fl. Depth Depth Column	355 L/99 L/99 0.00 6.9 <u>S Dim. (Lx</u> 2" x 3-1	lbs 99 (0.003") 99 (0.002") 99 (-0.001") 03" (W) /2" : 3-1/2" : 3-1/2"	Valu 274	3.0% n\a n\a n\a n\a bs lbs lbs	% Allow Support 5.4%	n\a n\a n\a Member 5.2%	4 259 2 2 <u>Materi</u> Unspe	03-0 03-0 11-0 03-0 al ecified ecified ecified	7-00 8-08 8-08				



Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP Roof\Dropped Beams\BM2(i21) (Dropped Beam)

Dry | 3 spans | No cant.



April 26, 2021 15:10:40

BC CALC [®] Member	Report
Build 7968	
Job name:	
Address:	
City, State, Zip:	
Customer:	
Code reports:	ESR-1040

File name: 2100485A.mmdl Description: Roof\Dropped Beams\BM2(i21) Specifier: Designer: Company:

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets arbitrary (1") Maximum Total load deflection criteria.

Design meets arbitrary (0.75") Maximum live load deflection criteria.

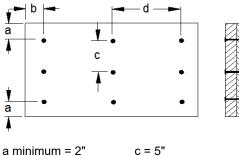
BC CALC® analysis is based on IBC 2012.

Wind loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Calculations assume unbraced length of Top: 23-05-00, Bottom: 23-05-00.

Connection Diagram: Full Length of Member



b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade ENGINEERED WOOD PRODUCTS BC CALC® Member Re Build 7968	Ro	-	d Beams\	VERSA-I GDH(i12) (n No cant.	_				April		ASSED 1 15:10:40
ob name: \ddress: City, State, Zip: Customer:				File name Descriptio Specifier: Designer:	on: Ro	00485A oof\Drop		ams\GDH	l(i12)		
	SR-1040			Company							
· ·											
$\overline{1}$	2/ 3/	4	5/	6	∇	8	7	9/	70	11	
	· + + + + +	↓ ↓ ↓	÷ + +	, 0 J J	ĻĻ,	, ,	↓ ↓	¥ ¥	↓ ↓	↓ ↓	↓ ↓
/			23	3-05-00							ł
B1		Total U		oduct Length	- 22 05 0	0					B2
Poaction Summar	y (Down / Uplift) (Junci Lengin	- 23-05-0						
Bearing	Live	Dead	s	now	۱ ۱	Vind		Roo	f Live		
31, 43"		571/0		-		83 / 454	ŀ	476			
32, 43"		571/0			1	83 / 454	ŀ	476	/ 0		
_oad Summary						Live	Dead	Snow	Wind	Roof	Tributar
ag Description	Load Type	Ref.	Start	End	Loc.	100%	90%	115%	160%	Live 125%	
Self-Weight	Unf. Lin. (lb/		00-00-00		Тор	10070	12	11070	10070	12070	00-00-0
CE(c1)	Conc. Pt. (lk	,	01-08-08		Тор		83			94	n\
2 CE(c1)	Conc. Pt. (Ik		03-08-08		Тор		78			90	n\
6 CE(c1)	Conc. Pt. (Ik	,	05-08-08		Тор		79			88	n\
CE(c1)	Conc. Pt. (Ik		07-08-08		Тор		79			87	n\
5 CE(c1)	Conc. Pt. (Ik		09-08-08		Тор		78			86	n\
6 CE(c1)	Conc. Pt. (It		11-08-08		Тор		67			62	n\
CE(c1)	Conc. Pt. (It		13-08-08		Тор		78			86	n\
3 CE(c1)	Conc. Pt. (It		15-08-08	15-08-08	Тор		79			87	n\
) CE(c1)	Conc. Pt. (It	s) L	17-08-08	17-08-08	Тор		79			88	n۱
10 CE(c1)	Conc. Pt. (Ib	s) L	19-08-08	19-08-08	Тор		78			90	n\
1 CE(c1)	Conc. Pt. (It	os) L	21-08-08	21-08-08	Тор		83			94	n\
Controls Summar Pos. Moment	Y Value 3007 ft-lbs	<u>% Allow</u> 49.9%		Duration	Case						
End Shear				125%	1	11-0					
Fotal Load Deflection	647 lbs L/1325 (0.148")	6.6% 18.1%		125% n∖a	1 1	04-00 11-08					
ive Load Deflection	L/999 (0.066")	n∖a		n\a	110	11-0					
live Load Denection	0.148"	14.8%		n\a	1	11-08					
Span / Depth	16.5	14.070	I	Na	1	11-00	0-00				
Conc. Load (B1)	177 lbs	1.9%		100%							
Conc. Load (B2)	177 lbs	1.9%		100%							
			% Allow	% Allow							
Bearing Supports		alue	Support	Member	Materi	al					
B1 Wall/Plate		047 lbs	1.6%	0.9%	-	e-Pine-F					
32 Wall/Plate	43" x 3-1/2" 1	047 lbs	1.6%	0.9%	Spruc	e-Pine-F	ir				



BC CALC® Member Report

Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP Roof\Dropped Beams\GDH(i12) (Dropped Beam)

Dry | 1 span | No cant.

PASSED

April 26, 2021 15:10:40

			- ,
Build 7968			
Job name:		File name: 2100485A.mmdl	
Address:		Description: Roof\Dropped Be	ams\GDH(i12)
City, State, Zip:		Specifier:	
Customer:		Designer:	
Code reports:	ESR-1040	Company:	

Notes

Design meets Code minimum (L/240) Total load deflection criteria.

Design meets Code minimum (L/360) Live load deflection criteria.

Design meets arbitrary (1") Maximum Total load deflection criteria.

Design meets arbitrary (0.75") Maximum live load deflection criteria.

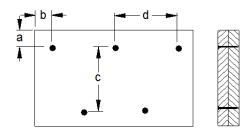
BC CALC® analysis is based on IBC 2012.

Wind loads determined from building geometry were used in selected product's verification.

Design based on Dry Service Condition.

Calculations assume unbraced length of Top: 23-05-00, Bottom: 23-05-00.

Connection Diagram: Full Length of Member



a minimum = 2" c = 7-7/8" b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

Boise Cascade* ENGINEERED WOOD PRODUCTS		Doul
BC CALC® Member	Report	

Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP Roof\Flush Beams\BM1(i20) (Flush Beam)

Dry | 2 spans | No cant.



April 26, 2021 15:10:40

Build 7968				
Job name:		File name:	2100485A.mmdl	
Address:		Description:	Roof\Flush Beams\BM1(i20)	
City, State, Zip:		Specifier:		
Customer:		Designer:		
Code reports:	ESR-1040	Company:		

	+ + + +	+ + + +	+ $+$ $+$	+ + +	1 ↓ ↓	+ +	+ +	+ +	+ +	+ +	+ +	V 3
¥	+ + + +	+ + + + +	+ + +	+ + +	0 🖌 🕂	+ + -	↓ ↓ ·	+ +	+ +	+ +	+ +	+ +
<i>¥</i>		12-00-00						12-00	-00			X
B1			Total H	orizontal Pro	B2 duct Length	= 24-00-0	n					B3
Total Horizontal Product Length = 24-00-00 Reaction Summary (Down / Uplift) (Ibs)												
Beari		Live	Dead	s	now	,	Nind		Roo	f Live		
B1, 2			980 / 0		-		392 / 725	5	113	6 / 177		
B2, 5	-1/2"		3838 / 0				1548 / 27	'99	3792	2/0		
B3, 5	-1/2"		1028 / 0			4	426 / 818	3	1224	4 / 194		
Loa	d Summary						Live	Dead	Snow	Wind	Roof	Tributary
	Description	Load Type	Ref	Start	End	Loc.	100%	90%	115%	160%	Live 125%	
	Self-Weight	Unf. Lin. (00-00-00	-	Top	100 /6	14	11570	100 /6	125/0	00-00-00
	Smoothed Load	Unf. Lin. (,	00-11-04		Тор		248			259	n\a
	BE(c1)	Conc. Pt.	,	23-11-04		Тор					83	n\a
			、 ,			•						
	trols Summary		% Allov	vable I	Duration	Case	Loca	tion				
	Moment	5962 ft-lbs	16.8%		125%	2	05-0					
•	Moment	-6679 ft-lbs	80.1%		125%	2	12-0					
	Shear	2097 lbs	18.0%		125%	2	01-04					
-	Shear	3291 lbs	28.3%		125%	1	13-04					
	Load Deflection	L/999 (0.081")	n∖a		n\a	2	05-0					
	Load Deflection	L/999 (0.05")	n∖a		n∖a	165	05-0					
Max I	Neg. Defl.	L/999 (-0.008") 0.081"	n∖a n∖a		n∖a n∖a	2 2	13-09 05-09					
	/ Depth	10.2	II\a	I	I\a	2	05-0	5-04				
Opan	i / Deptii	10.2										
				% Allow	% Allow							
Bea	ring Supports	Dim. (LxW)	Value	Support	Member	Materi	al					
B1	Hanger	2" x 3-1/2"	2116 lbs	n∖a	40.3%	Hange	ər					
B2	Column	5-1/2" x 3-1/2"	7629 lbs	54.7%	52.8%	Unspe	ecified					
B3	Column	5-1/2" x 3-1/2"	2252 lbs	16.1%	15.6%	Unspe	ecified					

Cautions

Hanger model Hanger was not found. Hanger has not been analyzed for adequate capacity.

Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria. Design meets arbitrary (1") Maximum Total load deflection criteria. Design meets arbitrary (0.75") Maximum live load deflection criteria. Hanger Manufacturer: Unassigned BC CALC® analysis is based on IBC 2012. Wind loads determined from building geometry were used in selected product's verification. Design based on Dry Service Condition. Calculations assume unbraced length of Top: 01-10-08, Bottom: 23-08-08.



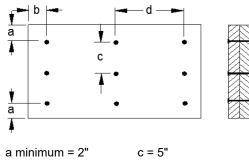
Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP Roof\Flush Beams\BM1(i20) (Flush Beam)



April 26, 2021 15:10:40

BC CALC® Membe Build 7968	er Report	Dry 2 spans No cant.		April 26
Job name:		File name:	2100485A.mmdl	
Address:		Description:	Roof\Flush Beams\BM1(i20)	
City, State, Zip:		Specifier:		
Customer:		Designer:		
Code reports:	ESR-1040	Company:		

Connection Diagram: Full Length of Member



b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.

	oise Cascade®	Dou	ble 1-3/4" Roof\Flus		ERSA-LA BM1(i22) (i) SP			P	ASSED
	ALC® Member F	Report		Dry 2 spar	ns No cant.					Apri	I 26, 202	1 15:10:40
Build						04	004054					
Job na Addre					File name		00485A.		BM1(i2	2)		
	ss. State, Zip:				Description Specifier:		OITUSI	Deams		<u><</u>)		
Custo	•				Designer							
		ESR-1040			Company							
_	•											
	+ + +	+ + + + +	+ + +	+ + +	1 🖌 🗸	+ +	+ +	+ +	+ +	+ +	+ +	
¥	+ + + +	+ + + + +	\downarrow \downarrow \downarrow	+ + +	0↓↓.	+ + +	+ +	• •	+ +	↓ ↓	+ +	+ +
<i>¥</i>		11-09-04			ł			12-02-	12			ł
B1			Total H		32 oduct Length	= 24-00-0	n					B3
Road	tion Summa	ry (Down / Uplift			auer Lengin	- 24-00-0	0					
Bearin		Live	Dead	S	now	v	/ind		Roo	f Live		
B1, 2"			947 / 0			3	79 / 705	;		6 / 189		
B2, 5-	1/2"		3837 / 0			1	548 / 28	00	379	1/0		
B3, 5-	1/2"		1061 / 0			4	39 / 841		124	3 / 182		
	I Summary	1 I T	D .(Oterat	E. d	• • •	Live	Dead	Snow	Wind	Roof Live	Tributary
	Description Self-Weight	Load Type Unf. Lin. (I		Start 00-00-00	End 24-00-00	Loc. Top	100%	90% 14	115%	160%	125%	00-00-00
	Smoothed Load	Unf. Lin. (•	00-00-00		Тор		248			259	00-00-00 n∖a
	BE(c1)	Conc. Pt.	,	23-11-04		Тор		240			83	n\a
10 1	52(01)	00110.11	(190) -	20 11 01	20 11 01	100					00	ma
Cont	rols Summa	ry Value	% Allow		Duration	Case	Locat	tion				
	Noment	5944 ft-lbs	16.8%		125%	3	17-1 <i>°</i>					
-	Moment	-6629 ft-lbs	78.9%		125%	3	11-09					
End S		2143 lbs	18.4%		125%	3	22-04					
	Shear	3348 lbs	28.8%		125%	1	10-04					
	Load Deflection	L/999 (0.079")	n∖a		n\a	3	18-03					
	oad Deflection	L/999 (0.049")	n∖a ra∖a		n\a	166	18-00					
Max D	Neg. Defl.	L/999 (-0.007") 0.079"	n∖a n∖a		ו\a ו\a	3 3	09-1 18-03					
	/ Depth	10.1	II\a	I	I\a	5	10-0	5-12				
opun	, Dopin	10.1										
				% Allow	% Allow							
Bear	ring Supports		Value	Support	Member	Materia	ıl					
B1	Hanger	2" x 3-1/2"	2064 lbs	n\a	39.3%	Hange						
B2	Column	5-1/2" x 3-1/2"	7629 lbs	54.7%	52.8%	Unspe						
B3	Column	5-1/2" x 3-1/2"	2304 lbs	16.5%	16.0%	Unspe	cified					
Caut	ions											
		was not found. Hang	er has not be	en analyzed	for adequat	e capacit	y.					
-	-			, <i></i> ,		r	,					
Note	S											

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria. Design meets arbitrary (1") Maximum Total load deflection criteria. Design meets arbitrary (0.75") Maximum live load deflection criteria. Hanger Manufacturer: Unassigned BC CALC® analysis is based on IBC 2012. Wind loads determined from building geometry were used in selected product's verification. Design based on Dry Service Condition. Calculations assume unbraced length of Top: 01-10-08, Bottom: 23-08-08.



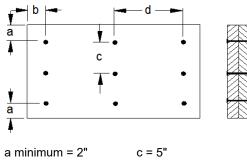
Double 1-3/4" x 14" VERSA-LAM® 2.0 3100 SP Roof\Flush Beams\BM1(i22) (Flush Beam)



April 26, 2021 15:10:40

BC CALC® Membe Build 7968	er Report	Dry 2 spans No cant.		April 26
Job name:		File name:	2100485A.mmdl	
Address:		Description:	Roof\Flush Beams\BM1(i22)	
City, State, Zip:		Specifier:		
Customer:		Designer:		
Code reports:	ESR-1040	Company:		

Connection Diagram: Full Length of Member



b minimum = 3" d = 24"

Calculated Side Load = 0.0 lb/ft Connectors are: 3-1/4 in. Pneumatic Gun Nails

Disclosure

Use of the Boise Cascade Software is subject to the terms of the End User License Agreement (EULA). Completeness and accuracy of input must be reviewed and verified by a qualified engineer or other appropriate expert to assure its adequacy, prior to anyone relying on such output as evidence of suitability for a particular application. The output here is based on building code-accepted design properties and analysis methods. Installation of Boise Cascade engineered wood products must be in accordance with current Installation Guide and applicable building codes. To obtain Installation Guide or ask questions, please call (800)232-0788 before installation.