

Engineering Note Page (ENP-2)

REVISION 2009-10-09

Lot 12R
REV

19-44067-000.00 RR
M2060

Please read all notes prior to installation of the component

DESIGN INFORMATION

This building component is certified as an individual component for the loads and conditions shown on the calculation and drawing page.

The responsibility of the undersigned engineer is only limited to the calculation of this building component for the loads and conditions shown on this drawing.

The responsibility of the undersigned is limited to the verification of the structural capacity of the NASCOR floor joists and LVL beams based on placement as shown on the layout. The loads applied are limited to the gravity effects of the specified loads. The structural integrity of the building and the effect of wind, uplift, seismic, lateral or other forces, calculation of adequate support and anchorage of components, as well as the dimensions and design loads used to calculate components are the responsibility of the overall building designer.

Floor joists and OSB rim board are designed to carry uniformly distributed loads only. Point loads should be transferred through the floor cavity with squash blocks. Structural elements such as walls, posts, connectors, and squash blocks are the responsibility of the overall building designer.

The undersigned engineer disclaims any responsibility for damages as a result of being furnished faulty or incorrect information, specifications and/or designs.

Installation of NASCOR joists is to be carried out in accordance with the current edition of the manufacturer's approved literature available at <http://www.nascor.ca>.

CODE

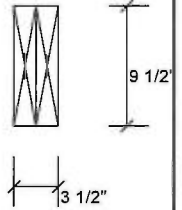
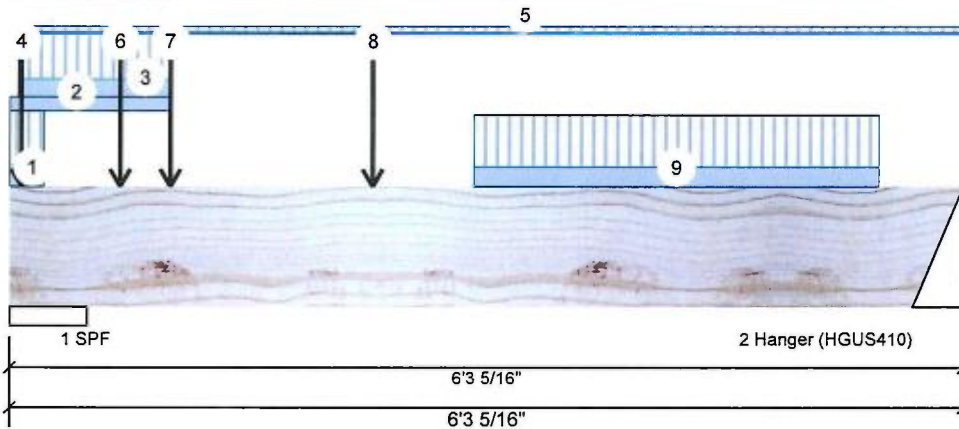
This building component is designed in accordance with the National Building Code of Canada, the Ontario Building Code, CCMC and Canadian Standards Association guidelines.

COMPONENT

1. The building component used in construction must be the same as indicated on the drawings.
2. The building component must be installed and assembled as per specification shown on the drawing and in accordance with the manufacturer's assembly and installation.
3. Members consisting of multiple plies must be connected as per the document "Multi-ply Connection Details".
4. Pass-thru squash block framing is required at all point loads over bearings.

HANDLING AND INSTALLATION

Do not drill any hole, cut or notch a certified building component without a written pre-authorization.

F11-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	3689	1601	0	0
2	916	382	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - SPF	6.078"	58% 2001 / 5534	7535 L	1.25D+1.5L
2 - Hanger	4.000"	18% 477 / 1375	1852 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3107 ft-lb	2'4 5/8"	22724 ft-lb	0.137 (14%)	1.25D+1.5L	L
Unbraced	3107 ft-lb	2'4 5/8"	22724 ft-lb	0.137 (14%)	1.25D+1.5L	L
Shear	3102 lb	1'2 13/16"	9277 lb	0.334 (33%)	1.25D+1.5L	L
Perm Defl in.	0.010 (L/6974)	3' 7/8"	0.185 (L/360)	0.050 (5%)	D	Uniform
LL Defl inch	0.023 (L/2957)	3'1 3/16"	0.185 (L/360)	0.120 (12%)	L	L
TL Defl inch	0.032 (L/2076)	3'1 1/8"	0.278 (L/240)	0.120 (12%)	D+L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Multiple plies must be fastened together as per manufacturer's details.
- 5 Top loads must be supported equally by all plies.
- 6 Top braced at bearings.
- 7 Bottom braced at bearings.
- 8 Lateral slenderness ratio based on full section width.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-2-10		Top	124 PLF	299 PLF	0 PLF	0 PLF	J7
2	Part. Uniform	0-0-0 to 1-0-10		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-10 to 1-0-10		Top	98 PLF	253 PLF	0 PLF	0 PLF	J7
4	Point	0-0-14		Near Face	350 lb	893 lb	0 lb	0 lb	F5

Continued on page 2...

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.

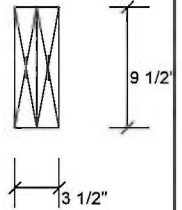
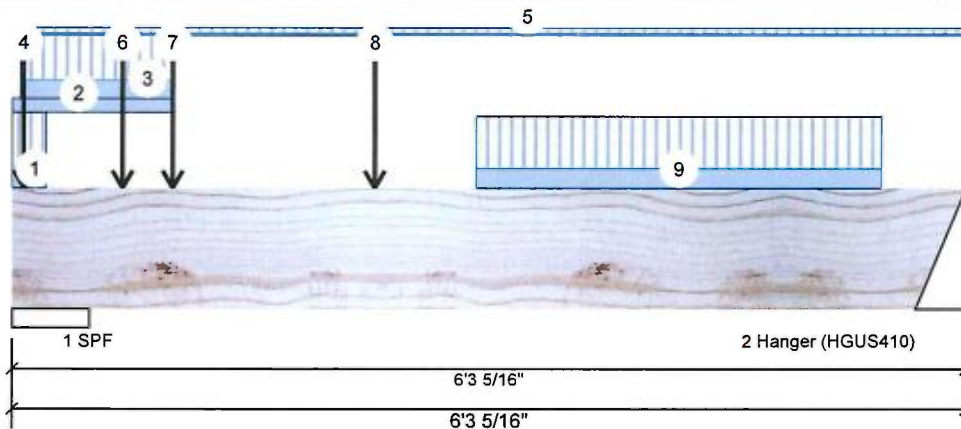
Manufacturer Info

Forex
APA-PR-1318

READ ALL NOTES ON THIS PAGE AND ON THE ENGINEERING NOTE PAGE ENP-2. THE NOTE PAGE IS AN INTEGRAL PART OF THIS DRAWING AS IT CONTAINS SPECIFICATIONS AND CRITERIA USED IN THE DESIGN OF THIS COMPONENT.

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

NASCOR

F11-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor


...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
5	Tie-In	0-1-12 to 6-3-5	(Span)1-6-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Point	0-8-11		Top	661 lb	1645 lb	0 lb	0 lb	F4 F4 F3 F3
7	Point	1-0-10		Far Face	191 lb	392 lb	0 lb	0 lb	J7
8	Point	2-4-10		Far Face	161 lb	391 lb	0 lb	0 lb	J7
9	Part. Uniform Self Weight	3-0-10 to 5-8-10		Far Face	110 PLF 8 PLF	293 PLF	0 PLF	0 PLF	

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

Calculated Structural 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

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

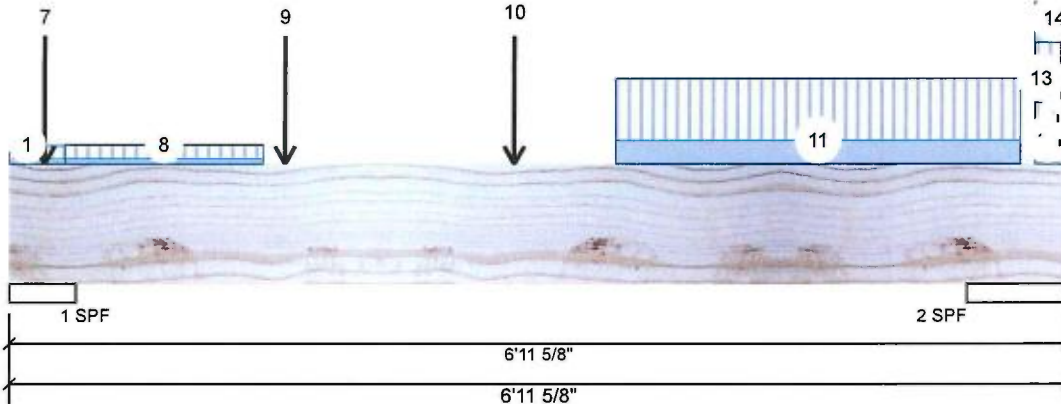
Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

NASCOR

This design is valid until 7/10/2021

F11-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1874	847	0	0
2	611	283	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	34%	1059 / 2811	3870 L	1.25D+1.5L
2 - SPF	8.000"	7%	353 / 917	1270 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2502 ft-lb	1'9 3/4"	22724 ft-lb	0.110 (11%)	1.25D+1.5L	L
Unbraced	2502 ft-lb	1'9 3/4"	22015 ft-lb	0.114 (11%)	1.25D+1.5L	L
Shear	1927 lb	1'2"	9277 lb	0.208 (21%)	1.25D+1.5L	L
Perm Defl in.	0.008 (L/8934)	3'1 3/8"	0.200 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.019 (L/3855)	3'1 7/16"	0.200 (L/360)	0.090 (9%)	L	L
TL Defl inch	0.027 (L/2693)	3'1 7/16"	0.299 (L/240)	0.090 (9%)	D+L	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 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 full section width.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-6	(Span)1-3-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	0-2-12		Top	17 lb	46 lb	0 lb	0 lb	J5
3	Point	0-2-12		Top	6 lb	13 lb	0 lb	0 lb	J2
4	Point	0-2-12		Top	20 lb	0 lb	0 lb	0 lb	Wall Self Weight
5	Point	0-2-12		Top	401 lb	923 lb	0 lb	0 lb	F11 F11

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Notes

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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

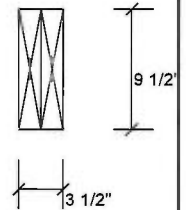
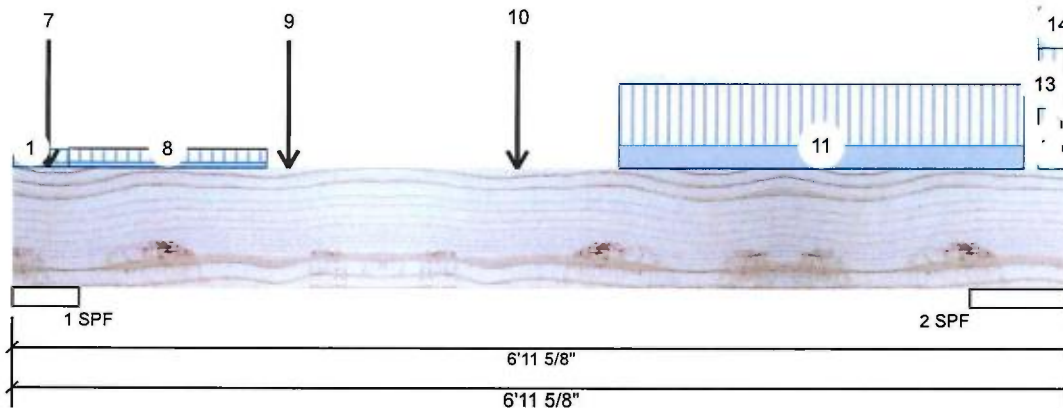
Manufacturer Info

Forex
APA PR-J 318

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NASCOR

F11-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor


...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	0-2-12		Top	4 lb	8 lb	0 lb	0 lb	J2
7	Point	0-2-12		Top	13 lb	0 lb	0 lb	0 lb	Wall Self Weight
8	Tie-In	0-4-6 to 1-8-0	(Span)1-4-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
9	Point	1-9-12		Near Face	382 lb	916 lb	0 lb	0 lb	F11
10	Point	3-3-14		Near Face	65 lb	174 lb	0 lb	0 lb	J2
11	Part. Uniform	3-11-14 to 6-7-14		Near Face	46 PLF	123 PLF	0 PLF	0 PLF	
12	Part. Uniform	6-9-0 to 6-11-1		Top	37 PLF	84 PLF	0 PLF	0 PLF	J2
13	Part. Uniform	6-9-0 to 6-11-1		Top	36 PLF	82 PLF	0 PLF	0 PLF	J2
14	Part. Uniform	6-9-0 to 6-11-1		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
15	Part. Uniform	6-11-1 to 6-11-10		Top	14 PLF	33 PLF	0 PLF	0 PLF	J2
16	Part. Uniform	6-11-1 to 6-11-10		Top	14 PLF	32 PLF	0 PLF	0 PLF	J2
17	Part. Uniform	6-11-1 to 6-11-10		Top	31 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
	Self Weight				8 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

Calculated Structural 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

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

Manufacturer Info

Forex
APA: PR-L318

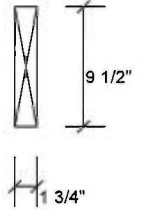
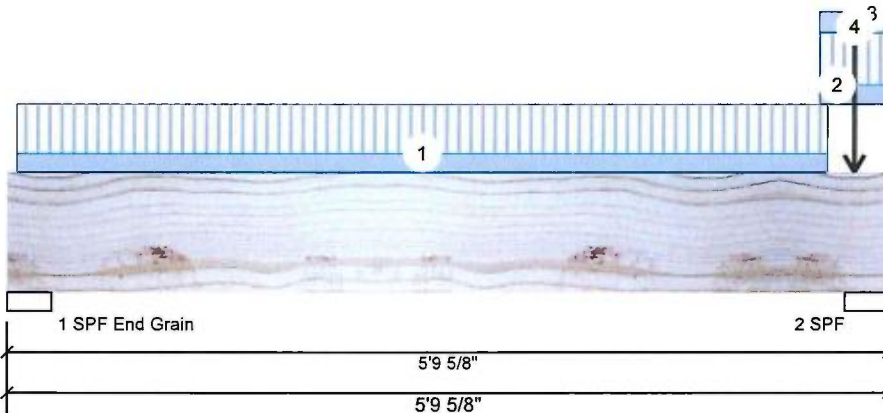
Kott Lumber Company
14 Anderson Blvd, Ontario
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L4A 7X4
905-642-4400

NASCOR

This design is valid until 7/10/2021

F17-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	548	216	0	0
2	573	495	435	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	3.500"	24%	270 / 822	1092 L	1.25D+1.5L
End Grain					
2 - SPF	3.500"	45%	619 / 1077	1696 L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1375 ft-lb	2'10 7/8"	11362 ft-lb	0.121 (12%)	1.25D+1.5L	L
Unbraced	1375 ft-lb	2'10 7/8"	6976 ft-lb	0.197 (20%)	1.25D+1.5L	L
Shear	1022 lb	4'9 3/8"	4638 lb	0.220 (22%)	1.25D+1.5L	L
Perm Defl in.	0.007 (L/8569)	2'10 7/8"	0.178 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.019 (L/3380)	2'10 13/16"	0.178 (L/360)	0.110 (11%)	L+0.5S	L
TL Defl inch	0.026 (L/2424)	2'10 13/16"	0.267 (L/240)	0.100 (10%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	C
1	Part. Uniform	0-0-12 to 5-4-12		Near Face	72 PLF	193 PLF	0 PLF	0 PLF	
2	Part. Uniform	5-4-2 to 5-9-10		Top	75 PLF	200 PLF	0 PLF	0 PLF	J4
3	Part. Uniform	5-4-2 to 5-9-10		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Point	5-6-14		Top	234 lb	0 lb	435 lb	0 lb	F14 F14 F14 F14
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

Calculated Structural 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

Manufacturer Info

Forex
APA-PRJ 318

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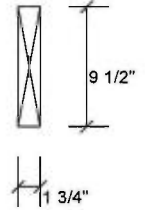
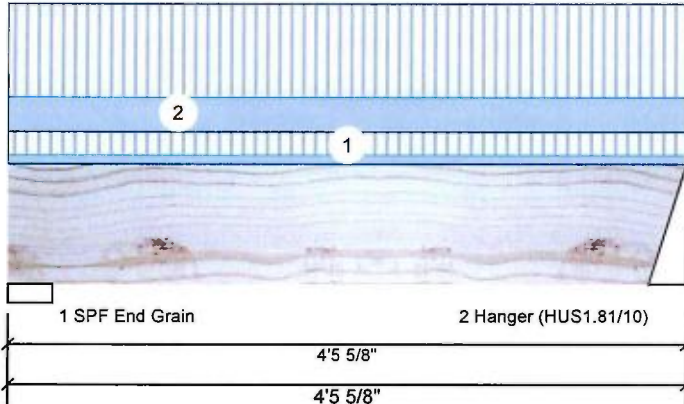
This design

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F17-B Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	183	77	0	0
2	179	76	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	8%	96 / 274	371	L	1.25D+1.5L
2 - Hanger	3.000"	9%	95 / 269	364	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	337 ft-lb	2'3 1/16"	11362 ft-lb	0.030 (3%)	1.25D+1.5L	L
Unbraced	337 ft-lb	2'3 1/16"	8769 ft-lb	0.038 (4%)	1.25D+1.5L	L
Shear	203 lb	1' 1/4"	4638 lb	0.044 (4%)	1.25D+1.5L	L
Perm Defl in.	0.001 (L/36948)	2'3 1/16"	0.135 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch	0.003 (L/15591)	2'3 1/16"	0.135 (L/360)	0.020 (2%)	L	L
TL Defl inch	0.004 (L/10965)	2'3 1/16"	0.203 (L/240)	0.020 (2%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-5-10	(Span)0-9-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-5-10	(Span)3-2-13	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

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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
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Manufacturer Info

Forex
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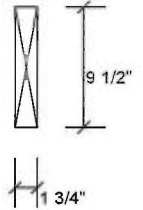
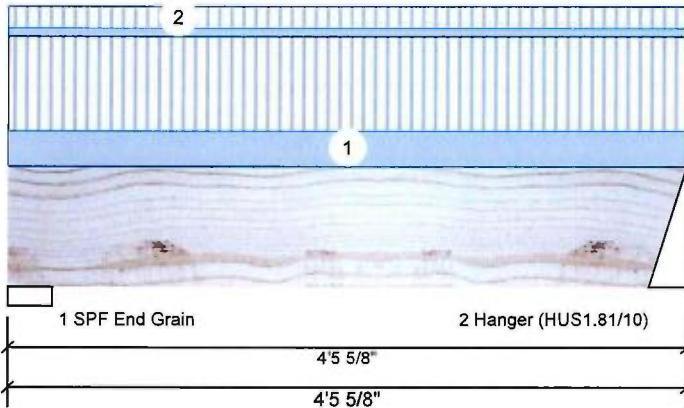
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This design

NASCOR

F17-C Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	198	83	0	0
2	195	81	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	9%	104 / 298	401 L	1.25D+1.5L
2 - Hanger	3.000"	10%	102 / 292	394 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	365 ft-lb	2'3 1/16"	11362 ft-lb	0.032 (3%)	1.25D+1.5L	L
Unbraced	365 ft-lb	2'3 1/16"	8769 ft-lb	0.042 (4%)	1.25D+1.5L	L
Shear	220 lb	1' 1/4"	4638 lb	0.047 (5%)	1.25D+1.5L	L
Perm Defl in. (L/34346)	0.001	2'3 1/16"	0.135 (L/360)	0.010 (1%)	D	Uniform
LL Defl inch (L/14366)	0.003	2'3 1/16"	0.135 (L/360)	0.030 (3%)	L	L
TL Defl inch (L/10129)	0.005	2'3 1/16"	0.203 (L/240)	0.020 (2%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 4-5-10	(Span)3-6-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 4-5-10	(Span)0-9-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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.

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

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

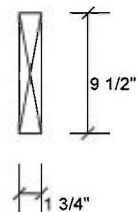
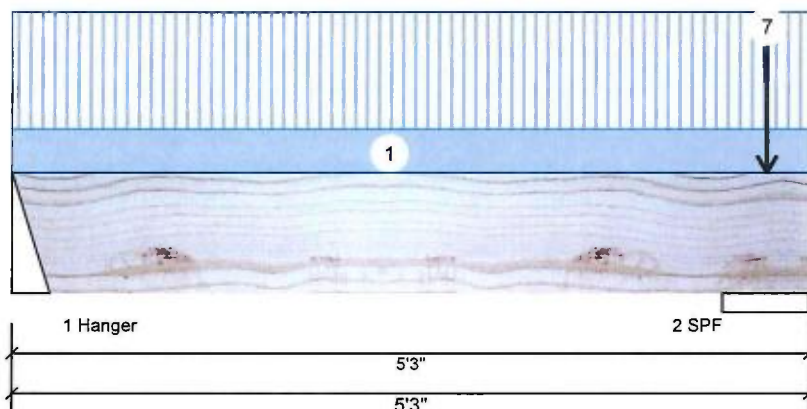
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F17-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	37	23	0	0
2	101	551	678	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	3%	29 / 55	84 L	1.25D+1.5L
2 - SPF	6.875"	40%	689 / 1067	1756 L	1.25D+1.5S +0.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	89 ft-lb	2'5 9/16"	7840 ft-lb	0.011 (1%)	1.25D+1.5L	L
Unbraced	89 ft-lb	2'5 9/16"	6764 ft-lb	0.013 (1%)	1.25D+1.5L	L
Shear	51 lb	11 3/4"	3200 lb	0.016 (2%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.001 (L/64425)	2'5 9/16"	0.152 (L/360)	0.010 (1%)	L+0.5S	L
TL Defl inch	0.001 (L/39543)	2'5 9/16"	0.228 (L/240)	0.010 (1%)	D+L+0.5S	L

Design Notes

- 1 Performed Secondary Bearing Check (CSA 086-14 6.5.7.3). Assumed point load size: beam width X 4.5.
- 2 Fill all hanger nailing holes.
- 3 Girders are designed to be supported on the bottom edge only.
- 4 Top braced at bearings.
- 5 Bottom braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 5-3-0	(Span)0-9-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	4-11-10		Top	435 lb	0 lb	658 lb	0 lb	F15 F15
3	Point	4-11-10		Top	2 lb	0 lb	6 lb	0 lb	
4	Point	4-11-10		Top	6 lb	0 lb	14 lb	0 lb	
5	Point	4-11-10		Top	30 lb	0 lb	0 lb	0 lb	Wall Self Weight

Continued on page 2...

Notes

Calculated Structural 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

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

Manufacturer Info

Forex
APA-PR-1318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

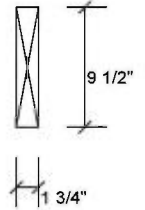
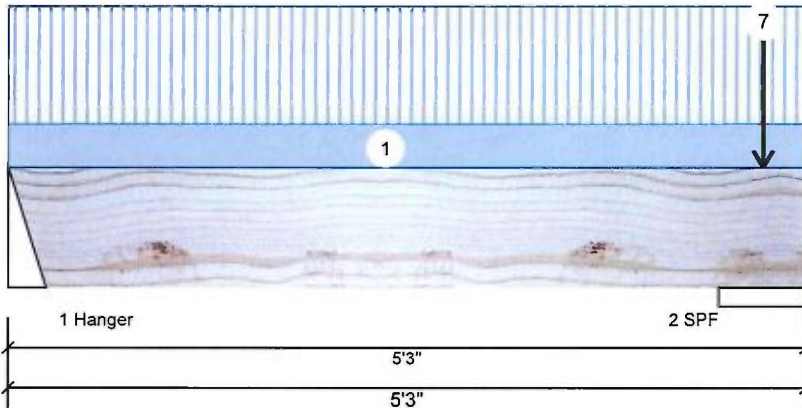
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This design

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F17-D Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Point	4-11-10		Top	22 lb	59 lb	0 lb	0 lb	J7
7	Point	4-11-10		Top	30 lb	0 lb	0 lb	0 lb	Wall Self Weight
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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

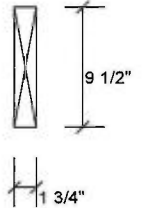
Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021

F1-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	25	11	0	0
2	25	11	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	1.750"	2%	13 / 37	51	L	1.25D+1.5L
2 - SPF End Grain	1.750"	2%	13 / 37	51	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5 ft-lb	4 1/16"	11362 ft-lb	0.000 (0%)	1.25D+1.5L	L
Unbraced	5 ft-lb	4 1/16"	11362 ft-lb	0.000 (0%)	1.25D+1.5L	L
Shear	40 lb	-(2 3/8")	4638 lb	0.009 (1%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Top braced at bearings.
- Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind
1	Tie-In	0-0-0 to 0-8-2	(Span)3-8-7	Top	15 PSF	40 PSF	0 PSF	0 PSF
	Self Weight				4 PLF			



August 17, 2018

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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

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

chemicals
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

- For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

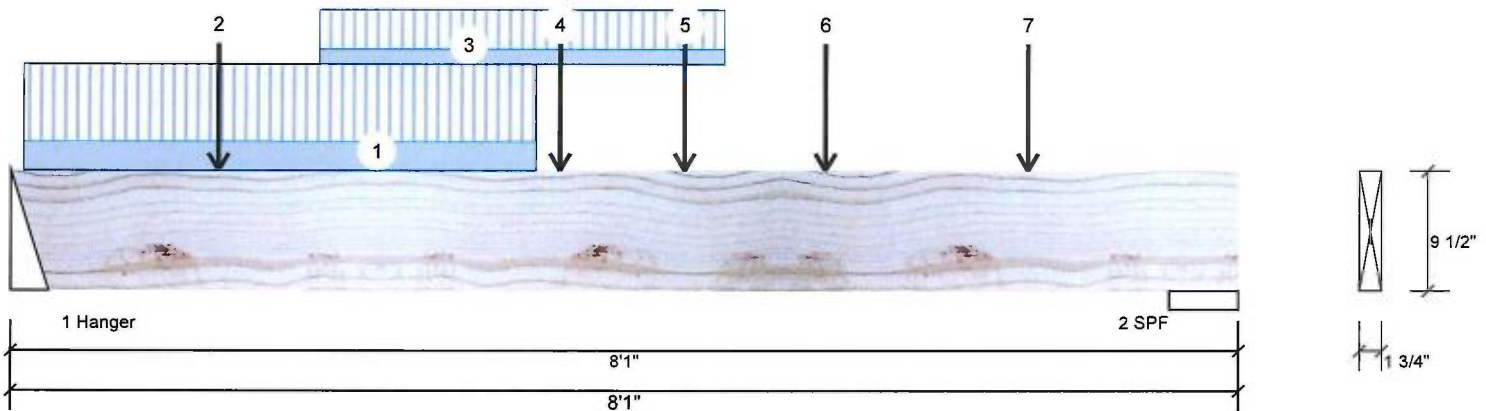
Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
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L4A 7X4
905-642-4400

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F5-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED Level: Ground Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Ply:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1339	525	0	0
2	1160	459	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	3.000"	68% 656 / 2008	2664	L	1.25D+1.5L
2 - SPF	5.500"	39% 574 / 1741	2315	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5089 ft-lb	3'7 3/8"	11362 ft-lb	0.448 (45%)	1.25D+1.5L	L
Unbraced	5089 ft-lb	3'7 3/8"	5098 ft-lb	0.998 (100%)	1.25D+1.5L	L
Shear	2309 lb	6'10 3/4"	4638 lb	0.498 (50%)	1.25D+1.5L	L
Perm Defl in.	0.047 (L/1899)	3'10 3/4"	0.250 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.120 (L/751)	3'10 5/8"	0.250 (L/360)	0.480 (48%)	L	L
TL Defl inch	0.167 (L/538)	3'10 5/8"	0.375 (L/240)	0.450 (45%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top must be laterally braced at a maximum of 7'3 3/4" o.c.
- 4 Bottom braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-1-0 to 3-5-8		Top	90 PLF	240 PLF	0 PLF	0 PLF	
2	Point	1-4-6		Far Face	65 lb	174 lb	0 lb	0 lb	J2
3	Part. Uniform	2-0-6 to 4-8-6		Far Face	46 PLF	123 PLF	0 PLF	0 PLF	
4	Point	3-7-6		Near Face	81 lb	195 lb	0 lb	0 lb	F2
5	Point	4-5-4		Near Face	76 lb	179 lb	0 lb	0 lb	F2
6	Point	5-4-6		Far Face	155 lb	413 lb	0 lb	0 lb	J2
7	Point	6-8-6		Far Face	150 lb	400 lb	0 lb	0 lb	J2
	Self Weight				4 PLF				

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

Calculated Structural 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

Handing & 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

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

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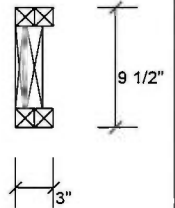
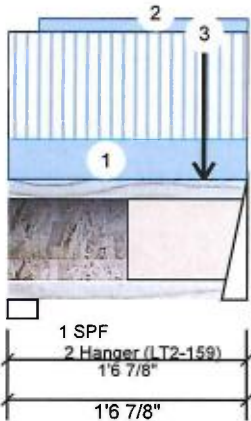
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F7-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	71	34	0	0
2	172	85	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	6%	42 / 107	149	L	1.25D+1.5L
2 - Hanger	2.000"	14%	106 / 258	363	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	64 ft-lb	1'1 3/16"	7340 ft-lb	0.009 (1%)	1.25D+1.5L	L
Unbraced	64 ft-lb	1'1 3/16"	6912 ft-lb	0.009 (1%)	1.25D+1.5L	L
Shear	349 lb	1'5 5/8"	3080 lb	0.113 (11%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/45568)	1' 5/8"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.001 (L/30524)	1' 9/16"	0.067 (L/240)	0.010 (1%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 1-6-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-3-7		Near Face	69 lb	141 lb	0 lb		

Pass-Thru Framing Squash Block is required at all point loads over bearings
Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
Notes

Calculated Structural 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. Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals
Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
7. For flat roofs ponding

Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

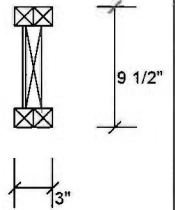
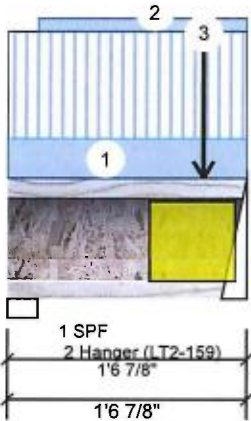
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NASCOR


F7-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	60	28	0	0
2	98	48	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React	D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	5%	35 / 90	125	L	1.25D+1.5L
2 - Hanger	2.000"	8%	60 / 148	208	L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	42 ft-lb	11"	7340 ft-lb	0.006 (1%)	1.25D+1.5L	L
Unbraced	42 ft-lb	11"	6912 ft-lb	0.006 (1%)	1.25D+1.5L	L
Shear	194 lb	1'5 5/8"	3080 lb	0.063 (6%)	1.25D+1.5L	L
Perm Defl in.	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
LL Defl inch	0.000 (L/67719)	10 7/8"	0.044 (L/360)	0.010 (1%)	L	L
TL Defl inch	0.000 (L/45357)	10 7/8"	0.067 (L/240)	0.010 (1%)	D+L	L



August 17, 2018

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 4 Top loads must be supported equally by all plies.
- 5 Top flange braced at bearings.
- 6 Bottom flange braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-6-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-2-6 to 1-6-14		Top	8 PLF	0 PLF	0 PLF	0 PLF	
3	Point	1-3-7		Far Face	27 lb	56 lb	0 lb		

Pass-Thru Framing Squash Block is required at all point loads over bearings
Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
Notes

Calculated Structural 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. LJoist not to be treated with fire retardant or corrosive chemicals

chemicals
Handling & Installation

1. LJoist flanges must not be cut or drilled
2. Refer to latest copy of the LJoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged LJoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum: point load bearing length >= 3.5 inches
7. For flat roofs ponding

Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
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L4A 7X4
905-642-4400

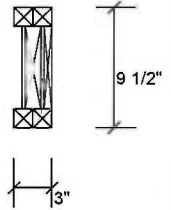
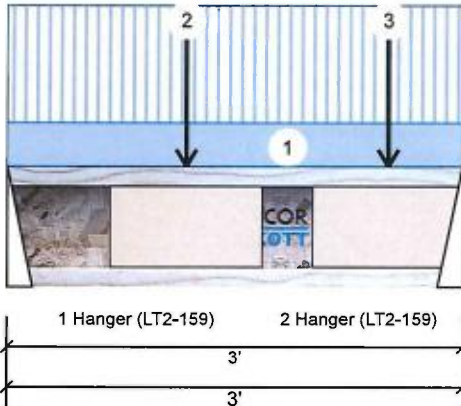
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NASCOR


F8-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	295	111	0	0
2	398	149	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total Ld. Case	Ld. Comb.
1 - Hanger	2.000"	22% 138 / 442	581 L	1.25D+1.5L
2 - Hanger	2.000"	30% 187 / 597	783 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	576 ft-lb	1'2 1/8"	7340 ft-lb	0.078 (8%)	1.25D+1.5L	L
Unbraced	576 ft-lb	1'2 1/8"	4678 ft-lb	0.123 (12%)	1.25D+1.5L	L
Shear	776 lb	2'10 3/4"	3080 lb	0.252 (25%)	1.25D+1.5L	L
Perm Defl in. (L/20392)	0.002	1'2 1/8"	0.093 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch (L/7661)	0.004	1'2 1/8"	0.093 (L/360)	0.050 (5%)	L	L
TL Defl inch (L/5569)	0.006	1'2 1/8"	0.140 (L/240)	0.040 (4%)	D+L	L

Design Notes

- Fill all hanger nailing holes.
- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange braced at bearings.
- Bottom flange braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 3-0-0	(Span)1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Point	1-2-2		Far Face	127 lb	338 lb	0 lb	0 lb	J5
3	Point	2-6-2		Far Face	94 lb	250 lb	0 lb	0 lb	J5

Pass-Thru Framing Squash Block is required at all point loads over bearings
Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
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

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

Handing & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/direction details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs ponding

Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

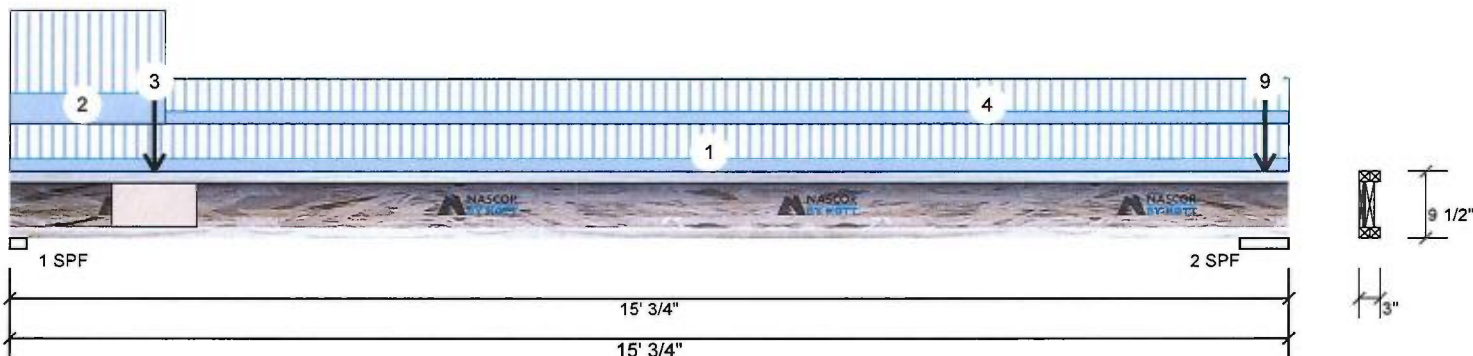
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This design

NASCOR

F9-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor


Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	722	271	0	0
2	1030	495	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	2.375"	53%	339 / 1083	1422 L	1.25D+1.5L
2 - SPF	6.875"	70%	619 / 1546	2164 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3260 ft-lb	6'8 1/16"	7340 ft-lb	0.444 (44%)	1.25D+1.5L	L
Unbraced	3260 ft-lb	6'8 1/16"	3269 ft-lb	0.997 (100%)	1.25D+1.5L	L
Shear	1397 lb	1 5/8"	3080 lb	0.454 (45%)	1.25D+1.5L	L
Perm Defl in.	0.091 (L/1892)	7'1 11/16"	0.481 (L/360)	0.190 (19%)	D	Uniform
LL Defl inch	0.244 (L/710)	7'1 11/16"	0.481 (L/360)	0.510 (51%)	L	L
TL Defl inch	0.335 (L/516)	7'1 11/16"	0.721 (L/240)	0.460 (46%)	D+L	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 3'8" o.c.
- Bottom flange braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 15-0-12	(Span)1-4-6	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-0-0 to 1-9-14	(Span)3-3-0	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-8-6		Near Face	111 lb	295 lb	0 lb	0 lb	F8
4	Tie-In	1-9-14 to 15-0-12	(Span)1-3-10	Top	15 PSF	40 PSF	0 PSF	0 PSF	
5	Point	14-9-6		Top	19 lb	49 lb	0 lb	0 lb	J7
6	Point	14-9-6		Top	118 lb	314 lb	0 lb	0 lb	J7
7	Point	14-9-6		Top	12 lb	32 lb	0 lb	0 lb	J7

Continued on page 2...

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

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

Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/direction details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs ponding

Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

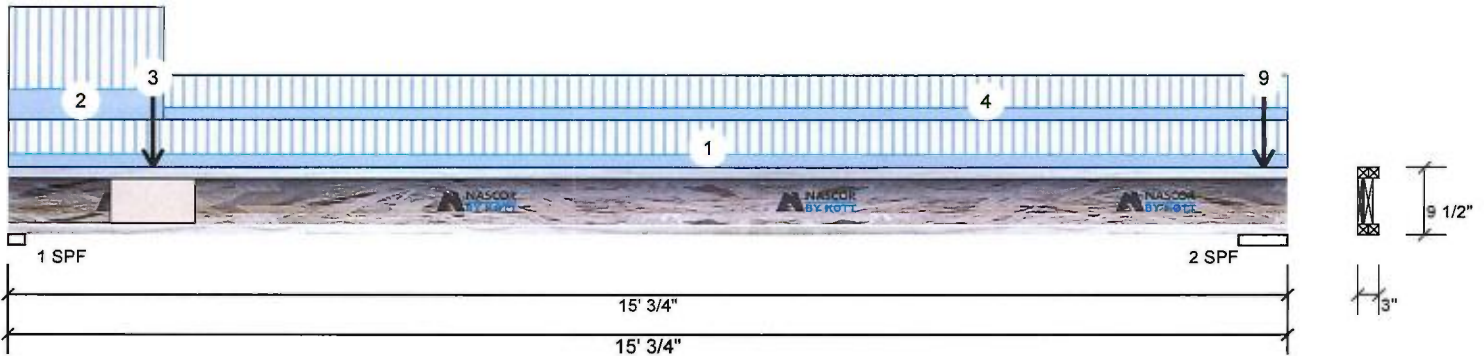
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NASCOR

F9-A NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	14-9-6		Top	71 lb	188 lb	0 lb	0 lb	J2
9	Point	14-9-6		Top	107 lb	0 lb	0 lb	0 lb	Wall Self Weight

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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. Ljoist not to be treated with fire retardant or corrosive chemicals

chemicals

Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length ≥ 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

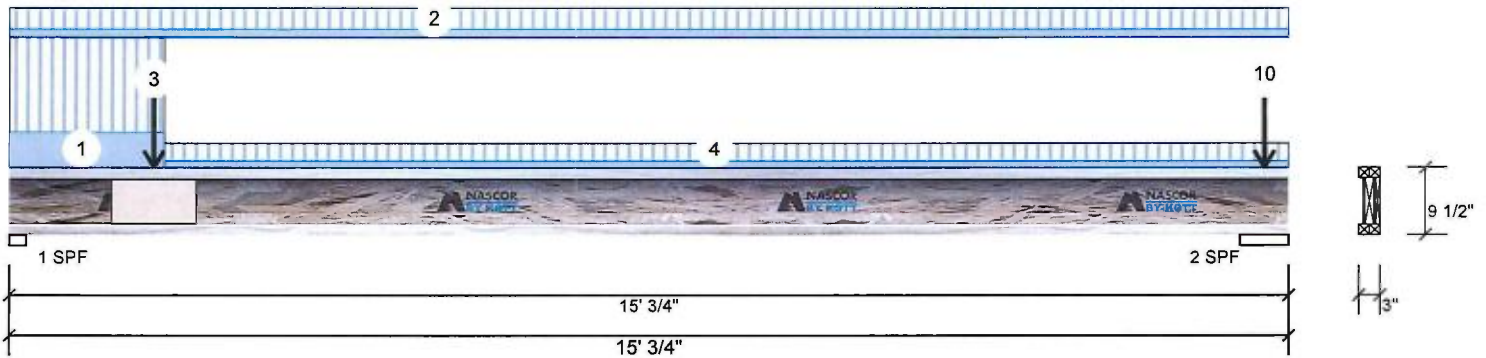
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14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021

F9-B NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Point	14-9-6		Top	71 lb	58 lb	74 lb	0 lb	J7
9	Point	14-9-6		Top	45 lb	119 lb	0 lb	0 lb	J7
10	Point	14-9-6		Top	53 lb	0 lb	0 lb	0 lb	Wall Self Weight

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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. Ljoist not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. Ljoist flanges must not be cut or drilled
2. Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
3. Damaged Ljoists must not be used
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
7. For flat roofs provide proper drainage to prevent ponding

Manufacturer Info

Nascor by Kott

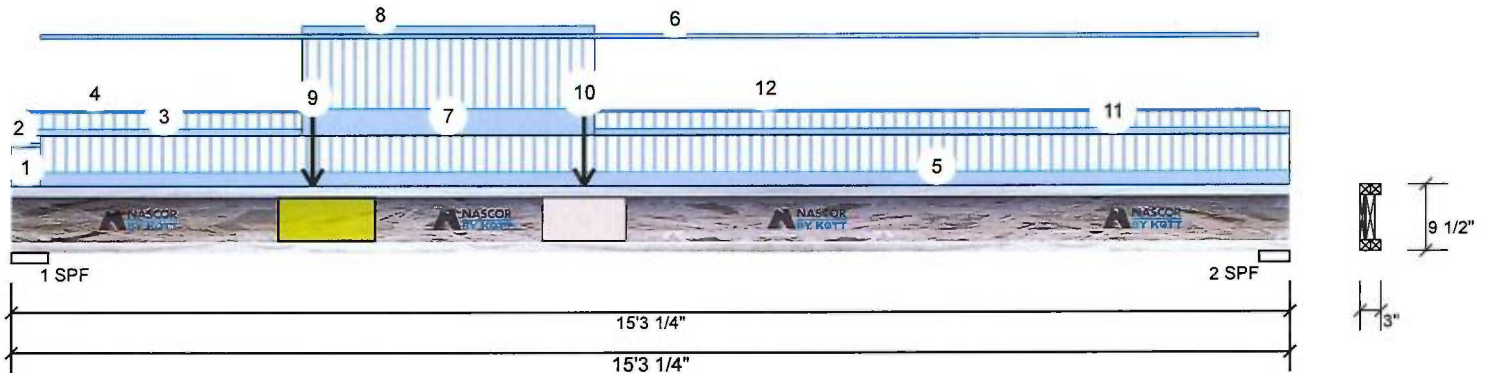
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400



This design is valid until 7/10/2021

F9-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	437	214	0	0
2	331	161	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.250"	30%	267 / 655	923 L	1.25D+1.5L
2 - SPF	4.375"	23%	201 / 497	699 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3691 ft-lb	6'10 1/8"	7340 ft-lb	0.503 (50%)	1.25D+1.5L	L
Unbraced	3691 ft-lb	6'10 1/8"	3712 ft-lb	0.995 (99%)	1.25D+1.5L	L
Shear	906 lb	4 1/2"	3080 lb	0.294 (29%)	1.25D+1.5L	L
Perm Defl in.	0.117 (L/1501)	7'3 7/16"	0.486 (L/360)	0.240 (24%)	D	Uniform
LL Defl inch	0.238 (L/735)	7'3 7/16"	0.486 (L/360)	0.490 (49%)	L	L
TL Defl inch	0.355 (L/493)	7'3 7/16"	0.730 (L/240)	0.490 (49%)	D+L	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top flange must be laterally braced at a maximum of 3'4" o.c.
- Bottom flange braced at bearings.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-4-2	(Span)0-8-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-0-0 to 0-4-2		Top	2 PLF	0 PLF	0 PLF	0 PLF	
3	Tie-In	0-1-2 to 3-5-10	(Span)0-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
4	Part. Uniform	0-1-2 to 3-5-10		Top	1 PLF	0 PLF	0 PLF	0 PLF	
5	Tie-In	0-4-2 to 15-3-4	(Span)0-11-1	Top	15 PSF	40 PSF	0 PSF	0 PSF	
6	Part. Uniform	0-4-2 to 14-10-13		Top	2 PLF	0 PLF	0 PLF	0 PLF	
7	Tie-In	3-5-10 to 6-11-10	(Span)1-8-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	

Continued on page 2...

Notes

Calculated Structural 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

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

chemicals

Handling & Installation

- Ljoist flanges must not be cut or drilled
- Refer to latest copy of the Ljoist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/erection details
- Damaged Ljoists must not be used
- Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

- Provide lateral support at bearing points to avoid lateral displacement and rotation
- Web stiffeners for point load as shown Minimum point load bearing length >= 3.5 inches
- For flat roofs provide ponding

Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
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L4A 7X4
905-642-4400

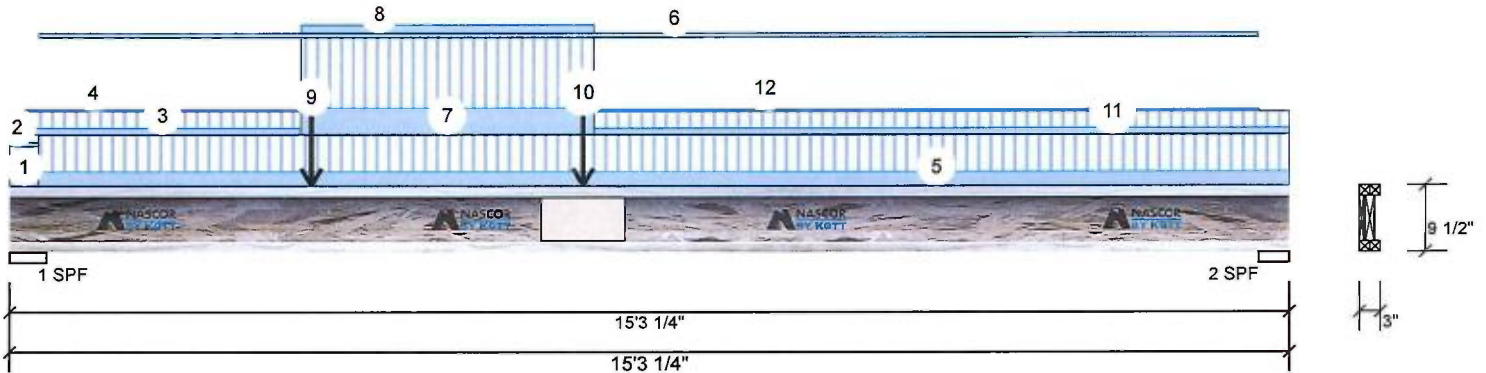
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NASCOR


F9-C NJ 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
8	Part. Uniform	3-5-10 to 6-11-10		Top	4 PLF	0 PLF	0 PLF	0 PLF	
9	Point	3-7-2		Near Face	48 lb	98 lb	0 lb	0 lb	F7
10	Point	6-10-2		Near Face	85 lb	172 lb	0 lb	0 lb	F7
11	Tie-In	6-11-10 to 15-3-4	(Span)0-4-15	Top	15 PSF	40 PSF	0 PSF	0 PSF	
12	Part. Uniform	6-11-10 to 14-10-13		Top	1 PLF	0 PLF	0 PLF	0 PLF	

Pass-Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

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. Joist not to be treated with fire retardant or corrosive chemicals.

Handling & Installation

1. Joist flanges must not be cut or drilled.
2. Refer to latest copy of the Joist product information details for framing details, stiffener tables, web hole chart, bridging details, multi-ply fastening details and handling/direction details.
3. Damaged Joists must not be used.
4. Design assumes top flange to be laterally restrained by attached sheathing or as specified in engineering notes.

5. Provide lateral support at bearing points to avoid lateral displacement and rotation.
6. Web stiffeners for point load as shown Minimum point load bearing length ≥ 3.5 inches.
7. For flat roofs provide proper drainage to prevent ponding.

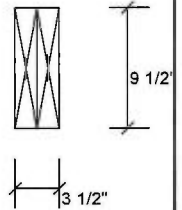
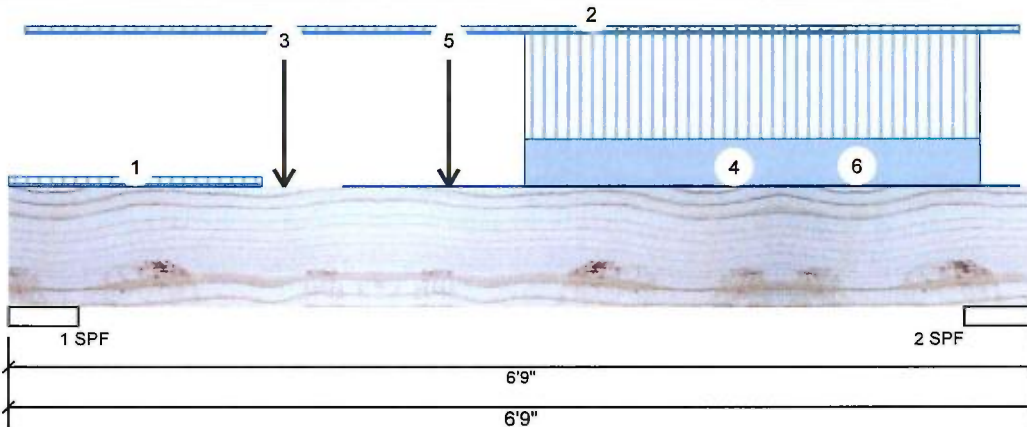
Manufacturer Info

Nascor by Kott

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

NASCOR

This design is valid until 7/10/2021

F11-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	923	401	0	0
2	555	262	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	5.500"	16%	502 / 1384	1885 L	1.25D+1.5L
2 - SPF	5.500"	10%	327 / 832	1159 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2616 ft-lb	1'9 3/4"	22724 ft-lb	0.115 (12%)	1.25D+1.5L	L
Unbraced	2616 ft-lb	1'9 3/4"	22023 ft-lb	0.119 (12%)	1.25D+1.5L	L
Shear	2026 lb	1'2 1/4"	9277 lb	0.218 (22%)	1.25D+1.5L	L
Perm Defl in.	0.008 (L/8434)	3' 11/16"	0.199 (L/360)	0.040 (4%)	D	Uniform
LL Defl inch	0.019 (L/3740)	3' 1/16"	0.199 (L/360)	0.100 (10%)	L	L
TL Defl inch	0.028 (L/2591)	3' 1/4"	0.298 (L/240)	0.090 (9%)	D+L	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 1-8-0	(Span)0-4-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Tie-In	0-1-4 to 6-7-14	(Span)0-3-9	Top	15 PSF	40 PSF	0 PSF	0 PSF	
3	Point	1-9-12		Near Face	388 lb	973 lb	0 lb	0 lb	F3
4	Part. Uniform	2-2-6 to 6-7-14		Top	1 PLF	0 PLF	0 PLF	0 PLF	Pass-Thru Framing Squash Block is required at all point loads over bearings
5	Point	2-10-12		Near Face	53 lb	117 lb	0 lb	0 lb	J3
6	Part. Uniform	3-4-12 to 6-4-12		Near Face	49 PLF	112 PLF	0 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements
	Self Weight				8 PLF				

Notes

Calculated Structural 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

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

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

Manufacturer Info

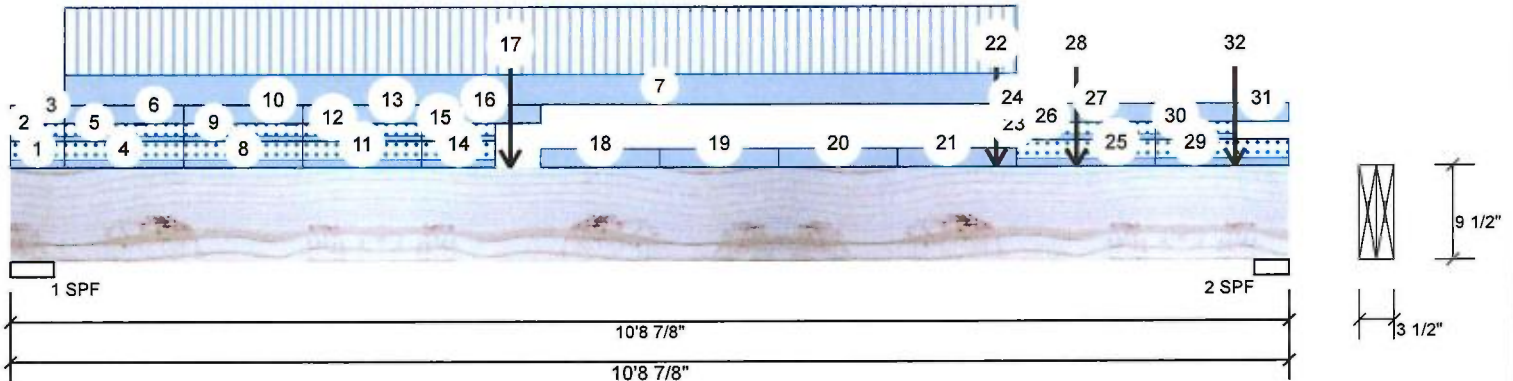
Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

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This design

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F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	1437	1455	719	0
2	1424	1411	689	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.375"	46%	1819 / 2516	4335 L	1.25D+1.5L +0.5S
2 - SPF	3.500"	56%	1764 / 2480	4244 L	1.25D+1.5L +0.5S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	10861 ft-lb	5'2 11/16"	22724 ft-lb	0.478 (48%)	1.25D+1.5L +0.5S	L
Unbraced	10861 ft-lb	5'2 11/16"	20666 ft-lb	0.526 (53%)	1.25D+1.5L +0.5S	L
Shear	4404 lb	9'8 5/8"	9277 lb	0.475 (47%)	1.25D+1.5L +0.5S	L
Perm Defl in.	0.147 (L/833)	5'4 7/16"	0.340 (L/360)	0.430 (43%)	D	Uniform
LL Defl inch	0.187 (L/656)	5'4 1/2"	0.340 (L/360)	0.550 (55%)	L+0.5S	L
TL Defl inch	0.334 (L/367)	5'4 7/16"	0.510 (L/240)	0.650 (65%)	D+L+0.5S	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 0-5-7		Top	34 PLF	0 PLF	80 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 0-5-7		Top	23 PLF	0 PLF	53 PLF	0 PLF	
3	Part. Uniform	0-0-0 to 0-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Pass-Thru Framing Squash Block is required at all points over bearings
4	Part. Uniform	0-5-7 to 1-5-7		Top	34 PLF	0 PLF	80 PLF	0 PLF	
5	Part. Uniform	0-5-7 to 1-5-7		Top	23 PLF	0 PLF	53 PLF	0 PLF	Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Continued on page 2...

Notes

Calculated Structural 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

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

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.

- For flat roofs provide proper drainage to prevent ponding.

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

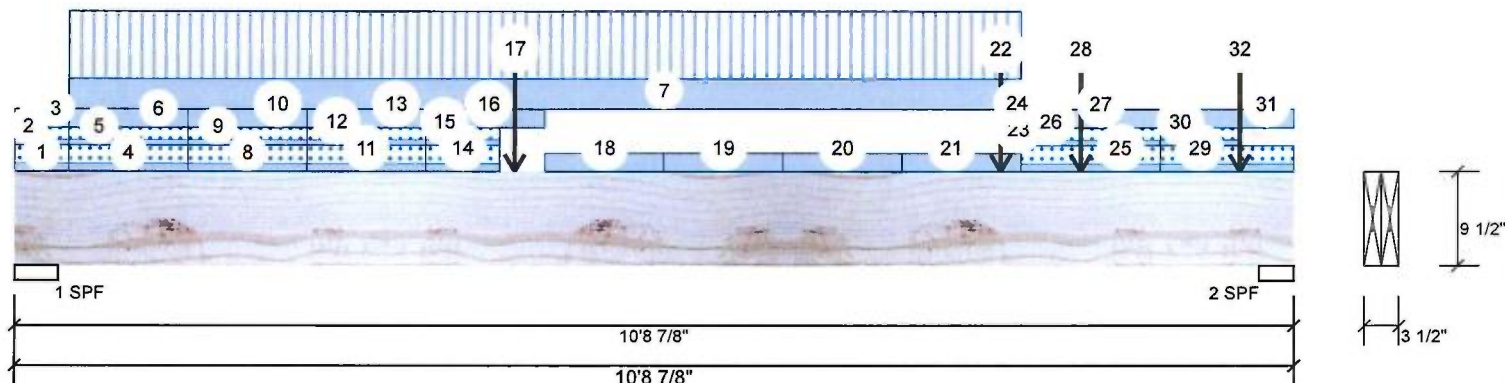
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This design

NASCOR

F12-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Second Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Part. Uniform	0-5-7 to 1-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	0-5-7 to 8-5-7		Near Face	134 PLF	291 PLF	0 PLF	0 PLF	
8	Part. Uniform	1-5-7 to 2-5-7		Top	34 PLF	0 PLF	80 PLF	0 PLF	
9	Part. Uniform	1-5-7 to 2-5-7		Top	23 PLF	0 PLF	53 PLF	0 PLF	
10	Part. Uniform	1-5-7 to 2-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
11	Part. Uniform	2-5-7 to 3-5-7		Top	34 PLF	0 PLF	80 PLF	0 PLF	
12	Part. Uniform	2-5-7 to 3-5-7		Top	23 PLF	0 PLF	53 PLF	0 PLF	
13	Part. Uniform	2-5-7 to 3-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
14	Part. Uniform	3-5-7 to 4-0-14		Top	34 PLF	0 PLF	80 PLF	0 PLF	
15	Part. Uniform	3-5-7 to 4-0-14		Top	23 PLF	0 PLF	53 PLF	0 PLF	
16	Part. Uniform	3-5-7 to 4-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
17	Point	4-2-6		Top	141 lb	0 lb	288 lb	0 lb	Header Column
18	Part. Uniform	4-5-7 to 5-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
19	Part. Uniform	5-5-7 to 6-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
20	Part. Uniform	6-5-7 to 7-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
21	Part. Uniform	7-5-7 to 8-5-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
22	Point	8-3-6		Top	141 lb	0 lb	288 lb	0 lb	Header Column
23	Part. Uniform	8-4-14 to 8-5-7		Top	34 PLF	0 PLF	80 PLF	0 PLF	
24	Part. Uniform	8-4-14 to 8-5-7		Top	23 PLF	0 PLF	53 PLF	0 PLF	
25	Part. Uniform	8-5-7 to 9-7-7		Top	34 PLF	0 PLF	80 PLF	0 PLF	
26	Part. Uniform	8-5-7 to 9-7-7		Top	23 PLF	0 PLF	53 PLF	0 PLF	
27	Part. Uniform	8-5-7 to 9-7-7		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
28	Point	8-11-7		Near Face	138 lb	340 lb	0 lb	0 lb	J7
29	Part. Uniform	9-7-7 to 10-8-14		Top	34 PLF	0 PLF	80 PLF	0 PLF	
30	Part. Uniform	9-7-7 to 10-3-6		Top	23 PLF	0 PLF	53 PLF	0 PLF	
31	Part. Uniform	9-7-7 to 10-8-14		Top	80 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
32	Point	10-3-7		Near Face	79 lb	193 lb	4 lb	0 lb	J7
	Self Weight				8 PLF				

Notes

Calculated Structural 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.

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

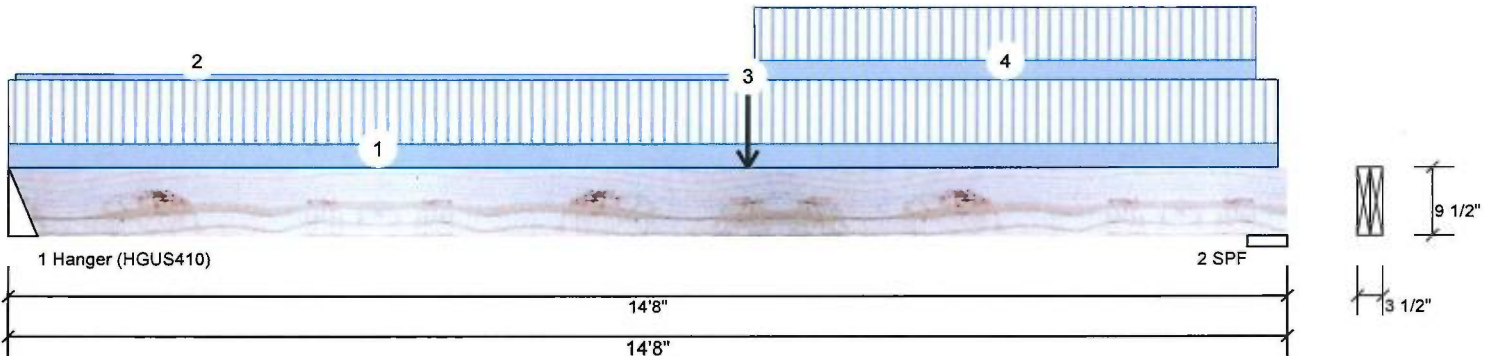
Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

NASCOR

This design is valid until 7/10/2021

F13-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Second Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	422	234	0	0
2	585	292	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - Hanger	4.000"	9%	292 / 632	925 L	1.25D+1.5L
2 - SPF	5.500"	10%	365 / 877	1242 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	5610 ft-lb	8'5 3/4"	22724 ft-lb	0.247 (25%)	1.25D+1.5L	L
Unbraced	5610 ft-lb	8'5 3/4"	18853 ft-lb	0.298 (30%)	1.25D+1.5L	L
Shear	1154 lb	13'5 3/4"	9277 lb	0.124 (12%)	1.25D+1.5L	L
Perm Defl in.	0.083 (L/2020)	7'7 1/8"	0.467 (L/360)	0.180 (18%)	D	Uniform
LL Defl inch	0.168 (L/999)	7'8 1/8"	0.467 (L/360)	0.360 (36%)	L	L
TL Defl inch	0.251 (L/668)	7'7 13/16"	0.700 (L/240)	0.360 (36%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Multiple plies must be fastened together as per manufacturer's details.
- 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 full section width.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 14-6-12	(Span) 1-1-2	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-1-0 to 8-3-11		Top	2 PLF	0 PLF	0 PLF	0 PLF	
3	Point	8-5-12		Far Face	239 lb	583 lb	0 lb	0 lb	Pass-Thru Framing Squash Block is required at all point loads over bearings
4	Tie-In	8-6-10 to 14-3-12	(Span) 0-10-14	Top	15 PSF	40 PSF	0 PSF	0 PSF	
	Self Weight				8 PLF				Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements

Notes

Calculated Structural 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

Manufacturer Info

Forex
APA: PR-L318

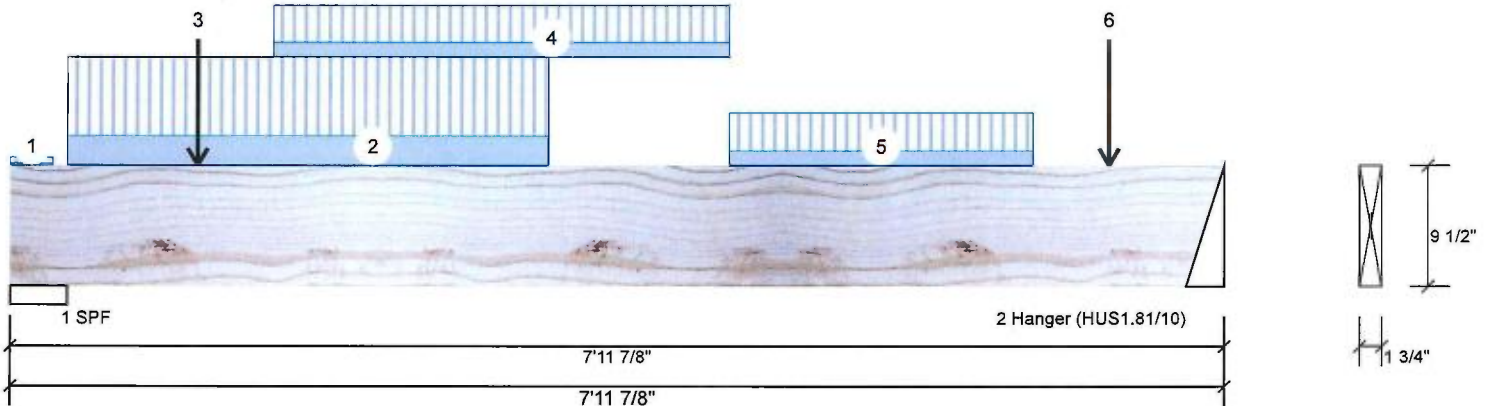
Kott Lumber Company
14 Anderson Blvd, Ontario
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L4A 7X4
905-642-4400

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NASCOR

F4-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" - PASSED

Level: Second Floor



Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	1	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	978	389	0	0
2	583	239	0	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF	4.500"	40%	486 / 1467	1953 L	1.25D+1.5L
2 - Hanger	3.000"	30%	298 / 874	1172 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3003 ft-lb	3'2 15/16"	11362 ft-lb	0.264 (26%)	1.25D+1.5L	L
Unbraced	3003 ft-lb	3'2 15/16"	4978 ft-lb	0.603 (60%)	1.25D+1.5L	L
Shear	1594 lb	1'1 1/4"	4638 lb	0.344 (34%)	1.25D+1.5L	L
Perm Defl in.	0.028 (L/3259)	3'9 3/4"	0.250 (L/360)	0.110 (11%)	D	Uniform
LL Defl inch	0.069 (L/1310)	3'9 9/16"	0.250 (L/360)	0.270 (27%)	L	L
TL Defl inch	0.096 (L/934)	3'9 5/8"	0.374 (L/240)	0.260 (26%)	D+L	L

Design Notes

- 1 Fill all hanger nailing holes.
- 2 Girders are designed to be supported on the bottom edge only.
- 3 Top braced at bearings.
- 4 Bottom braced at bearings.

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Tie-In	0-0-0 to 0-3-6	(Span)0-10-7	Top	15 PSF	40 PSF	0 PSF	0 PSF	
2	Part. Uniform	0-4-8 to 3-6-8		Top	90 PLF	240 PLF	0 PLF	0 PLF	
3	Point	1-2-12		Far Face	46 lb	117 lb	0 lb	0 lb	J3
4	Part. Uniform	1-8-12 to 4-8-12		Far Face	44 PLF	112 PLF	0 PLF	0 PLF	
5	Part. Uniform	4-8-12 to 6-8-12		Far Face	45 PLF	116 PLF	0 PLF	0 PLF	
6	Point	7-2-12		Far Face	42 lb	111 lb	0 lb	0 lb	J2
	Self Weight				4 PLF				

Pass Thru Framing Squash Block is required at all point loads over bearings

Refer to Multiple Member Connection Detail for ply to ply nailing or bolting requirements



August 17, 2018

Notes

Calculated Structural 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.

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

Manufacturer Info

Forex
APA: PR-L318

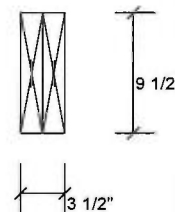
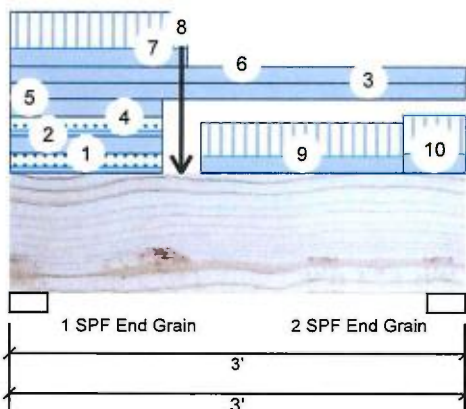
Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

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This design

NASCOR



FH3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED Level: Ground Floor

Member Information

Type:	Girder	Application:	Floor (Residential)
Plies:	2	Design Method:	LSD
Moisture Condition:	Dry	Building Code:	NBCC 2010 / OBC 2012
Deflection LL:	360	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal	Vibration:	Not Checked
General Load			
Floor Live:	40 PSF		
Dead:	15 PSF		

Unfactored Reactions UNPATTERNED lb (Uplift)

Brg	Live	Dead	Snow	Wind
1	128	510	167	0
2	130	328	69	0

Bearings and Factored Reactions

Bearing	Length	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	16%	637 / 251	888 L	1.25D+1.5S
2 - SPF End Grain	3.000"	10%	410 / 195	606 L	1.25D+1.5L

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	580 ft-lb	1'1 1/2"	16361 ft-lb	0.035 (4%)	1.25D+1.5S	L
Unbraced	580 ft-lb	1'1 1/2"	16361 ft-lb	0.035 (4%)	1.25D+1.5S	L
Shear	566 lb	11 3/4"	6679 lb	0.085 (8%)	1.25D+1.5S	L
Perm Defl in. (L/17575)	0.002	1'1 11/16"	0.088 (L/360)	0.020 (2%)	D	Uniform
LL Defl inch (L/39026)	0.001	1'1 1/2"	0.088 (L/360)	0.010 (1%)	S+0.5L	L
TL Defl inch (L/12120)	0.003	1'1 1/2"	0.131 (L/240)	0.020 (2%)	D+S+0.5L	L

Design Notes

- Girders are designed to be supported on the bottom edge only.
- Multiple plies must be fastened together as per manufacturer's details.
- Top loads must be supported equally by all plies.
- Top braced at bearings.
- Bottom braced at bearings.
- Lateral slenderness ratio based on full section width.



August 17, 2018

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
1	Part. Uniform	0-0-0 to 1-0-0		Top	14 PLF	0 PLF	34 PLF	0 PLF	
2	Part. Uniform	0-0-0 to 1-0-0		Top	44 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
3	Part. Uniform	0-0-0 to 3-0-0		Top	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
4	Part. Uniform	0-0-0 to 1-0-0		Near Face	14 PLF	0 PLF	34 PLF	0 PLF	
5	Part. Uniform	0-0-0 to 1-0-0		Near Face	44 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight

Continued on page 2...

Notes

Calculated Structural 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

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

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

Manufacturer Info

Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
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905-642-4400

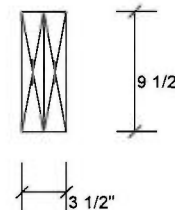
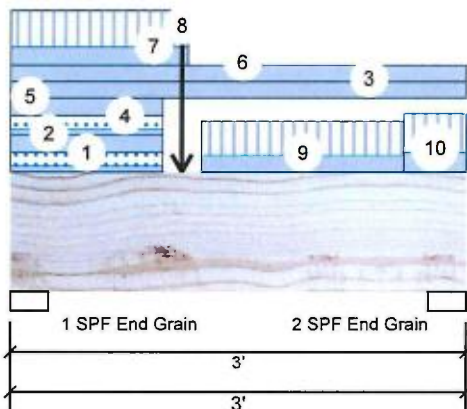
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This design

NASCOR


FH3-A Forex 2.0E-3000Fb LVL 1.750" X 9.500" 2-Ply - PASSED

Level: Ground Floor



...Continued from page 1

ID	Load Type	Location	Trib Width	Side	Dead	Live	Snow	Wind	Comments
6	Part. Uniform	0-0-0 to 3-0-0		Near Face	40 PLF	0 PLF	0 PLF	0 PLF	Wall Self Weight
7	Part. Uniform	0-0-0 to 1-2-0		Near Face	45 PLF	90 PLF	0 PLF	0 PLF	J3
8	Point	1-1-8		Top	332 lb	0 lb	168 lb	0 lb	Header Column Header Column
9	Part. Uniform	1-3-1 to 2-7-1		Near Face	41 PLF	85 PLF	0 PLF	0 PLF	J3
10	Part. Uniform	2-7-1 to 3-0-0		Near Face	48 PLF	97 PLF	0 PLF	0 PLF	J3
	Self Weight				8 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

Manufacturer Info

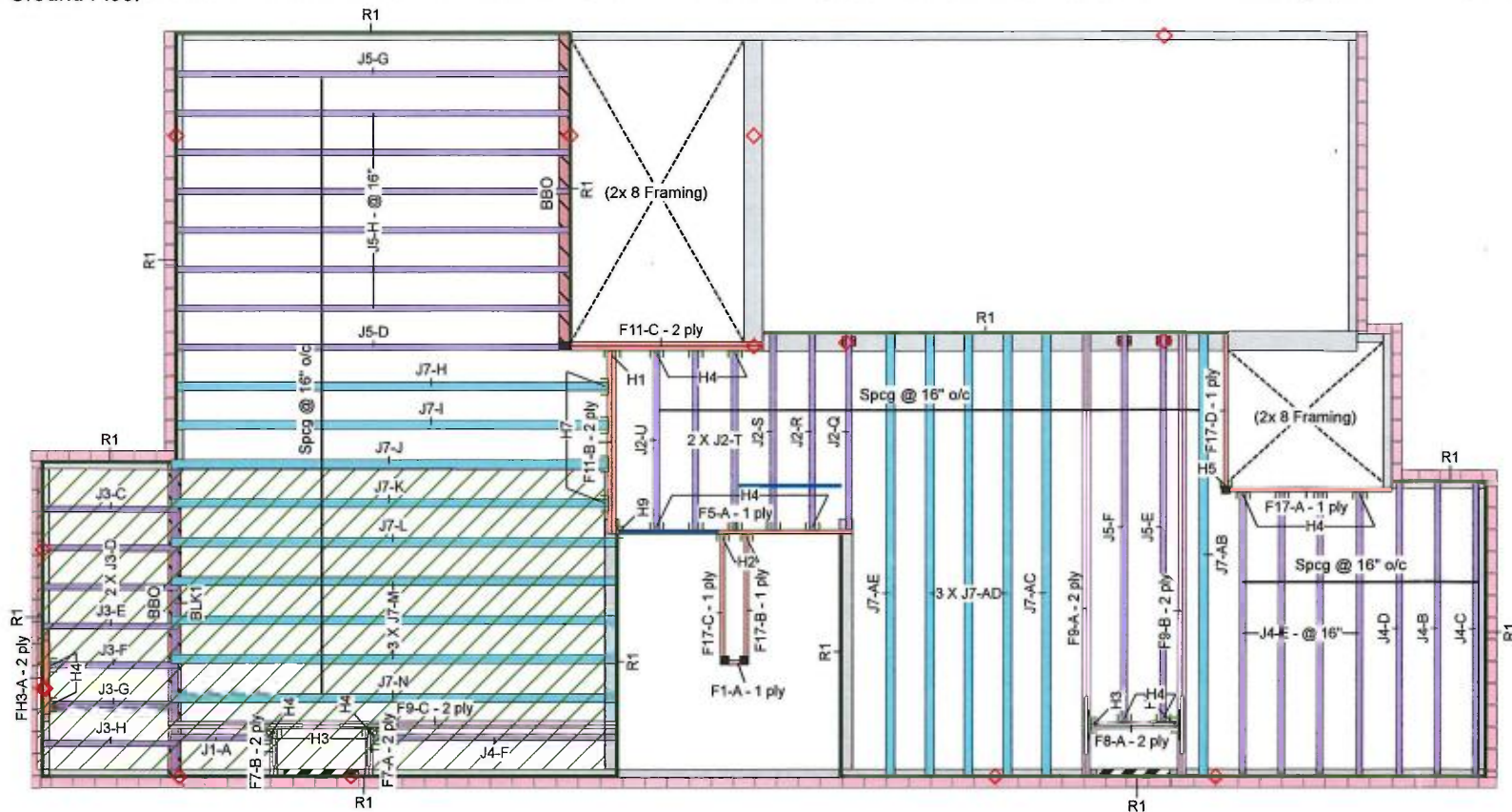
Forex
APA: PR-L318

Kott Lumber Company
14 Anderson Blvd, Ontario
Canada
L4A 7X4
905-642-4400

NASCOR

This design is valid until 7/10/2021

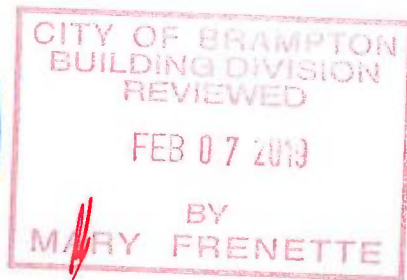
Ground Floor



WHERE FOUNDATION WALLS MUST BE
LATERALLY SUPPORTED AND NO DETAIL IS
PROVIDED BY THE BUILDING DESIGNER, SEE
DETAIL U3 IN THE NASCOR SPECIFIER GUIDE

This certification is to confirm that:
1. The loads used in the calculation of the
attached approved components conform to the
floor assembly shown on this layout.
2. The floor joists comply with the Nascor
span table for the loads and spacing shown on
this layout.

The floor system must be assembled in
accordance to the Nascor Specifier Guide.
Multi-ply members must be attached together
as per the included multiple member
connection detail.
All other components and structural elements
supporting the floor system such as beams,
walls, columns and foundation walls and
footings including anchorage of components
and bracing for lateral stability are the
responsibility of others.



All work shall conform to the Ontario
Building Code O. Reg. 332/12 as amended

Engineered floor joists shall be installed
in accordance with the supplier's layout and
specifications forming part of the permit drawings.

Legend

	Load from Above
	Wall
	Wall Opening
	Norbord Rimboard Plus 1.125 X 9.5
	NJ 9.5
	NJ60U 9.5
	NJH 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5

- OBC 2012 O.Reg 332/12 as amended
- Nascor CCMC - 13535-R
- LVL CCMC -14056-R
- CAN/CSA-O86-09
- CCMC -12787-R APA PR-L310(C)

Ground Floor LVL/LSL (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F5	Forex 2.0E-3000Fb LVL	1.75	9.5			1	10-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	9.5	2	2	4	8-0-0
F17	Forex 2.0E-3000Fb LVL	1.75	9.5			4	6-0-0
FH3	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	4-0-0
F1	Forex 2.0E-3000Fb LVL	1.75	9.5			1	2-0-0

Joist (Flush)							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F9	NJ	1.5	9.5	3	2	6	16-0-0
F8	NJ	1.5	9.5	1	2	2	4-0-0
F7	NJ	1.5	9.5	2	2	4	2-0-0
J7	NJ60U	3.5	9.5			15	16-0-0
J5	NJH	2.5	9.5			10	14-0-0
J4	NJH	2.5	9.5			8	10-0-0
J2	NJH	2.5	9.5			6	8-0-0
J3	NJH	2.5	9.5			7	6-0-0
J1	NJH	2.5	9.5			1	4-0-0

Rim Board							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			12	12

Blocking							
Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	8-0-0

Hanger							
				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	1	HGUS410			46 16d	16 16d	
H2	2	HUS1.81/10			30 16d	10 16d	
H3	4	LT2-159			4 10dx1 1/2	2 10dx1 1/2	
H4	18	LT259			4 10dx1 1/2	2 10dx1 1/2	
H5	1	L90					
H7	4	LT359			4 10d	2 10dx1 1/2	
H9	1	HUCQ1.81/9-SDS					

NOTES:

- Framer to verify dimensions on the architectural drawings.
- Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
- Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
- Install single-ply flush window header along inside face of rimboard/rimjoist.
- Refer to Nascor specifier guide for installation works.
- Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
- Load transfer blocks to be installed under all point loads.
- It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

ARCHITECTURAL DRAWINGS:

VA3 DESIGN
255 Consumers Rd., Suite 120, Toronto, ON
Date: Rev.5; July 23,2018
Project No: 18012
Model: Hemlock 3



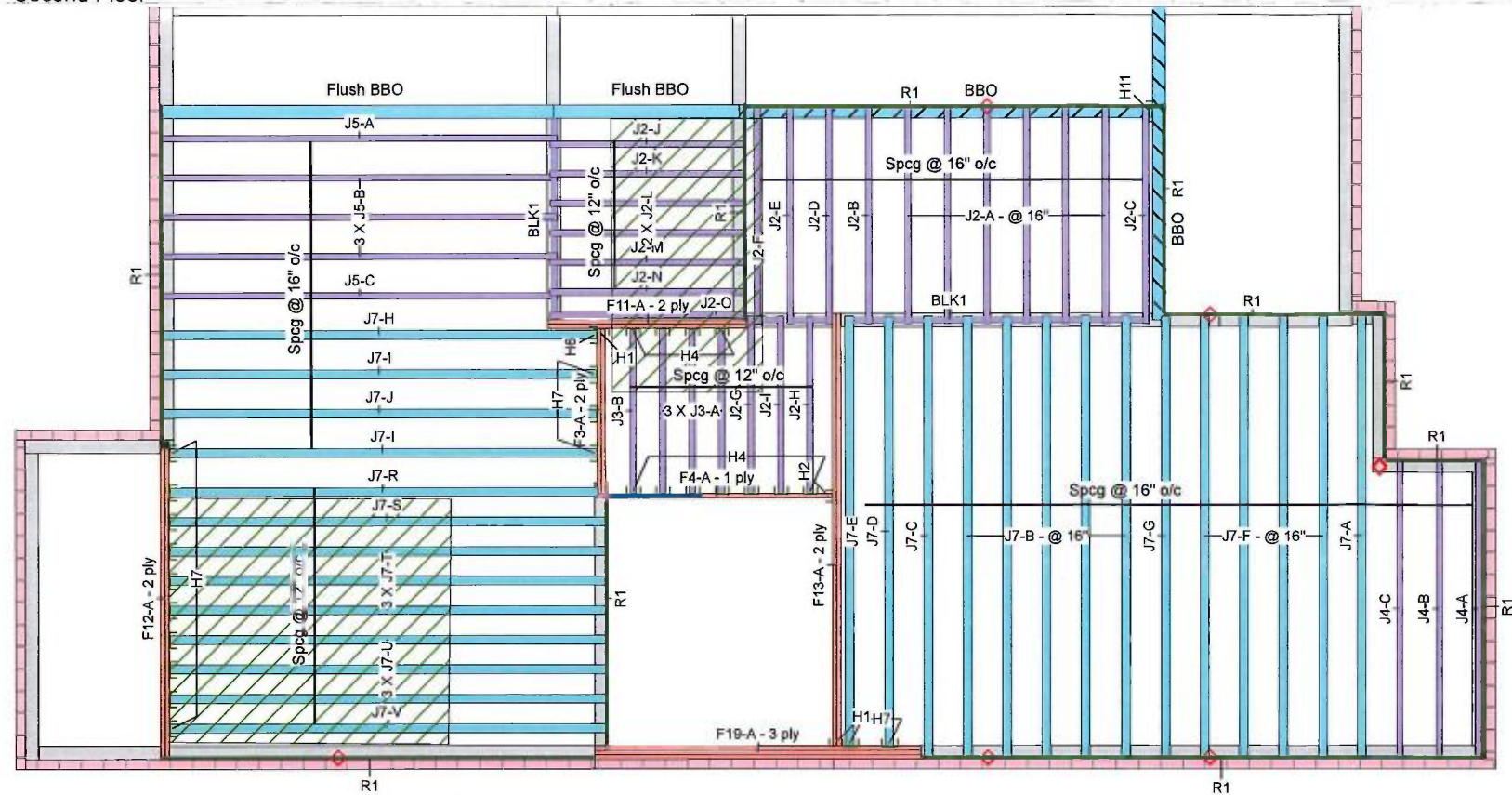
Layout Name **LOT 12 R**
HEMLOCK 3-1 (WOD) **REV**
Design Method
LSD
Description
MINNISALE HOMES CORP.
BRAMPTON, ONT.

Revised
August 13, 2018
Builder
GREENPARK
Sales Rep
RM
Designer
RCO
Shipping
Project
Builder's Project
Kott Lumber Company
14 Anderson Blvd
Stouffville, Ontario
Canada
L4A 7X4
905-642-4400

Job Path
D:\Users\rochavillo\WORK FROM
HOME\GREENPARK\MINNISALE
HOMES\HEMLOCK 3\HEMLOCK 3-1
FLOOR\REV\WOD\HEMLOCK 3-1.is
Design Method
LSD
Building Code
NBCC 2010 / OBC
2012

Floor
Loads
Live 40
Dead 15
Deflection Joist
LL Span L/ 480
TL Span L/ 360
LL Cant 2L/ 480
TL Cant 2L/ 360
Deflection Girder
LL Span L/ 360
TL Span L/ 240
LL Cant 2L/ 480
TL Cant 2L/ 360
Decking
Deck SPF Plywood
Thickness 3/4"
Fastener Nailed & Glued
Vibration

Second Floor



4 BEDROOM OPTION



August 17, 2018

This certification is to confirm that:

1. The loads used in the calculation of the attached approved components conform to the floor assembly shown on this layout.
2. The floor joists comply with the Nascor span table for the loads and spacing shown on this layout.

The floor system must be assembled in accordance to the Nascor Specifier Guide. Multi-ply members must be attached together as per the included multiple member connection detail.

All other components and structural elements supporting the floor system such as beams, walls, columns and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of others.

Legend

	Load from Above
	Wall
	Norbord Rimboard Plus 1.125 X 9.5
	NJ60U 9.5
	NJH 9.5
	Forex 2.0E-3000Fb LVL 1.75 X 9.5
	5.25 X 9.5

1. OBC 2012 O.Reg 332/12 as amended
2. Nascor CCMC - 13535-R
3. LVL CCMC -14056-R
4. CAN/CSA-O86-09
5. CCMC -12787-R APA PR-L310(C)

Second Floor
LVL/LSL (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
F13	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	16-0-0
F19	Forex 2.0E-3000Fb LVL	1.75	9.5	1	3	3	12-0-0
F12	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	12-0-0
F11	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	8-0-0
F4	Forex 2.0E-3000Fb LVL	1.75	9.5			1	8-0-0
F3	Forex 2.0E-3000Fb LVL	1.75	9.5	1	2	2	6-0-0

Joist (Flush)

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
J7	NJ60U	3.5	9.5			27	16-0-0
J5	NJH	2.5	9.5			5	14-0-0
J4	NJH	2.5	9.5			3	10-0-0
J2	NJH	2.5	9.5			21	8-0-0
J3	NJH	2.5	9.5			4	6-0-0

Rim Board

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
R1	Norbord Rimboard Plus 1.125 X 9.5	1.125	9.5			9	12

Blocking

Label	Description	Width	Depth	Qty	Plies	Pcs	Length
BLK1	NJH	2.5	9.5	LinFt		Varies	13-0-0

Hanger

				Beam/Girder		Supported Member	
Label	Pcs	Description	Skew	Slope	fasteners	fasteners	
H1	2	HGUS410			46 16d	16 16d	
H2	1	HUS1.81/10			30 16d	10 16d	
H4	11	LT259			4 10dx1 1/2	2 10dx1 1/2	
H6	1	LT359					
H7	15	LT359			4 10d	2 10dx1 1/2	
H11	1	Unknown Hanger					

NOTES:

1. Framers to verify dimensions on the architectural drawings.
2. Double joist only require filler/backer ply when supporting another member using a face-mounted hanger.
3. Install 2x4 blocking @ 24" o/c under parallel non-load bearing walls.
4. Install single-ply flush window header along inside face of rimboard/rimjoist.
5. Refer to Nascor specifier guide for installation works.
6. Squash blocks recommended to be installed at end bearing on all first level joists which support loading from above exceeding two levels floor or roof.
7. Load transfer blocks to be installed under all point loads.
8. It shall be the framer's responsibility that floor joists and beams are fastened as per the hanger manufacturer's standards.

Refer to Multiple Member Connection Detail to ply to ply nailing or bolting requirements.

Rim parallel to joists: 1-1/8" rimboard with 2"x 4" block (1/16" longer than rim depth @ 16" o/c). All other components and structural elements supporting the floor system such as beams, walls, columns, and foundation walls and footings including anchorage of components and bracing for lateral stability are the responsibility of Others.

Hatch area represents ceramic tiled floor with an additional dead load of 5 PSF

The framing shown on this layout may deviate from the architectural and structural drawings. Project Engineer to review and approve the deviation prior to construction.

ARCHITECTURAL DRAWINGS:

VA3 DESIGN
255 Consumers Rd., Suite 120, Toronto, ON
Date: Rev.5; July 23, 2018
Project No: 18012
Model: Hemlock 3

NASCOR

Layout Name
HEMLOCK 3-1

Design Method
LSD

Description
MINNISALE HOMES CORP.
BRAMPTON, ONT.

Revised
August 13, 2018

Builder
GREENPARK

Sales Rep
RM

Designer
RCO

Shipping

Project

Builder's Project

Kott Lumber Company

14 Anderson Blvd
Stouffville, Ontario
Canada
L4A 7X4
905-642-4400

Job Path

D:\Users\rochavillo\WORK FROM HOME\GREENPARK\MINNISALE HOMES\HEMLOCK 3\HEMLOCK 3-1\FLOOR\REV4 BED OPT\HEMLOCK 3-1.isl

Second Floor

Design Method LSD
Building Code NBCC 2010 / OBC 2012

Floor

Loads

Live 40
Dead 15

Deflection Joist

LL Span L/ 480
TL Span L/ 360
LL Cant 2L/ 480
TL Cant 2L/ 360

Deflection Girder

LL Span L/ 360
TL Span L/ 240
LL Cant 2L/ 480
TL Cant 2L/ 360

Decking

Deck SPF Plywood
Thickness 5/8"

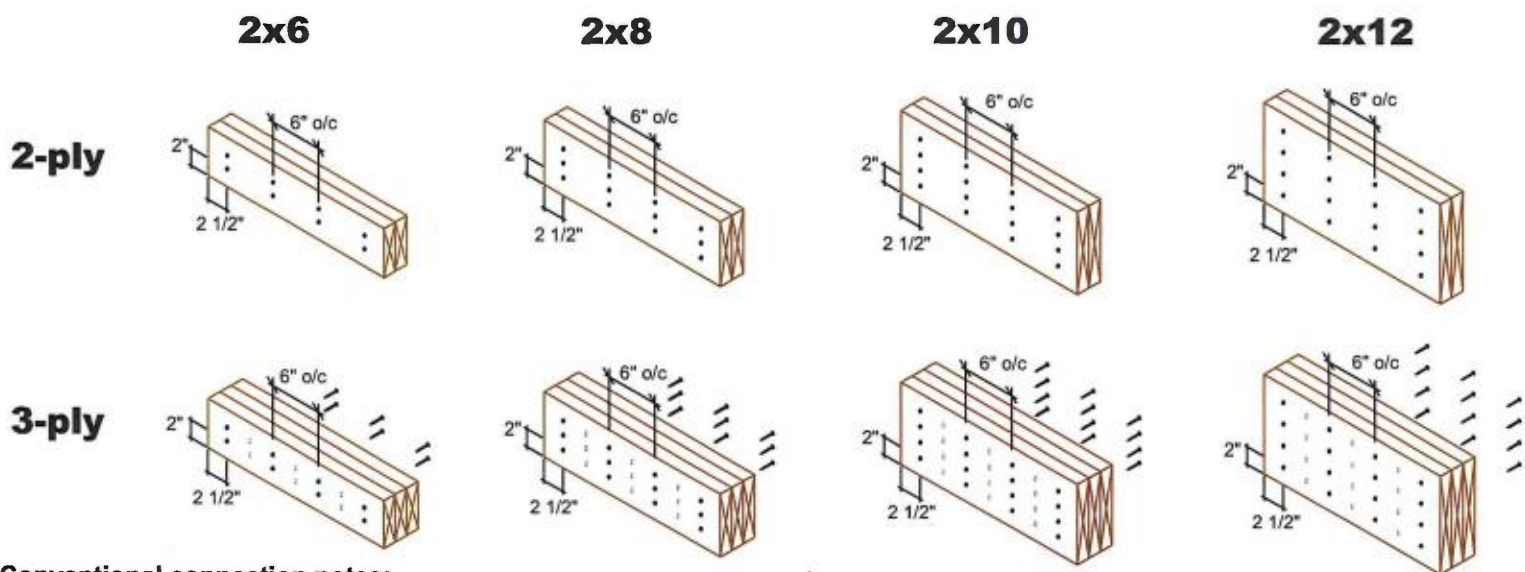
Fastener Nailed & Glued

Vibration

Ceiling: Gypsum 1/2"

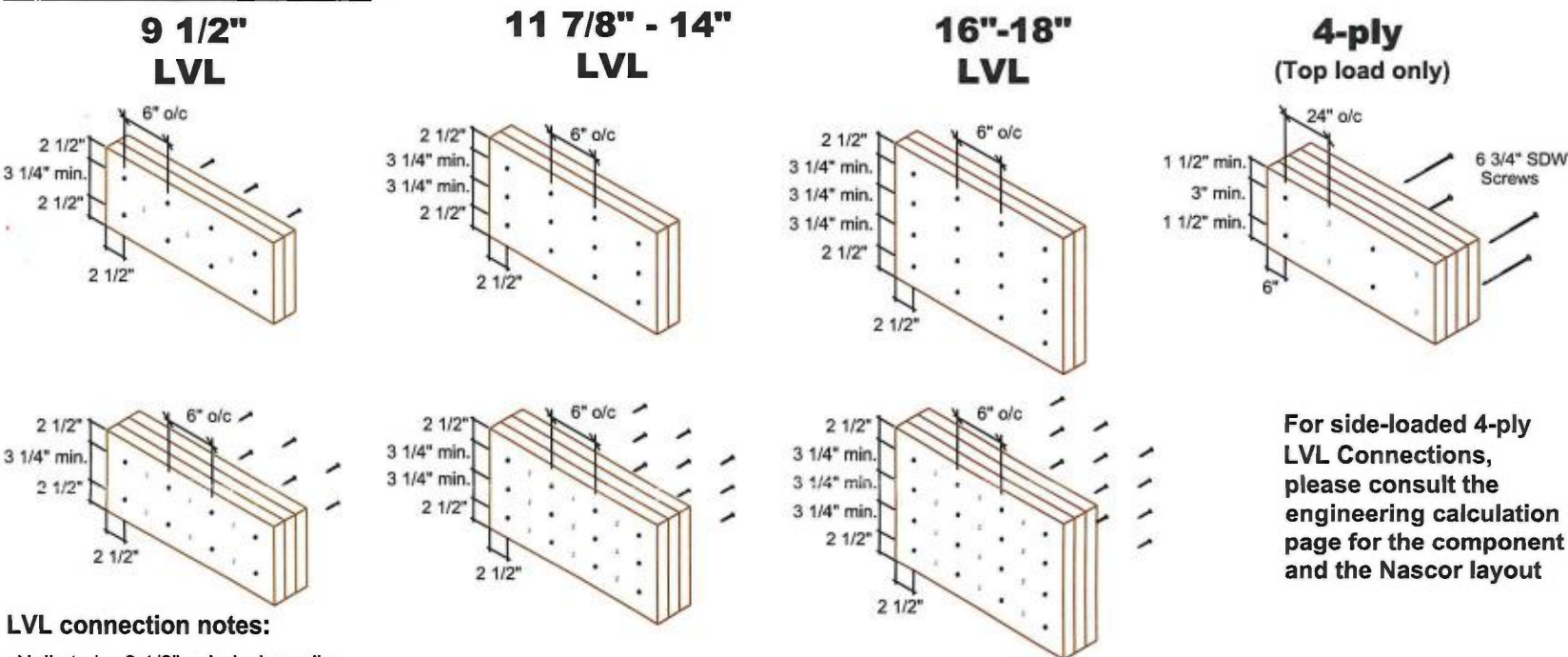
MULTIPLE MEMBER CONNECTION

Conventional Connections (for uniform distributed loads)



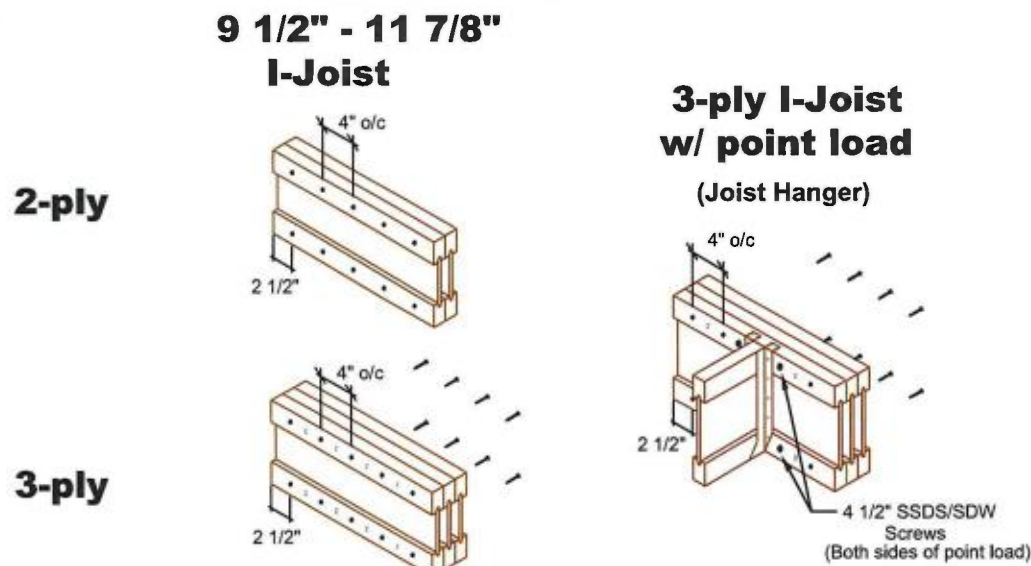
- Conventional connection notes:**
- Nails to be 3" 10d spiral wire nails.
 - Nails to be located a minimum of 2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
 - Number of rows and spacing as per details shown, unless noted otherwise.
 - "X" represents nail driven from the opposite side.

LVL Connections (for uniform distributed loads)



- LVL connection notes:**
- Nails to be 3 1/2" spiral wire nails.
 - Nails to be located a minimum of 2 1/2" from the top and bottom of the member. Start all nails a minimum of 2 1/2" in from ends.
 - Minimum 3 1/4" spacing between rows.
 - Number of rows and spacing as per details shown, unless noted otherwise.
 - "X" represents nail or screw driven from the opposite side.

Vertical I-Joist Connections (for uniform distributed loads)



- Vertical I-Joist connection notes:**
- Nails to be 3" spiral wire nails.
 - Nails to be located at centre of top and bottom flanges. Start all nails a minimum of 2 1/2" in from ends.
 - Number of rows and spacing as per details shown, unless noted otherwise.
 - "X" represents nail driven from the opposite side.