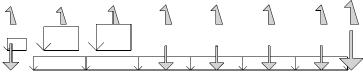


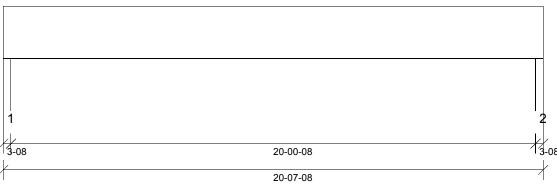
Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 3 - 2.0 RigidLam DF LVL 1-3/4 x 24

Label: 1BM1-3-i26

Page: 1 of 6 Date: 03/02/2022 16:44:43 Status: Design Passed





Graphical Illustration - Not To Scale Member Cut Length - 20-07-08 MemberPitch - 0/12

#### **Design Information:**

Building Code: IRC2015 Floor Dead Load: 10.0 lb/ft<sup>2</sup> Roof Dead Load: 10.0 lb/ft<sup>2</sup> Ground Snow Load: 20.0 lb/ft<sup>2</sup> Design Methodology: ASD Floor Live Load: 40.0 lb/ft<sup>2</sup> Roof Live Load: 20.0 lb/ft2 Unbraced Length Top: 7-04-00

## **Design Results:**

	<b>Location</b>	<u>Design</u>	<u>Control</u>	<u>Result</u>	<u>LDF</u>	Load Combination
Critical Moment (Pos)	11-04-00	40612.34 lb ft	137303.22 lb ft	Passed - 30%	1.15	D + 0.75(L + Lr)
Critical Moment (Neg)	11-04-12	-7593.36 lb ft	191030.56 lb ft	Passed - 4%	1.60	0.6D + 0.6W
Critical Shear	18-04-00	7867.87 lb	28014.00 lb	Passed - 28%	1.15	D + 0.75(L + Lr)
Live Load Deflection	10-08-13	0-02	0-12 (L/360)	Passed - L/999	-	0.75(L + Lr + 0.6W)
Total Load Deflection	10-08-01	0-04	1-00 (L/240)	Passed - L/909	-	D + 0.75(L + Lr + 0.6W)
Max. Reaction			Supported Mtl Suppor	rting Mtl		
	2-08	4780.74 lb	13781.25 lb 16078	8.13 lb Passed - 35%	1.15	D + 0.75(L + Lr)
	2-08	-721.65 lb	0.00 lb	-	1.60	0.6D + 0.6W
	20-05-00	11830.65 lb	13781.31 lb 16078	8.20 lb Passed - 86%	1.15	D + 0.75(L + Lr)
	20-05-00	-2292.55 lb	0.00 lb	-	1.60	0.6D + 0.6W

Bottom: 7-00-08

#### **Design Notes:**

\* Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

# Loading:

					Maximum Lo	ad Magnitudes	
<u>Type</u>	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	Snow
Self Weight	0-00	20-07-08	Self Weight	33 lb/ft	-	-	-
Uniform	7-04-00	8-00-12	W38(i153)	-	-	125 lb/ft	49 lb/ft
Uniform	8-04-00	20-04-00	Smoothed Load	66 lb/ft	266 lb/ft	-	-
Uniform	8-08-12	10-00-12	W38(i153)	503 lb/ft	-	465 lb/ft	195 lb/ft
Uniform	10-08-12	12-00-12	W38(i153)	538 lb/ft	-	610 lb/ft	224 lb/ft
Point	7-05-10	7-05-10	-	904.00 lb	310.00 lb	752.00/-12.00 lb	374.00 lb
Point	9-04-12	9-04-12	-	-	-14.00 lb	-	-
Point	11-04-12	11-04-12	-	-	-14.00 lb	-89.00 lb	-
Point	13-04-12	13-04-12	-	746.00 lb	-14.00 lb	857.00/-76.00 lb	323.00 lb
Point	15-04-00	15-04-00	-	739.00 lb	-14.00 lb	842.00/-76.00 lb	317.00 lb
Point	17-04-00	17-04-00	-	745.00 lb	-14.00 lb	857.00/-77.00 lb	321.00 lb
Point	19-04-00	19-04-00	-	746.00 lb	-14.00 lb	859.00/-77.00 lb	322.00 lb
Point	20-05-12	20-05-12	W37(i157)	1495.00 lb	-	1906.00/-274.00 lb	578.00 lb

## **Support Information:**

			_		<u>iviaximum Ana</u>	<u>iysis Reactions</u>	
Support	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	Snow
1	0-00	3-08	W28(i150)	2483.00 lb	1158.00/-25.00 lb	1932.00/-109.00 lb	798.00 lb
2	20-04-00	20-07-08	-	5806.00 lb	2340.00/-59.00 lb	5666.00/-572.00 lb	2032.00 lb
++>	20-06-05	20-06-05	W16(i16)	3871.00 lb	1560.00/-39.00 lb	3777.00/-381.00 lb	1355.00 lb
++>	20-06-15	20-06-15	W20(i20)	1935.00 lb	780.00/-20.00 lb	1889.00/-191.00 lb	677.00 lb

- CAUTION: The maximum net analysis reaction exceeds the user-defined maximum uplift value at one or more supports.
- \* The dead loads used in the design of this member were applied to the structure as projected dead loads.
- \* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- \* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



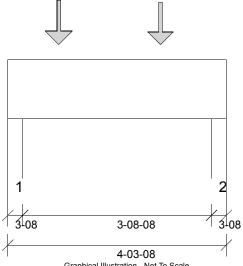
Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Label: 1BM2-2-i1089

Page: 2 of 6 Date: 03/02/2022 16:44:43

Status: Design Passed



Graphical Illustration - Not To Scale Member Cut Length - 4-03-08 MemberPitch - 0/12

DAGIA	ninta	rm otion:
1762101		rmation:

Building Code: IRC2015 Floor Dead Load: 10.0 lb/ft² Roof Dead Load: 10.0 lb/ft² Ground Snow Load: 20.0 lb/ft²

Design Methodology: ASD Floor Live Load: 40.0 lb/ft² Roof Live Load: 20.0 lb/ft²

Roof Live Load: 20.0 lb/ft²

Unbraced Length Top: 0-00 Bottom: 1-09-08

#### **Design Results:**

	<u>Location</u>	<u>Design</u>	<u>Control</u>	Result	<u>LDF</u>	Load Combination
Critical Moment (Pos)	3-00-00	1410.12 lb ft	28945.56 lb ft	Passed - 5%	1.00	D + L
Critical Shear	1-05-08	1551.85 lb	9310.00 lb	Passed - 17%	1.00	D + L
Live Load Deflection	2-01-13	0-00	0-12 (L/360)	Passed - L/999	-	L
Total Load Deflection	2-01-13	0-00	1-00 (L/240)	Passed - L/999	-	D + L
Max. Reaction			Supported Mtl Supporting Mtl			
	2-08	1572.69 lb	9187.50 lb 10718.75 lb	Passed - 17%	1.00	D + L
	4-01-00	1312.64 lb	9187.52 lb 10718.78 lb	Passed - 14%	1.00	D + L

#### **Design Notes:**

\* Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

# Loading:

					<u>Maximum Loa</u>	<u>d Magnitudes</u>	
<u>Type</u>	<u>Start</u>	<u>End</u>	<u>Source</u>	<u>Dead</u>	Floor Live	Roof Live	<u>Snow</u>
Self Weight	0-00	4-03-08	Self Weight	14 lb/ft	-	-	-
Point	1-00-00	1-00-00	-	292.00 lb	1166.00 lb	-	-
Point	3-00-00	3-00-00	-	273.00 lb	1093.00 lb	-	-

## **Support Information:**

			_		<u>Maximum Anal</u>	<u>ysis Reactions</u>	
Support	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	<u>Snow</u>
1	0-00	3-08	W21(i21)	339.00 lb	1233.00 lb	-	-
2	4-00-00	4-03-08	W24(i24)	287.00 lb	1026.00 lb	-	-

- \* The dead loads used in the design of this member were applied to the structure as projected dead loads.
- \* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- \* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

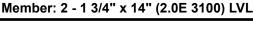
Unbraced Length Top: 0-00

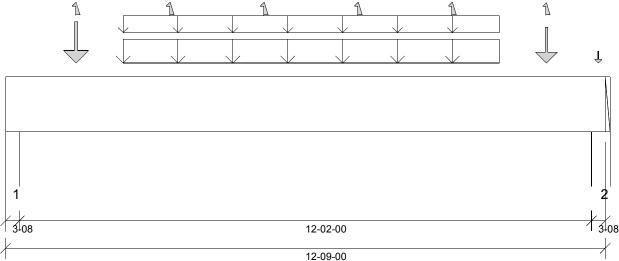
ned by Single Member Design Engine

Label: 1BM3-2-i1120

Page: 3 of 6 Date: 03/02/2022 16:44:44

Status: Design Passed





Graphical Illustration - Not To Scale Member Cut Length - 12-09-00 MemberPitch - 0/12

#### **Design Information:**

Building Code: IRC2015 Floor Dead Load: 10.0 lb/ft² Roof Dead Load: 10.0 lb/ft² Ground Snow Load: 20.0 lb/ft²

Design Methodology: ASD Floor Live Load: 40.0 lb/ft² Roof Live Load: 20.0 lb/ft²

#### **Design Results:**

	Location	<u>Design</u>	<u>Control</u>	Result	<u>LDF</u>	<b>Load Combination</b>
Critical Moment (Pos)	5-06-00	11134.50 lb ft	28945.56 lb ft	Passed - 38%	1.00	D + L
Critical Shear	1-05-08	3406.93 lb	9310.00 lb	Passed - 37%	1.00	D + L
Live Load Deflection	6-04-06	0-03	0-12 (L/360)	Passed - L/932	-	L
Total Load Deflection	6-04-06	0-03	1-00 (L/240)	Passed - L/743	-	D + L
Max. Reaction			Supported Mtl Supporting Mtl			
	2-08	3427.76 lb	9187.63 lb 10718.90 lb	Passed - 37%	1.00	D + L
	12-06-08	3427.41 lb	9187.48 lb 10718.73 lb	Passed - 37%	1.00	D + L

Bottom: 1-09-08

#### **Design Notes:**

\* Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

#### Loading:

_		Start End		Maximum Load Magnitudes				
<u>Type</u>	<u>Start</u>		Source	<u>Dead</u>	Floor Live	Roof Live	<u>Snow</u>	
Self Weight	0-00	12-09-00	Self Weight	14 lb/ft	-	-	-	
Uniform	2-06-00	10-06-00	Smoothed Load	78 lb/ft	312 lb/ft	-	-	
Uniform	2-06-00	10-06-00	Smoothed Load	28 lb/ft	158 lb/ft	-	-	
Point	1-06-00	1-06-00	-	205.00 lb	917.00/-98.00 lb	-	-	
Point	3-06-00	3-06-00	FJ22(i1062)	-	-98.00 lb	-	-	
Point	5-06-00	5-06-00	FJ22(i1059)	-	-98.00 lb	-	-	
Point	7-06-00	7-06-00	FJ22(i1112)	-	-98.00 lb	-	-	
Point	9-06-00	9-06-00	FJ22(i1094)	-	-98.00 lb	-	-	
Point	11-06-00	11-06-00	-	171.00 lb	763.00/-79.00 lb	-	-	
Point	12-07-04	12-07-04	W39(i232)	17 00 lb	_	19 00 lb	5 00 lb	

#### **Support Information:**

				Maximum Analysis Reactions				
Support	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	Snow	
1	0-00	3-08	W24(i24)	703.00 lb	2725.00/-286.00 lb	-	-	
2	12-05-08	12-09-00	W15(i18)	717.00 lb	2711.00/-283.00 lb	19.00 lb	5.00 lb	

- \* The dead loads used in the design of this member were applied to the structure as projected dead loads.
- \* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- \* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



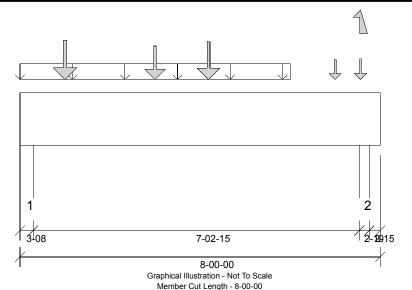
Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Label: 1BM4-2-i1068

Page: 4 of 6 Date: 03/02/2022 16:44:44

Status: Design Passed



MemberPitch - 0/12

Ground Snow Load:

20.0 lb/ft<sup>2</sup>

Design Information:

Floor Dead Load: 10.0 lb/ft² Roof Dead Load: 10.0 lb/ft² Floor Live Load: 40.0 lb/ft² Roof Live Load: 20.0 lb/ft²

Unbraced Length Top: 0-00 Bottom: 1-09-08

**Design Results:** 

Design Methodology: ASD

IRC2015

Building Code:

	Location	<u>Design</u>	<u>Control</u>	Result	LDF	<b>Load Combination</b>
Critical Moment (Pos)	3-07-03	3430.80 lb ft	28945.56 lb ft	Passed - 12%	1.00	D + L
Critical Shear	1-05-08	1974.57 lb	9310.00 lb	Passed - 21%	1.00	D + L
Live Load Deflection	3-10-01	0-00	0-12 (L/360)	Passed - L/999	-	L
Total Load Deflection	3-10-01	0-00	1-00 (L/240)	Passed - L/999	-	D + L
Max. Reaction			Supported Mtl Supporting Mtl			
	2-08	1995.41 lb	9187.42 lb 10718.66 lb	Passed - 22%	1.00	D + L
	7-07-12	1295.90 lb	6890.59 lb 8039.03 lb	Passed - 19%	1.00	D + L

#### **Design Notes:**

- \* The deflection at the cantilever for either live and/or total loads is less than 3/8" and therefore has been excluded from the deflection ratio considerations.
- \* Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code
- specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

# <u>Loading:</u>

				Maximum Load Magnitudes			
<u>Type</u>	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	Snow
Self Weight	0-00	8-00-00	Self Weight	14 lb/ft	-	-	-
Uniform	0-00	6-00-00	Smoothed Load	36 lb/ft	144 lb/ft	-	-
Point	7-00-00	7-00-00	FJ8(i1096)	46.00 lb	184.00 lb	-	-
Point	7-06-12	7-06-12	FJ8(i1118)	-100.00 lb	103.00 lb	13.00/-133.00 lb	-41.00 lb
Point	1-00-00	1-00-00	FJ14(i1119)	136.00 lb	543.00 lb	-	-
Point	3-00-00	3-00-00	FJ14(i1105)	109.00 lb	436.00 lb	-	-
Point	4-02-04	4-02-04	FJ12(i1113)	128.00 lb	512.00 lb	-	-

#### **Support Information:**

				<u>IVIAXIITUITI ATIAIYSIS REACTIOTIS</u>				
Support	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	<u>Snow</u>	_
1	0-00	3-08	W20(i20)	444.00 lb	1551.00 lb	-	-	
2	7-06-07	7-09-01	W26(i142)	205.00 lb	1091.00 lb	13.00/-133.00 lb	-41.00 lb	

- \* The dead loads used in the design of this member were applied to the structure as projected dead loads.
- \* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- \* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.



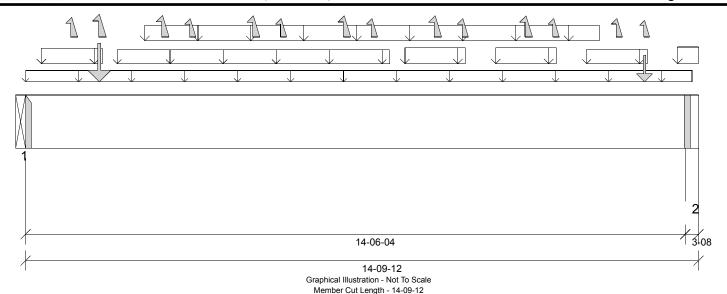
Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Label: 1BM5-2-i1060

Page: 5 of 6 Date: 03/02/2022 16:44:44

Status: Design Passed



#### **Design Information:**

Building Code: IRC2015 Floor Dead Load: 10.0 lb/ft<sup>2</sup> Roof Dead Load: 10.0 lb/ft<sup>2</sup> Ground Snow Load: 40.0 lb/ft<sup>2</sup> Design Methodology: ASD Floor Live Load: Roof Live Load: 20.0 lb/ft2

Unbraced Length Top: 0-00

Bottom: 1-10-08

MemberPitch - 0/12

20.0 lb/ft<sup>2</sup>

## **Design Results:**

	Location	<u>Design</u>	<u>Cor</u>	<u>ntrol</u>	Result	<u>LDF</u>	Load Combination
Critical Moment (Pos)	7-07-08	6216.45 lb ft	33287.39 lb ft		Passed - 19%	1.15	D + 0.75(L + Lr)
Critical Moment (Neg)	7-00-03	-676.78 lb ft	46312.	89 lb ft	Passed - 1%	1.60	0.6D + 0.6W
Critical Shear	1-02-00	1532.98 lb	10706	6.50 lb	Passed - 14%	1.15	D + 0.75(L + Lr)
Live Load Deflection	7-03-06	0-01	0-12 (	L/360)	Passed - L/999	-	0.75(L + Lr + 0.6W)
Total Load Deflection	7-03-07	0-03	1-00 (	L/240)	Passed - L/999	-	D + 0.75(L + Lr + 0.6W)
Max. Reaction			Supported Mtl	Supporting Mtl			
	0-00	1698.72 lb	1698.72 lb	0.00 lb	Passed - 100%	1.15	D + 0.75(L + Lr)
	0-00	-184.83 lb	0.00 lb	-		1.60	0.6D + 0.6W
	14-07-04	1668.91 lb	9187.51 lb	10718.76 lb	Passed - 18%	1.15	D + 0.75(L + Lr)
	14-07-04	-105.33 lb	0.00 lb	-		1.60	0.6D + 0.6W

#### **Design Notes:**

\* Member design assumed proper ply to ply connection by others. Fastener spacing along length of member must not exceed 4 times depth of member. Verify connection between plies according to code specification and follow the manufacturer's installation instruction. Loads assumed to be distributed equally to each ply.

#### Loading:

				Maximum Load Magnitudes			
<u>Type</u>	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	Snow
Self Weight	0-00	14-09-12	Self Weight	14 lb/ft	-	-	-
Uniform	0-00	14-08-00	FC1 Floor Decking	10 lb/ft	40 lb/ft	-	-
Uniform	4-03	1-08-03	W31(i155)	53 lb/ft	-	68 lb/ft	22 lb/ft
Uniform	2-00-03	8-00-03	W31(i155)	39 lb/ft	-	45 lb/ft	17 lb/ft
Uniform	2-07-08	12-07-08	Smoothed Load	63 lb/ft	-	56 lb/ft	34 lb/ft
Uniform	8-04-03	9-08-03	W31(i155)	59 lb/ft	-	67 lb/ft	25 lb/ft
Uniform	10-04-03	11-08-03	W31(i155)	58 lb/ft	-	64 lb/ft	25 lb/ft
Uniform	12-04-03	13-08-03	W31(i155)	53 lb/ft	-	56 lb/ft	17 lb/ft
Uniform	14-04-03	14-09-12	W31(i155)	62 lb/ft	-	74 lb/ft	19 lb/ft
Point	1-07-08	1-07-08	E1(c01)	154.00 lb	-	171.00/-5.00 lb	103.00 lb
Point	3-07-08	3-07-08	E1(c02)	-	-	-3.00 lb	-
Point	5-07-08	5-07-08	E1(c03)	-	-	-3.00 lb	-
Point	7-07-08	7-07-08	E1(c04)	-	-	-3.00 lb	-
Point	9-07-08	9-07-08	E1(c05)	-	-	-3.00 lb	-
Point	11-07-08	11-07-08	E1(c06)	-	-	-3.00 lb	-
Point	13-07-08	13-07-08	E1(c07)	113.00 lb	-	87.00/-2.00 lb	53.00 lb
Point	1-00-03	1-00-03	W31(i155)	-	-	-	-
Point	3-00-03	3-00-03	W31(i155)	-	-	-	-
Point	5-00-03	5-00-03	W31(i155)	-	-	-	-
Point	7-00-03	7-00-03	W31(i155)	-	-	-	-
Point	9-00-03	9-00-03	W31(i155)	-	-	-	-
Point	11-00-03	11-00-03	W31(i155)	-	-	-	-
Point	13-00-03	13-00-03	W31(i155)	-	-	-	-

# **Support Information:**

			_	Maximum Analysis Reactions			
Support	<u>Start</u>	<u>End</u>	Source	<u>Dead</u>	Floor Live	Roof Live	<u>Snow</u>
1	0-00	0-00	1BM1-3(i26)	904.00 lb	310.00 lb	752.00/-12.00 lb	374.00 lb
2	14-06-04	14-09-12	W12(i15)	913.00 lb	295.00 lb	712.00/-10.00 lb	348.00 lb

<sup>-</sup> Transfer reactions may differ from design results as allowed per building codes and standard load distribution practices.

<sup>-</sup> This report is based on modeled conditions input by the user. Source information for the loads and supports are provided for reference only. Verify that all loads and support conditions are correct.



Member Type: Beam | Level: 2nd Floor Designed by Single Member Design Engine

Member: 2 - 1 3/4" x 14" (2.0E 3100) LVL

Label: 1BM5-2-i1060

Page: 6 of 6 Date: 03/02/2022 16:44:44

Status: Design Passed

Connec	ctor In	forma	tion:

Nailing Requirements ıvıırı seal Member <u>Support</u> Manufacturer Model Top Other Information Face I anath Connector manually specified by the user MIU3.56/14 N/A

- \* The dead loads used in the design of this member were applied to the structure as projected dead loads.
  \* The member graphic, dimensions, and locations shown on this report are based on the centerline of the member.
- \* Analysis and Design has been performed using precision loading from actual modeled conditions. Some loads may have been modified to simplify reporting.