

Products							
PlotID	Length	Product	Plies	Net Qty			
.11	18-00-00	11 7/8" NI-40x	1	20			
J2	12-00-00	11 7/8" NI-40x	1	1			
J3	10-00-00	11 7/8" NI-40x	1	9			
B1	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1			
B3	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2			

Connector Summary							
Qty	Manuf	Product					
8	H1	IUS2.56/11.88					
1	H2	HUS1.81/10					

FIRM BCIN 28103 DESIGNER BCIN 23991



FROM PLAN DATED: APR 2019

BUILDER: ROYAL PINE HOMES

SITE: FOREST SIDE

MODEL: UNIT 1701

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: MARIO DICIANO

DESIGNER: AJ REVISION: Ibv

notes:

REFER TO THE NORDIC INSTALLATION
GUIDE FOR PROPER STORAGE AND
INSTALLATION.
SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F
REQ'D UNDER INTERIOR UNIFORM LOAD
BEARING WALLS. MULTIPLE SQUASH
BLOCKS REQ'D UNDER CONCENTRATED

BLOCKS REQ'D UNDER CONCENTRATED
LOADS. SEE FIGURE 1. CANTILEVERED
JOISTS INCLUDING CANT' OVER BRICK REQ.
I-JOIST BLOCKING ALONG BEARING AND
RIMBOARD CLOSURE AT ENDS. SEE
FIGURES 4 & 5 FOR REINFORCEMENT
REQUIREMENTS. FOR HOLES INCLUDING

DUCT CHASE AND FIELD CUT OPENINGS
SEE FIGURE 7, TABLES 1 & 2. CERAMIC TILE
APPLICATION AS PER O.B.C 9.30.6.

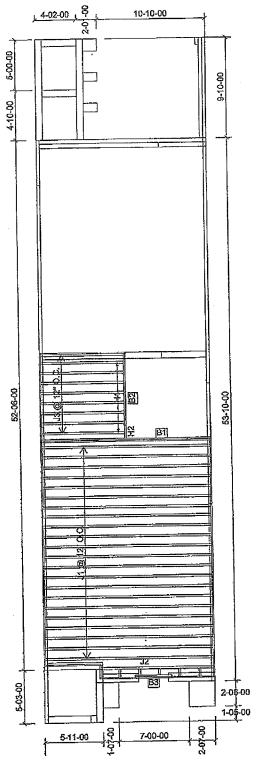
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-05-01

GRD FLOOR



10-10-00

		Products		
PlotID	Lenath	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	22
J2	12-00-00	11 7/8" NI-40x	1	1
J3	10-00-00	11 7/8" NI-40x	1	9
B1	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	. 2
B2	10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1
B3	4-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2

1	Connector Summary								
1	Qty	Manuf	Product						
	8	H1	IUS2.56/11.88						
	1	H2	HU\$1.81/10						

FIRM BCIN 28103



FROM PLAN DATED: APR 2019

BUILDER: ROYAL PINE HOMES

SITE: FOREST SIDE

MODEL: UNIT 1701

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: MARIO DICIANO

DESIGNER: AJ

REVISION: Ibv

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS, SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7, TABLES 1 & 2. CERAMIC TILE

LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft2 DEAD LOAD: 15.0 lb/ft2 TILE LOAD: 20.0 lb/ft2

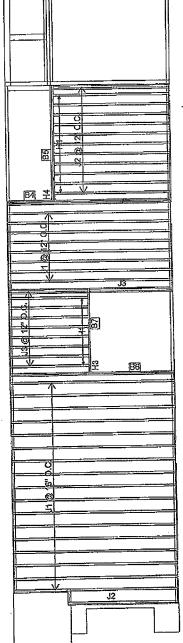
SUBFLOOR: 5/8" GLUED AND NAILED

APPLICATION AS PER O.B.C 9.30.6.

DATE: 2019-05-01

GRD FLOOR

OPTIONAL



		Products		
PlotID	Length	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	25
J2	12-00-00	11.7/8" NI-40x	1	13
J2 J3	10-00-00	11 7/8" NI-40x	1	10
	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
86		1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	3	3
B4	18-00-00		2	2
	****		_	1
B5 B7	12-00-00 10-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

ſ		Connecto	r Summary
Ì	Qty	Manuf	Product
ı	8	H1	IUS2.56/11.88
- [11	H1	IUS2.56/11.88
ı	1	H3	HUS1.81/10
- [1	H4	HGUS410

FIRM BCIN 28103/0 DESIGNER BCIN 28991



FROM PLAN DATED: APR 2019

BUILDER: ROYAL PINE HOMES

SITE: FOREST SIDE

MODEL: UNIT 1701

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: MARIO DICIANO

DESIGNER: AJ REVISION: Ibv

NOTES:

REFER TO THE NORDIC INSTALLATION **GUIDE FOR PROPER STORAGE AND** INSTALLATION. SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F. REQ'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT' OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6

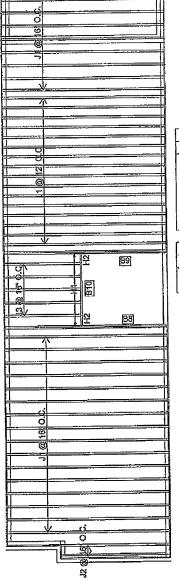
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILED AREAS: 20 lb/ft²

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-05-01

MAIN FLOOR



		Products		
PlotiD	Lenath	Product	Plies	Net Qty
J1	18-00-00	11 7/8" NI-40x	1	42
J2	12-00-00	11 7/8" NI-40x	1	2
J3	8-00-00	11 7/8" NI-40x	1	5
B8	18-00-00	1-3/4" x 11-7/8" VERSA-LAM@ 2.0 3100 SP	2	2
B9	18-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	2	2
B10	8-00-00	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	1	1

<u> </u>	Connector Summary							
Qty	Manuf	Product						
5	H1	IUS2.56/11.88						
2	H2	HUS1.81/10						

FIRM BCIN 28103 PDESIGNER BCIN 28991



FROM PLAN DATED: APR 2019

BUILDER: ROYAL PINE HOMES

SITE: FOREST SIDE

MODEL: UNIT 1701

ELEVATION: A

LOT:

CITY: BRAMPTON

SALESMAN: MARIO DICIANO

DESIGNER: AJ REVISION: Ibv

NOTES:

REFER TO THE NORDIC INSTALLATION GUIDE FOR PROPER STORAGE AND INSTALLATION. SQUASH BLOCKS OF 2x4, 2x6, 2x8 #2 S.P.F. REO'D UNDER INTERIOR UNIFORM LOAD BEARING WALLS. MULTIPLE SQUASH BLOCKS REQ'D UNDER CONCENTRATED LOADS. SEE FIGURE 1. CANTILEVERED JOISTS INCLUDING CANT OVER BRICK REQ. I-JOIST BLOCKING ALONG BEARING AND RIMBOARD CLOSURE AT ENDS. SEE FIGURE 7 TABLES 4 & 5 FOR REINFORCEMENT REQUIREMENTS. FOR HOLES INCLUDING DUCT CHASE AND FIELD CUT OPENINGS SEE FIGURE 7 TABLES 1 & 2 OF THE INSTALLATION GUIDE. CERAMIC TILE APPLICATION AS PER O.B.C. 9.30.6

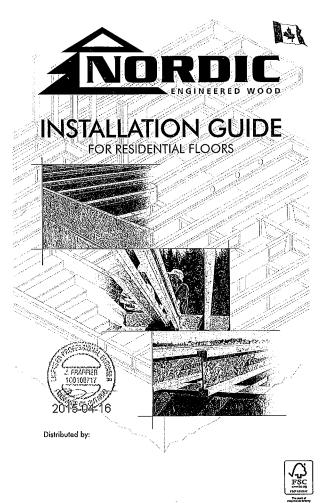
LOADING:

DESIGN LOADS: L/480.000 LIVE LOAD: 40.0 lb/ft² DEAD LOAD: 15.0 lb/ft² TILED AREAS: 20 lb/ft

SUBFLOOR: 5/8" GLUED AND NAILED

DATE: 2019-05-01

3rd FLOOR



SAFETY AND CONSTRUCTION PRECAUTIONS

Do not walk on 1-joists until fully fastened and braced, or serious inju-ries can result.



Never stack building materials over unsheathed 1-joists. Once sheathed, do not over-stress 1-joist with concentrated loads from building materials.

I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed. Avoid Accidents by Following these Important Guidelines:

Brace and noil each Lipist as it is installed, using hangers, blocking ponels, rim board, and/or cross-bridging at joist ands. When Lipists are applied continuous over interior supports and a load-bearing wall is planned at that location, blocking will be required at the interior support.

When the building is completed, the floor sheathing will provide lateral support for the top flanges of the 1-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary sheathing must be applied to prevent 1-joist rollover or buckling.

■ Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" nails fastened to the tap surface of each Lipist. Nail the bracing to a lateral restraint at the end of each boy. Lop ends of adjoining bracing over at least two Lipists.

Or, sheathing (temporary or permanent) can be nailed to the top flange of the first 4 feet of I-joists at the end of the bay.

3. For cantilevered I-joists, brace top and bottom flanges, and brace ends with closure panels, rim board, or cross-bridging.

 Install and fully nail permanent sheathing to each I-joist before placing loads on the floor system. Then, stack building materials over beams or walls only. 5. Never install a damaged I-joist.

Improper storage or installation, failure to follow opplicable building codes, failure to follow span ratings for Nordic Ljoists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when requi can result in serious accidents. Follow these installation guidelines carefully.

MAXIMUM FLOOR SPANS

- Moximum clear spans applicable to simple-span or multiple-span residential floor construction with a design live load of 40 psf and deed load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration and a live load deflection limit of L/480. For multiple-span applications, the end spans shall be 40% or more of the adjacent span.
- or more of the adjecent spon.

 2. Spans are based on a composite floor with glued-nailed oriented strand board (CSB) sheathing with a minimum thichness of 5/8 Inch for a joist sporing of 19 2 inches or less, or 3/4 inch for joist spocing of 24 inches. Adhesive shall meet the requirements given in CGBS-71.26

 Standard. No concrete tapping or bridging element was assumed. Increased spans may be achieved with the used of groun and/or a row of blocking at mid-span.
- Minimum bearing length shall be 1-3/4 inches for the end bearings, and 3-1/2 inches for the intermediate bearings.
- Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.
- 5. This span chart is based on uniform loads. For applications with other than uniform loads, an engineering analysis may be required based on the use of the design properties.
- 6. Tobles are based on Limit States Design per CAN/CSA O86-09 Standard, and NBC 2010.
- 7. SI units conversion: 1 inch = 25.4 mm

MAXIMUM FLOOR SPANS FOR NORDIC I-JOISTS SIMPLE AND MULTIPLE SPANS

Simple spans Multiple spans

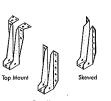
Depth	Series		On centre	spacing		On centre spacing			
Copill	3, 1,	12"	16"	19.2	24ª	12"	16".	19,2"	24
	NI-20	15'-1"	14'-2"	13'-9"	13'-5"	16'-3"	15'-4"	14'-10"	14'-7"
74.4	NI-40x	16'-1"	15'-2"	14'-8"	14'-9*	17'-5'	16'-5"	15'-10'	15'-5"
9-1/2	NI-60	16'-3"	15'-4"	14'-10"	14'-11"	17'-7"	16'-7"	16'-0'	16-1
	NI-70	17'-1"	16'-1"	15'-6"	15'-7"	18'-7"	17'-4"	16'-9"	16'-10'
	NI-80	17'-3'	16'-3'	15'-8"	15'-9*	18'-10"	17'-6"	16'-11"	17'-0"
34.5	NI-20	16'-11"	16'-0'	15'-5"	15'-6"	18'-4'	17-3	16'-8"	16'-7"
	NI-40x	18-1	17'-0"	16'-5"	16'-6"	20'-0"	18'-6"	17'-9"	17'-7"
19) 구설	NI-60	18'-4"	17'-3"	16'-7'	16'-9"	20'-3"	18'-9"	18'-0"	18'-1"
11-7/8	NI-70	19'-6"	18'-0"	17'-4"	17'-5"	21'-6"	19'-11"	19'-0"	19'-1"
3.21.123.11	NI-80	19'-9'	18'-3"	17'-6"	17'-7'	21'-9"	20'-2"	19'-3'	19'-4"
1. 48.3	NI-90	20'-2'	18'-7"	17'-10"	17'-11"	22'-3"	20'-7"	19'-8"	19'-9'
	NI-90x	20'-4"	18'-9"	17'-11"	18'-0"	22'-5"	20'-9'	19'-10"	19'-11'
1.34	N1-40x	20'-1"	18'-7"	17'-10"	17'-11"	22'-2"	20'-6"	19'-8"	19'-4"
	NI-60	20'-5"	18'-11"	18'-1"	18'-2"	22'-7*	20'-11"	20'-0"	20'-1"
	NI-70	21'-7'	20'-0"	19'-1"	19'-2'	23'-10'	22'-1"	21'-1"	21'-2"
14	NI-80	211-111	20'-3"	19'-4'	19'-5"	24'-3"	22'-5"	21'-5"	21'-6"
	NI-90	22'-5"	20'-8"	19.9	19'-10"	24'-9"	22'-10"	21'-10"	21-10
	NI-90x	22'-7*	20'-11"	19'-11'	20'-0*	25'-0"	23'-1"	22'-0"	22'-2"
A Author	NI-60	22'-3"	20'-8"	19-91	19'-10"	24'-7'	22'-9"	21'-9'	21-10
	NI-70	23'-6"	21'-9"	20'-9"	20'-10"	26'-0"	24'-0"	22'-11'	23'-0"
16'	NI-80	23'-11'	22'-1"	21-11	21'-2"	26'-5"	24'-5'	23'-3"	23'-4"
47.18.77	NI-90	24'-5"	22'-6"	21'-5"	21'-6"	26'-11"	24'-10"	23'-9"	23'-9"
A 18 8 8	NI-90x	24'-8"	22'-9'	21'-9"	21'-10"	27'-3"	25'-2"	24'-0"	24'-1"

CCMC EVALUATION REPORT 13032-R

I-JOIST HANGERS

- Hangers shown illustrate the three
- 2. All nailing must meet the honger
- Hangers should be selected based on the joist depth, flange width and load capacity based on the
- Web stiffeners are required when the sides of the hangers do not laterally brace the top flange of the I-joist.

moximum spans.



STORAGE AND HANDLING GUIDELINES

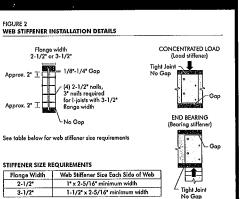
- Bundle wrap can be slippery when wet. Avoid walking on wrapped
- 2. Store, stack, and handle I-joists vertically and level only. -
- 3. Always stack and handle 1-joists in the upright position only.
- 4. Do not store I-joists in direct contact with the ground and/or flatwise. 5. Protect I-joists from weather, and use spacers to separate bundles. —
- 6. Bundled units should be kept intact until time of installation
- 7 When handling bioists with a crane on the job site, take a few simple precautions to prevent damage to the I-joists and injury to your work crew.
- Pick I-joists in bundles as shipped by the supplier.
- Orient the bundles so that the webs of the I-joists are vertical.
- Pick the bundles at the 5th points, using a spreader bar if necessary.
- 8. Do not handle I-joists in a horizontal orientation
- 9 NEVER USE OR TRY TO REPAIR A DAMAGED I-JOIST.

WEB STIFFENERS

RECOMMENDATIONS:

- A bearing stiffener is required in all engineered applications with factored reactions greater than shown in the Ljoist properties table found of the Ljoist Construction Guide (C101). The gap between the stiffener and the flange is at the top.
- A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the top flange. The gop between the stiffener and flange is at the top.
- A load stiffener is required at local where a factored concentrated load greater than 2,370 lbs is applied to the top flange than 2,370 lbs is applied to the top tange between supports, or in the case of a cantilever, anywhere between the cantilever tip and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitt by the code. The gap between the stiffener and the flange is at the bottom.

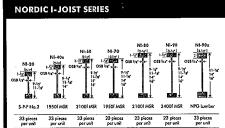
SI units conversion: 1 inch = 25.4 mm



(1g)

at 6" o c

(Im)



Chantiers Chibougamau Ltd. harvests its own trees, which enables a products to adhere to strict quality control procedures through supplied (), manufacturing process. Every phase of the operation, from forest to the finished product, reflects our commitment to quality.

finished product, reflects our commitment to quality.

Nordic Engineered Wood Lipists use only finger-jointed back study (1977)

Lumber in their flanges, ensuring consistent quality, superior starting (1977)

Longer span comming capacity. 2015-04-16

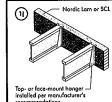
INSTALLING NORDIC I-JOISTS

- 1. Before laying out floor system components, verify that I-joist flonge widths match hanger widths. If not, contributions
- 2. Except for cutting to length, 1-joist flanges should never be cut, drilled, or notched. 3. Install 1-joists so that top and bottom flanges are within 1/2 inch of true vertical alignment
- Holists must be anchored securely to supports before floor sheathing is attached, and supports for multiple sampassymbol be level.
- be tevel.

 5. Minimum bearing lengths: 1-3/4 inches for end bearings and 3-1/2 inches for intermediate bearings 2015-04-16 6. When using hangers, seat I-joists firmly in hanger bottoms to minimize settlement.
- 7. Leave a 1/16-inch gap between the I-joist end and a header.
- 8. Concentrated loads greater than those that can narmally be expected in residential construction should only be applied to the top surface of the top flange. Narmal concentrated loads include track lighting fixtures, audio equipment and security cameras. Never suppend unusual or heavy loads from the I-joist's bottom flange. Whenever possible, suspend all concentrated loads from the top of the I-joist. Or, attach the load to blocking that has been securely fastened to the I-joist webs.
- 9. Never install I-joists where they will be permanently exposed to weather, or where they will remain in direct contact with
- 10. Restrain ends of floor joists to prevent rollover. Use rim board, rim joists or 1-joist blocking panels.
- 11. For Ligists installed over and beneath bearing walls, use full depth blocking panels, rim board, or squash blocks (cripple members) to transfer gravity loads through the floor system to the wall or foundation below.
- 12. Due to shrinkage, common framing lumber set on edge may never be used as blocking or rim boards. Lipist blocking panels or other engineered wood products such as rim board must be cut to fit between the Lipists, and an Lipist-compatible depth selected. 13. Provide permanent lateral support of the bottom flonge of all Lipits at interior supports of multiple-span joists. Similarly, support the bottom flonge of all continevered Lipits of the end support next to the contilever extension. In the completed structure, the gyszum wallboard ceiling provides this lateral support. Until the final finished ceiling is applied, temporary bracing or struts must be used.
- 14. If square-edge panels are used, edges must be supported between I-joists with 2x4 blocking. Glue panels to block minimize squeaks. Blocking is not required under structural finish flooring, such as wood strip flooring, or if a sepa underlayment layer is installed.
- 15. Nail spacing: Space noils installed to the flange's top face in accordance with the applicable building code requirements approved building plans.

TYPICAL NORDIC I-JOIST FLOOR FRAMING AND CONSTRUCTION DETAILS Some framing requirements such as erection bracing and blocking panels have been omitted for clarity. Holes may be cut in web or plumbing, wiring and duct work. See Tables 1, 2 and Figure 7. NOTE: Never cut or Figures 3, -4 or 5 (b) (t) (P)-(f) -(h)(l)(k)(m)

(1) (II) -All nails shown in the above details are assumed to be common wire nails unless otherwise noted. 3* (0.122* dia.) common spiral nails may be substituted for 2-1/2* (0.128* dia.) common wire nails. Framing tumber assumed to be Spruce-fine-fir No. 2 or better. Individual components not shown to scale for clarity.



(1e)



(lk)

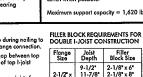
Support back of I-joist web during nailing to prevent damage to web/flange connection.

Top-mount hanger installed per 之

Use single 4-joist for loads up to 3,300 plf, double
1-joists for loads up to 6,600 plf (filler block not
required). Attach 1-joist to

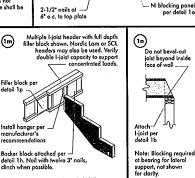
Rim board may be used in lieu of l-joists. Backer is not required when rim board is used. Bracing per code shall b carried to the foundation.

2x plate flush with inside face of wall or beam. 1/8" overhang allowed past inside face of wall or beam.

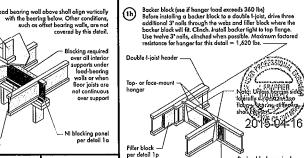




5. The maximum factored load that may be opplied to one side of the double joist using this detail is 860 libs/ft. Verify double 1-joist capacity.



Tight Joint



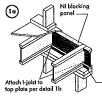
For hanger capacity see hanger manufacturer's recommendations. Verify double I-joist copacity to support concentrated loads.

BACKER BLOCKS (Blocks must be long enough to permit required

Flange Width	Material Thickness Required*	Minimum Depth*		
2-1/2"	1.	5-1/2'		
3-1/2"	1-1/2'	7-1/4*		

(both sides for face-mou

Minimum grade for backer block material shall be S-P-F No. 2 or better for solid sown lumber and wood structural panels conforming to CAN/CSA-O325 or CAN/CSA-O437 Standard. * For face-mount hangers use net joist depth minus 3-1/4* for joists with 1-1/2* thick flanges. For 2* thick flanges use net depth minus 4-1/4*.



NI Joists

*The uniform vertical load is limited to a joist depth of 16

inches or less and is based on standard term load duration it shall not be used in the design of a bending member, such as joist, header, or refter. For concentrated vertical load transfer, see detail 1d.

Maximum Factored Uniform Vertical Load* (pH) 3,300

(1b)

1-1/8' Rim Board Plus *The uniform vertical load is limited to a rim board depth of 16 Inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, such as joist, header, or rafter. For concentrated vertical load transfer, see detail 1 d.

One 2-1/2"
wire or spiral
nail of top and
bottom flange

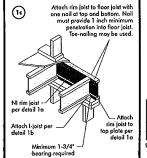
ERAFRIER

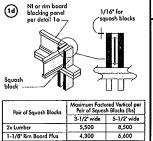
Attach rim board to top plate using 2-1/2" wire or spiral toe-noils at 6" o.c.

To ovoid splitting flonge, start nails at least 1-1/2* from end of I-joist. Nails may be driven at an angle to id splitting of bearing plate.

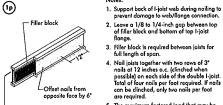
Minimum bearing length shall be 1-3/4" for the end bearings, and 3-1/2" for the intermediate bearings

when applicable



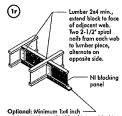


Provide lateral bracing per detail 1a, 1b, or its

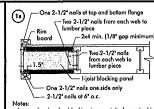


-1/8" to 1/4" gap between top flange and filler block

3-1/2" x 11-7/8" 14" 16"



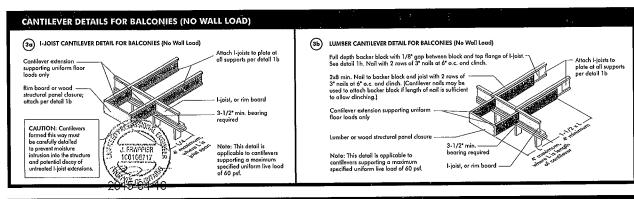
Optional: Minimum 124 inch — strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

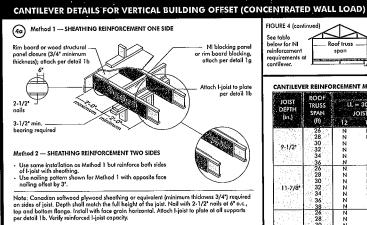


Notes:

In some local codes, blocking is prescriptively required in
the first joist space (or first and second joist space) next to
the starter joist. Where required, see local code requirement
for spacing of the blocking.

All nots are common spiral in this detail.





(4b) Alternate Method 2 — DOUBLE I-JOIST Face nail two rows of 3" nails of 12" o.c. each side through one I-joist web and the filler block to other I-joist web. Offset nails from opposite face by 6". Clinch if possible (four nails per foot required, except two nails per foot required, except two nails per foot required if " panel closure (3/4" minimum

Block L-joists together with filler blocks for the full length of the reinforcement. For L-joist flonge widths greater than 3 inches place an additional row of 3" noils along the centreline of the reinforcing panel from each side. Clinch when possible

Attach I-joists

to top plate at all supports per detail 1b, 3-1/2* min. bearing required

FIGURE 4 (con See table below for NI reinforcement requirements of contilever.	R	poof truss span	1)-m	'-0" naximum antilever	Roof trus Girder - truss	اااله	oof truss span	, 2 2	3'-0" max ack trusses '-0" naximum antilever	îmum ;	trusses n the canti the l-jois requirem	oofs with unning pa levered flo t reinforce nents for a all be pen	rallel to oor joists, ment span of
CANTILEVI JOIST DEPTH (in.)	ROOF TRUSS SPAN (fi)	ü	= 30 psf, OIST SPA	DL = 15 CING (in	psf .)	LL J	= 40 psf, OIST SPA	DL = 15 CING (ir	1.)	LL	= 50 psf, IOIST SPA 16	CING (in	
9-1/2	26 28 30 32 34 36 26 28 30	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	N N N N N N N	1 1 1 2 2 2 2 N N	2 X X X X X 1	N N N N N	1 1 1 2 2 2 2 N N	2 2 2 2 X X X X 1 1	X X X X X X X 2 2 2	N N 1 1 1 1 N N N N N N N N N N N N N N	2 2 2 2 X X X N 1	X X X X X 1	X X X X X X

- 1. N = No reinforcement required.
 1 = NI reinforced with 3/4" wood structural
- 1 = NI miniforced with 3/4" wood structure.

 2 barnel on one side only.

 3 barnel on one side only.

 4 Ty e diesper joid or closer spacing.

 2 Maximum design load shall be. 15 ps frood dead load, 55 at filtor total load, and 80 plf will load. Vall load is based on 3'0" maximum width window or door openings.
- For larger openings, or multiple 3:0° width openings spaced less than 6:0° o.c., additional joints beneath the openings simple study may be required.

 3. Table opplies to joints 12° to 24° o.c. that meet the floor span requirements for a design live laad of 4 op and deed alood of 15 pst, and a live look defection limit of 17480. Use 12° o.c. requirements for less repacting.
- 4. For conventional roof construction using a ridge beam, the Roof Trues Span column above is equivalent to the distance between the supporting wall and the ridge beam. When the roof is formed using a ridge board, and the Roof Trues Span is equivalent to the distance between the supporting walls as if a true is used.

 5. Cantillevered joints supporting girder trusses or roof beams may require additional reinforting.

BRICK CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET (CONCENTRATED WALL LOAD) For hip roofs with the jack trusses running parallel to the cantillevered floor joists, the I-joist reinforcement requirements for a span of 26 ft. shall be permitted to be used. 3-0° maximum Jack trusses span span conflierer conflierer

5" maximum

Frovide full depth blocking between joists over support (not shown) Note: Canadian softwood	See table below for NI reinforcements of contilever. See table below for NI maximum truss contilever. So truss 22-0 Girder truss contilever contilever.
plywood sheathing or equivalent (minimum thickness 3/4) required on sides of joint. Depth shall motch the full height of the joist. Notil with 2-1/2º nalls at 6 · o.c., top and bottom flange. Install with face grain horizontal. Attach Ljoist to plate at all supports per detail 1 b. Verify reinforced 1-joist capacity.	BRICK CANTILEVER REINFORCEMENT METHODS ALLOW R R R R R R R R R
Rim board or wood structural panel closure (3/4 minimum fluckness), oftoch per detail 1b. Notes: Provide full depth blacking between joists over support (not shown for clarity) Attach t-joist per detail 1b. 3-1/2* minimum t-joist bearing required.	24 2 X X X X X X X X X X X X X X X X X X
Vertical solid sown blocks (2x6 S-P.F. No. 2 or better) nailed through joist web and web of girder using 2-1/2" nails. Alternate for apposite side. Notes: Vertify girder joist capacity if the back span exceeds the joist spacing. Altoch double 1-joist per detail 1p., if required.	30 N 1 2 X 33 N 1 2 X X 34 N 2 X X X 36 N 2 X X X 38 N 2 X X X X 38 N 2 X X X X 38 N 2 X X X X X X 38 N 2 X X X X X X X X X X X X X X X X X X

	ROOF							(UNFACT					
JOIST DEPTH	TRUSS			DL = 15				DL = 15				DL = 15	
(in.)	SPAN	JC	DIST SPA	CING (in.)	J	DIST SPA	CING (in.)			CING (in	
fur.)	(fi)	12	16	19.2	24	12	16	19.2	24	12	16	19.2	24
	26	_	X	X	X	2	Х	X	Х	2	Х	Х	X
ad 3/4	28	i	x	X	Х	2 2	X	Х	х	Х	Х	Х	X
9-1/2	30	1	X	X	Х	2	X	X	X	X	X	X	X
7-1/2	32	2	X	X	X	2 X	X	Š	Ž.	Š	Ş	Ş	Ŷ
	34 36	2	Ş	Ş	¢	Ιŷ	Ŷ	Ŷ	Ŷ	Ŷ	ŵ	ŵ	â
	26	Ň				l î	X	- x	X	- î	X	X	X
3 7 Jak	28	Ñ	2	x	x	l i	X	X	X	2	X	X	X
المخاورية	30	1	2	Х	χ	1 1	X	Х	X	2	X	X	X
11-7/8	32	1	2	X	X	1	X	X	X	2	X	Ş	Ş
30 mm	34 36	1	X	X	X	2	\$	Ŷ	X	Ý	Ŷ	Ŷ	â
	30	1	Ŷ	Ŷ	Ŷ	5	ŵ	â	- Ŷ	Ιŝ	x	x	x
	38 26	Ň	- î	2	X	Ñ	2	X	X	1	X	X	X
4.50	28	'N	i	x	X	ï	2	X	X	. 1	Х	Х	Х
P. M. 1884	30	N	2	X	X	1 !	2	X	X	1 1	X	X	X
14"	32 34	N.	2	Š	X	l	X	Ş	•	2	٥	Ŷ	Ŷ
	36	IN I	2	÷	â	I ;	Ŷ	â	â	5	Ŷ	û	ŵ
. A. D. Y.	38	i	5	Ŷ	â	Ιi	â	x	- x	2	x	x	x
47.25	40	i	x	x	Х	2	X	Χ	X	2	X	X	X_
77.77	26	N	1	2	X	N	1	X	X	N	2	X	X
	28	N	1	2	X	N	2	Š	X	!	2	Š	Ō
	30 32	N	1	2	X	N	2	٥	٥	;	Ŷ	Ŷ	Ŷ
16"	34	N N	,	2 Y	â	1 1	5	Ŷ	Ŷ	li	ŵ	x	â
10	36	Ň	ź	â	Ŷ	Ιi	x	x	x	l i	x	x	X
11.	38	N	- 2	x	X	i	Х	X	Х .	2	Х	Х	Х
	40	N	2	X	Š	1	X	X	χ.	2	X	X	Š
	42	3	2	X	Х	1	×	X			^_	^	^
	einforcement re			For	lorger op	enings, or	nultiple 3'	0 width	4. For	convention	al roof co	nstruction :	using a
1 = N1 re	inforced with 3	/4" wood	structural	op	enings spa	ced less the	n 6 0 o	c.,	ridg	e beam, t	na Roof Tru	iss Span ca e distance	lumn
pane	on one side of	only.			ditional joi ds may be		the openi	ng's cripple	the	ve is equiv	than llow	e aistance the ridge b	eam.
2 = Nin	inforced with 3 I on both sides	1/4 WOOD	superoral	2 7.1	is undy be	toquirea.		c. that meet		an the root	is framed	unioa a ric	loe hon

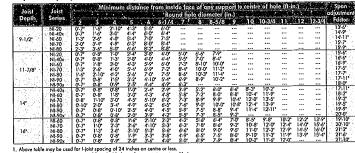
WEB HOLES

RULES FOR CUTTING HOLES AND DUCT CHASE OPENINGS:

- 2. 1-joist top and bottom flanges must NEVER be cut, notched, or otherwise modified
- 3. Whenever possible, field-cut holes should be centred on the middle of the web.
- . Whenever possible, inelaction loss since see that the maximum size hole or the maximum depth of a duct chase opening that can be out into an Lipist web shall equal the clear distance between the flanges of the Li-joist minus 1/4 inch. A minimum of 1/8 inch should always be maintained between the top or bottom of the hole or opening and the adjacent L-joist flange
- The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of the diameter of the maximum round hole permitted at that location.
- 37 as the attention of the maximum round note permitted at that location.

 6. Where more than one hole is necessary, the distance between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice the size of the largest square hole for twice the length of the longest side of the longest rectangular hole or duct chose opening) and each hole and duct chose opening shall be sized and located in compliance with the requirements of Tables 1 and 2, respectively.
- A knockout is not considered a hole, may be utilized anywhere it occurs, and
 may be ignored for purposes of colculating minimum distances between holes
 and/or duct chase openings.
- Holes measuring 1-1/2 inches or smaller shall be permitted anywhere in a contilevered section of a joist. Holes of greater size may be permitted subject to
- A 1-1/2 inch hole or smaller can be placed anywhere in the web provided that it
 meets the requirements of rule number 6 above.
- All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- 11. Limit three maximum size holes per span, of which one may be a duct chase
- 12. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

TABLE 1
LOCATION OF CIRCULAR HOLES IN JOIST WEBS
Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf



Above table may be used for I-joist spacing of 24 inches an centre or less.
 Hole location distance is measured from inside face of supports to centre of hole.
 Distances in this chart are based on uniformly loaded joists.

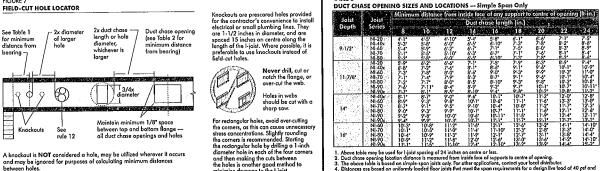
The above table is based on the I-joists used at their maximum span. If the I-joists are placed at less than their full maximum span the minimum distance from the centreline of the hale to the face of any support (D) as given above may be reduced as follows: D_{reduced} = Locival x D

Preduced Distance from the inside face of any support to centre of hole, reduced for less-than-maxim.

Lectual Executed State State

If Lactual is greater than 1, use 1 in the above calculation for Lactual
SAF
SAF

DUCT CHASE OPENING SIZES AND LOCATIONS - Simple Span Only



Abovs table may be used for 1-joist spacing of 24 inches on centre or less.
 Duct obnese opening location distance is measured from inside foca of supports to centre of opening.
 The obove table is based on simple, span poists only, for other applications, contact your local distributor.
 Distances are based on uniformly located floor joist than meet the span requirements for a design live dood of 40 pd and deed load of 13 pd, and a live load deficial mined 14 year.

INSTALLING THE GLUED FLOOR SYSTEM

- 1. Wipe any mud, dirt, water, or ice from t-joist flonges before gluing.
- Snop a chalk line across the t-joists four feet in from the wall for panel edge alignment and as a boundary for spreading glue.
- Spread only enough glue to lay one or two panels at a time, or follow specific recomm the glue manufacturer.
- 4. Lay the first panel with longue side to the wall, and nail in place. This protects the tangue of the next panel from damage when tapped into place with a black and sledgehammer. Apply a continuous line of glue (about 1/4-inch diameter) to the top flange of a single 1-joist. Apply
 glue in a winding pattern on wide areas, such as with double 1-joists.
- 6. Apply two lines of alue on 1-joists where panel ends butt to assure proper gluing of each end.
- 7. After the first row of panels is in place, spread glue in the groove of one or two panels at a time before loying the next row. Glue line may be continuous or spaced, but avoid squeeze-out by applying a thinner line (1/6 Inch) than used on I-joist flanges.
- 8. Tap the second row of panels into place, using a block to protect groove edges.
- Slagger end joints in each succeeding row of ponels. A 1/8-inch space between all end joints and 1/8-inch et all edges, including 18.6 edges, is recommended. (Use a spacer tool or an 2-1/2' common noil to assure accurate and consistent spacings.)
- 10. Complete all nailing of each panel before glue sets. Check the manufacturer's recommendation for cure time. (Warm weather accelerates glue setting.) Use 2' ring, or screw-shank nails for panels 3/4-inch thick or less, and 2-1/2' ring, or screw-shank nails for thicker penels. Space noils per the table below. Closer nail spacing may be required by some codes, or for diaphragm construction. The finished deck can be walked on right away and will carry construction loads without damage to the glue band.

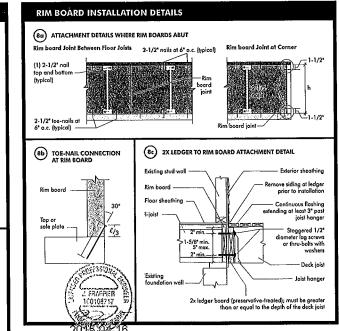
FASTENERS FOR SHEATHING AND SUBFLOORING(1

Maximum Joist	Minimum Panel	.Common	oil Size and Typ	ре	Maximum Spacing of Fasteners				
Spacing (in.)	Thickness (in.)	. Wire or Spiral Nails	Nails or Screws	Staples	Edges	Interm. Supports			
16	5/8	2"	1-3/4	2*	6'	12*			
20	5/8	2'	1-3/4"	2"	6'	12"			
24	3/4	2'	1-3/4*	2*	6'	12"			

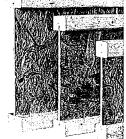
- 1. Fasteners of sheathing and subflooring shall conform to the above table.
- 2. Staples shall not be less than 1/16-inch in diameter or thickness, with not less than a 3/8-inch crown
- 3. Flooring screws shall not be less than 1/8-inch in diamete
- 4. Special conditions may impose heavy traffic and concentrated loads that require construction in excess of the minimums shown.
- Use only adhesives conforming to CAN/CGS8-71.26 Standard, Adhesives for Field-Gluing Phywood to Lumber-Framing for Floor System, applied in accordance with the manufacturer's recommendations. If OSB panels with se

Ref.: NRC-CNRC, National Building Code of Canada 2010, Table 9.23.3.5.

IMPORTANT NOTE:
Floor's healthing must be field glued to the 1-joist flonges in order to achieve the maximum spans shown in this document. If shealthing is notled only, 1-joist spans must be verified with your local distributor.







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2015-04-16



FSC methody servolution

				Mi-on	141+10	111-7UA
		N1-60	NI-70	1-1/2 1	1.1 <u>// [</u>	3.1/Y
	N]∙40x bad					58714->14-
N1-20	1.17 A OS		5B 3/15"→ ←	9.1/2	9-1/2	11-7
1.77 人 4 05	B 3/6"-4 4-	9-1/2"	9:1/2	11-74	r 11-7/6	S 14'
OSB3/8 + 4	9-1/2	11-7/3' 14' 16'	14"	V" 14'	14,	15'
9.102	14.	16'	16"	l i	1 1	1 1
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<u> </u>	L1.¥	L	L¥	J <i>Y.</i> .	LJ.K.	
S-P-F No.2	1950FMSR	2100f MSR	1950f MSR	2100f MSR	2400! MSR	NPG Lumber
33 pieces	33 pieces	33 pieces	23 pieces	23 pieces	23 pieces	23 pieces
parunil	per unit	ber nug	per vnit	per unil	per unit	bat nujt

Refer to the Installation Guide for Residential Floors for additional information. CCMC EVALUATION REPORT 13032-R

WEB HOLE SPECIFICATIONS

Series

Depth

9-1/2"

1-7/8

- 1. The distance between the inside adopt of the support and the centreline of ony hole or duct chase opening shall be in compliance with the requirements of Table 1 or 2, respectively.
- 2. I-joist top and bottom forgos must NEVER be cut, notched, or otherwise modified.
 3. Whenever possible, field-cut hotes should be centred on the middle of the web.
- 4. The maximum size halo or the maximum death of a duct chase opening that can be cut into an I-joist web shall equal the dear distance between the flanges of the I-joist minus 1/4 inch, A minimum of 1/8 inch should always be maintained between the top or bottom of the hale or opening and the adjacent i-joist flange

LOCATION OF CIRCULAR HOLES IN JOIST WEBS

Simple or Multiple Span for Dead Loads up to 15 psf and Live Loads up to 40 psf

2-10" 4"-3" 5"-8" 6"-0" ---3-0" 4"-4" 6"-0" 6"-4" ---4"-0" 5"-4" 7"-0" 7"-5" ---4"-9" 6"-3" 8"-0" 8"-4" ---

Minimum Distance from Inside Face of Any Support to Centre of Hale (ft - in.) Round Hole Diameter (in.)

Above table may be used for 1-joist spacing of 24 inches on centre or less.
 Hole facation distance is measured from inside face of supports to centre of hole.
 Distances in this chart are based on uniformly loaded joists.
 The above table is based on the 1-joists being used of their maximum spans. The minimum distance as given above may be reduced for shorter spans; contact your local distributor.

6-1/4 7 8 8-5/8 9 10 10-3/4 11 12 12-3/4

- 5. The sides of square holes or longest sides of rectangular holes should not exceed 3/4 of he diameter of the maximum round hale permitted at that location.
- the diameter of the movement round note permitted in that inclusion.

 Where more than one hole is necessary, the dislonce between adjacent hole edges shall exceed twice the diameter of the largest round hole or twice has size of the largest square hole (or twice the length of the longest side of the largest rectangular hole or dust chose opening) and each hole and dust chose opening shall be sized and located
- in compliance with the requirements of Tables 1 and 2, respectively.

 7. A knockout is not considered a hole, may be utilized anywhere it occurs, and may be ignored for purposes of calculating minimum distances between holes and/or duct chase openings.
- 8. Holes measuring 1-1/2 inches or smaller are permitted anywhere in a contilevered section of a jaist. Holes of greater size may be permitted subject to verification.
- 9. A 1-1/2 inch hole or smaller can be placed anywhere in the web
- provided that it meets the requirements of rule number 6 above.

 10. All holes and duct chase openings shall be cut in a workman-like manner in accordance with the restrictions listed above and as illustrated in Figure 7.
- 11. Limit three maximum size holes per span, of which one may be
- duct chase opening.
 A group of round holes of approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

DUCT CHASE OPENING SIZES AND LOCATIONS

	1	Minim	ım distanı	e from in	side face	of suppo	ris to ce	nire of c	prineq	fi - in.)
Joist Depth	Joist Series			1	Duct Che	se Long	th (in.)			
Рериг	361163	8	10	12	14	16	18	20	22	24
	Ni-20	4'-1'	4'-5'	4'-10"	5'-4"	5'-8"	6'-1"	6'-6'	7'-1"	7'-5°
	N1-40x	5'-3'	5'-8'	6'-0"	6'-5"	6'-10"	7'-3'	7'-8"	8'-2'	8' 6"
9-1/2"	NI-60	5'-4'	5'-2"	5521	61-7×	7'-1"	7'-5'	8'-0'	8'-3"	8'-9"
	NI-70	5'-1"	5'-5"	5'-10"	6'-3"	6'-7"	7'-1"	7'-6'		8'-4"
	NI-80	5'-3'	5'-8"	6'-0'	6'-5"	6'-10"	7'-3'	7'-8'	8-2	8'-6"
	NI-20	5'-9'	6421	6'-6'	7'-1"	7'-5"	7'-9'	9'-3'	B1-9*	9-4
	Ni-40x	6'-8"	7-2	7-61	82-14	8'-6"	9-1"	9.6	10:11	10-9
	NI-60	71.3"	748*	8'-0'	Br-6"	9'-0'	9-3	9.9	10'-3'	1140
11-7/8"	NI-70	7-1"	7-4	7-9	8:-3°	8'-7'	9-1-	9-6"		10'-4
	NI-80	7'-2"	71.71	8'-0"	8-5	8'-10'	9-3	7-8		10-8
	NI-90	7-6	74111	8'-4"	8-9	9'-2"	9'-7'	10'-1"		10
	NJ-90x	7:-7	8'-14	8'-5"	8'-10'	9'-4"	91.8	10'-2"	22	1111
	NI-40x	8'-1"	8'-7"	9'-O"	9'-6"	10'-1°	10-7	11-2"		12-
	NI-60	8'-9'	9'-3"	8. B.	10:-1"	10'-6"	11'-1"	11'-6"		13-1
	NI-70	B1-71	9-1"	9.5	9-10	10-4*	10-8*	11'-2"		12:3
14*	I Ni-80 I	9.0	9'-3"	9-9"	10'-1'	10-7	יויוו	11'-6"		12-
	NI-90	9121	9.81	10.0	10'-6'	10-11	111-5*	11'-9"		12-
	NI-90x	9.4	9.91	10-3	10:-71	1141"	1147	12'-1"		13-3
	NI-60	10-3*	10'-8"	1142"	111-6"	12-1"	12.6	13'-2"		14
	NI-70	10'-1"	10'-5"	11'-0"	11-4	11'-10'		12'-8"		144
164	NI-80	10-4	10 '- ም	11'-3"	11'-9'	12'-1"	1257	13'-1"		14-
	NI-90	10-5,	111-2"	11'-8"	12:0	12'-6"	13'-Q'	13.6		14.
	NI-90x	17-14	111-5"	11410	12-4	12'-10'	13-2	13'-9"	14-4	15'-2

block

1. Above table may be used for 1-joist spacing of 24 inches on centre or less.
2. Duct chase opening location distance is measured from inside face of supports to centre of opening.
3. The above table is based on simple-spain joists only. For other opplications, contact your local distributor.
4. Distances are based on uniformly loaded floor joists that meet the span requirements for a design live load of 40 pet and dead load of 15 pst, and a five load deflection limit of L/480.
5. The above table is based on the I-joist being used of their maximum spans. The minimum distance os given above may be reduced for shorter spans; contact your local distributor.

(ld)

NI blockina

Attach I-joist to top plate per detail 15

Maximum Factored Vertical Load per Pair of Squash Blocks (lbs Pair of Sauash 3-1/2" 5-1/2" wide wide 5,500 8,500 x Lumbo 1-1/8' Rim Board Flus 4,300 6,600

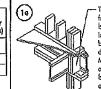
Maximum Factored Uniform Vertical Load* (pH)

inches or less and is based on standard term load duration. It shall not be used in the design of a bending member, suc

 $2\text{-}1/2^{\circ}$ nails at 6° o.c. to top plate (when used for lateral shape transfer, noil to bearing plate with same nailing as required for decking)

as joist, header, or rofter. For concentrated vertical load transfer, see detail 1d.

Provide lateral bracing per detail 1a or 1b



Filler block

Top- or face-mount

2-1/21-

bearing belo area of blacks below to post

Minimum bearing length shall be 1-3/4" for the and bearings, and 3-1/2" for the informations bearings when applicable. per detail 1 b 2-1/2' nails of 6° o.c.

header, or rafter. For concentrated vertical load transfer, see detail 1d.

To avoid splitting flange, start nails at least 1-1/2' from end of I-joist. Nails may be driven at an angle to avoid splitting of beering plate.

Attach rim board to top plate using 2-1/2" wire or spiral toe-nails at 6" o.c.

One 2-1/2' wire or spirel noil at top and bottom flange

8,090 *The uniform vertical load is limited to a rim board depth of 16 inches or less and is based or standard term load duration. It shall not be used in the design of a bending member, such as joist

Blocking Panel

1-1/8" Rim Board Plus

Double I-joist header

sides laterally support

(both sides for face-

Lead bearing wall above shall align vertically with the bearing below. Other conditions, such as offset bearing walls, are not covered by

- Blocking required over all interior supports under load-bearing walls or when floor jaists are not continuous ever support

-NI blocking panel per defail 1a

Backer block (use if hunger load exceeds 360 lbs). Before installing a backer block to a double I-jolst, drive three additional 3" noils through the wabs and filler block where the backer block will fir. Clinch. Install backer light to top flange. Use twelve 3' noils, clinched when passible. Mozimum factored rasistance for hanger for this detail = 1,620 lbs.

Blocking Panel

or Rim Joist

NI Joists

BACKER BLOCKS (Blacks must be long enough to permit required nailing without splitting)

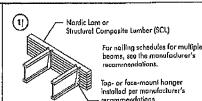
Flango Width	Moterial Thickness Required*	Minimum Depth**
2-1/2*	12	5-1/2*
3-1/2*	1-1/2"	7-1/4*

Minimum grade for backer black material shall be S-P-F No. 2 or better for solid sawn lumber and wood structural panels conforming to CAN/CSA-0325 or CAN/CSA-0437 Standard.

**For fuce-mount hangers use net joist depth minus 3-1/4* for joists with 1-1/2" thick flanges.

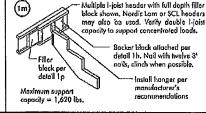
For 2" thick flanges use not depth minus 4-1/4".

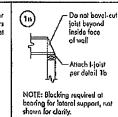
For hunger capacity see hanger manufacturer's recommendations. Verify double I-joist capacity to support concentrated loads.



NOTE: Unless hanger sides laterally support the top flange, bearing stiffeners shall be used.









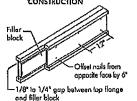
of adjacent web. Two 2-1/2' spirol nails from each web to lumber piece, alternate

OPTIONAL: Minimum 1x4 inch strap applied to underside of joist at blocking line or 1/2 inch minimum gypsum ceiling attached to underside of joists.

All noils shown in



installed per manufacturer



1. Support back of I-joist web during nailing to prevent damage to web/llange connection.

2. Leave a 1/8 to 1/4-inch gop between top of litter block

and bottom of top I-joist flange.

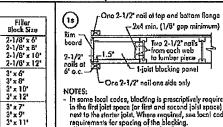
3. Filler black is required between joists for full length

or span.

Nail joists together with two raws of 3' noils at 12 inches o.c. (clincinal when possible) on each side of the double 1-joist. Total of four nails per foot required. If noils can be

repair, that of the relate per foot are required. The maximum factored load that may be applied to one side of the double loist using this detail is 860 lbt/ft.

Verify double I-joist capacity.



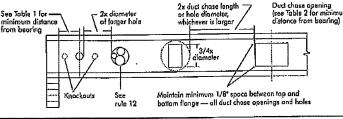
In some local codes, blacking is prescriptively required in the first joist space (or first and second joist space) next to the storter joist. Where required, see local code requirements for spacing of the blacking.

FND BEARING

the above details are assumed to be common wire nails unless otherwise noted, 3° (0.122° dia.) common spiral nails may be substituted for 2-1/2" (0.128" dia.) common wire nails. Framing lumber assumed to be Spruce-Pine-Fir No. 2 or better Individual companents not shown to scale for clarity.

FIGURE 7

FIELD-CUT HOLE LOCATOR





Knockauls are prescored holes provided for the contractor's convenience to install electrical or small plumbing lines. They are 1-1/2 inches in dismater, and are spaced 15 inches on centra along the length of the 1-joist. Where possible, it is preferable to use knackouts instead of field-cut kolos.

Never drill, cut or noigh the flonge, or over-cut the web.

Holes in webs should be out with a sharp saw.

For rectangular holes, avoid over-cutting the corners, as this can cause unnecessary stress concentrations. Slightly rounding the corners is recommended. Starting the reclangular hole by drilling a 1-inch diameter hole in each of the four corners and then making the cuts between the holes is another good method to minimize damage to the 1-joist.

WEB STIFFENERS

RECOMMENDATIONS:

- A hearing stiffener is required in all engineered applications with factored reactions greater than shown in the Ljoist proporties table found of the Ljoist Construction Guide (C101). The gop between the stiffener and the flange is at
- A bearing stiffener is required when the I-joist is supported in a hanger and the sides of the hanger do not extend up to, and support, the lop flange. The gap between the stiffener and flange is at the top.
- A load stiffener is required at locations where a factored concentrated load greater than 2,370 lbs is applied to the top flange between supports, or in the case of a contilever, onywhere between the contilever for and the support. These values are for standard term load duration, and may be adjusted for other load durations as permitted by the code. The gap between the stillaner and the flange is at the bottom.

FIGURE 2 WEB STIFFENER INSTALLATION DETAILS CONCENTRATED LOAD

9-1/2" 11-7/8" 14" 16"

9-1/2

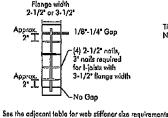
11-7/6" 14" 16"

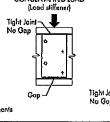
2-1/2°x

1-1/2*

3-1/2°× 1-1/2°

3-1/2° x





Flange Width	Web Stiffener Size Each Side of Web
2-1/2	1° x 2-5/16° minimum width
3-1/2"	1-1/2" x 2-5/16" minimum width

SAFETY AND CONSTRUCTION PRECAUTIONS



WARNING: I-joists are not stable until completely installed, and will not carry any load until fully braced and sheathed, AVOID ACCIDENTS BY FOLLOWING THESE IMPORTANT GUIDELINES:

Brace and noil each I-joist as it is instelled, using hangers, blacking panels, rim board, and/or cross-bridging at joist ends.
When I-joist are upplied confineus over interior supports and a fourth-bearing wall is planned at that focation, blocking will be required at the interior support.

De required are interest support.

2. When the building is completed, the floor sheathing will provide lateral support for the top flunges of the I-joists. Until this sheathing is applied, temporary bracing, often called struts, or temporary cheathing must be applied to prevent I-joist rollover. or buckling.

* Temporary bracing or struts must be 1x4 inch minimum, at least 8 feet long and spaced no more than 8 feet on centre, and must be secured with a minimum of two 2-1/2" noils fastened to the top surface of each 1-joist. Not the bracing to a lateral restraint at the end of each boy, top ands of ocioning bracing over at feest two 1-joists.

**Or, sheathing (semporary or permanent) can be noted to the top lange of the first 4 feet of 1-joists at the end of the boy.

**Or, sheathing (semporary or permanent) can be noted to the top lange of the first 4 feet of 1-joists at the end of the boy.

3. For confidence (san parary or permanens) can be noted to me top lange of the first 4 test of i-joists of the end of the box.

3. For confidence it justs, brace top and bottom flanges, and brace ands with closure ponels, rim board, or cross-bridging.

I testall and fully not permanent sheething to each i-joist before placing loads on the floor system. Then, stock building materials over beams as walls only.

5. Never install a domaged l-joist.

Improper storage or installation, failure to follow applicable building codes, failure to follow apon railings for Nordic I-joists, failure to follow allowable hole sizes and locations, or failure to use web stiffeners when required con result in serious occidents

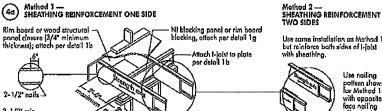
CHANTIERS CHIBOURANA!

PRODUCT WARRANTY

Chantiers Chibougaman guarantees that, in accordance with our specifications, Nordic products are free from manufacturing defects in unterfal and workmanship.

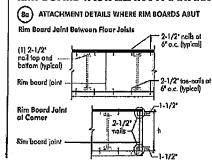
Purshermore, Chantiers Chibongaman warrants that our products, ohen usilized in accordance with our handling and installation instruction will meet or exceed our specifications for the lifetime of the structure.

CANTILEVER DETAILS FOR VERTICAL BUILDING OFFSET



NOTE: Canadian softward plywood sheathing or equivalent [minimum thickness 3/4") required on sides of joist. Depth shall match the full height of the joist. Nail with 2-1/2" nails of 6 o.c., top and bottom flange. Install with face grain horizontal. Attach I-joist to plate at all supports per detail 1b. Verify reinforced I-joist zapacity.

RIM BOARD INSTALLATION DETAILS









Never stock building motoriols over unsheathed Hjolists, Once sheathed, do not over-stress

Schedule 1: Designer Information

Use one form for each individual who revie	ws and takes re	sponsibility for design activiti	es with respect t	o the project.
A. Project Information Building number, street name			Unit no.	Lot/con.
			1	
Municipality BRAMPTON	Postal code	Plan number/ other descrip	noir	
B. Individual who reviews and takes	s responsibili	ty for design activities		
Name EDWIN C FOR		Firm STRACON EN	IGINEERIN	IG INC.
Street address 69 GRAYDON CF			Unit no.	Lot/con.
Municipality RICHMOND HILL	Postal code I4B3W7	Province ONTARIO	E-mall	
Telephone number 9058322250	Fax number 9	058320286	Cell number	
C. Design activities undertaken by Division C	individual ide	ntified in Section B. [Bu		
House Small Buildings Large Buildings Complex Buildings Description of designer's work ROYAL PIN	Bulld Detec	C – House Ing Services otion, Lighting and Power Protection EST SIDE UNIT 1701	Plumb Plumb	g Structural ing – House Ing – All Buildings e Sewage Systems
(print nar	N C.FOK		leclare that (cho	ose one as appropriate):
I review and take responsibilit C, of the Bullding Code, I am Individual BCIN: 2399	qualified, and th	work on behalf of a firm regis e firm is registered, in the ap	rered under sub- propriate classes	section 3.2.4.01 Division s/categories.
Firm BCIN: 2810)3			
i review and take responsibili under subsection 3.2.5.of Div	Islon C, of the B	uilding Code.		as an "other designer"
Individual BCIN:				
Basis for exemption from				
The design work is exempt fr			ents of the Bulld	Ing Code.
Basis for exemption from	n registration and	d qualification:		
I certify that: 1. The information contained in this 2. I have submitted this application	s schedule is tru n with the knowle	edge and consell of the firm.	<u>. </u>	
Date		Signature of Designer		

NOTE:

- For the purposes of this form, "Individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3,2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

NORDIC

STRUCTURES

COMPANY J9 1ST FLOOR July 27, 2018 15:11 PROJECT
J1 2ND FLOOR
J1 2ND FLOOR

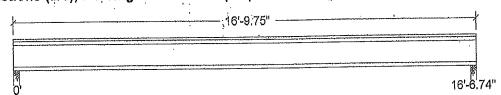
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

Loads:

Load	Type	Distribution	Pat-	Location [f	C)	Magnitude Start	e End	Unit
Load1 Load2	Dead Live	Full Area Full Area	00211			20,00 40.00		psf psf

Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



•			
Unfactored: Dead Live	221 442	in which were	221 442
Factored: -	939	PROPESS ON A	939
Resistance Joist Support Des ratio Joist Support Load case Length Min req'd Stiffener KD KB support	2102 3981 0.45 0.24 #2 2-3/8 1-3/4 No 1.00	E. FOK	
fcp sup Kzcp sup	769 1.09		1.09

Bearing for wall supports is perpendicular-to-grain bearing on top plate. No stud design included.

Nordic 11-7/8" NI-40x Floor joist @ 16" o.c.

Supports: All - Lumber Wall, No.1/No.2

Total length: 16'-9.75"; Clear span: 16'-4.99"; 5/8" nailed and glued OSB sheathing with 1/2" gypsum ceiling This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 939	Vr = 2336	lbs	Vf/Vr = 0.40
Moment (+)	Mf = 3886	Mr = 6255	lbs-ft	Mf/Mr = 0.62
Perm, Defl'n	0.12 = < L/999	0.55 = L/360	in	0.21
Live Defl'n	0.23 = L/863	0.41 = L/480	in	0.56
Total Defl'n	1 0,00	0.83 = L/240	in	0,42
1 1	0.27 = L/731	0.55 = L/360	in	0.49
	$L_{max} = 16'-6.8$	Lv = 17'-8.1	ft	0.94
Vibration	= 0.031	= 0.038	in	0.81
ll Defi'n	→ O*O?↑	0,000		

DWG NO. TAM 8509 - 18 H PG 12/2
STRUCTURAL
COMPONENT ONLY

T-1811578

J1 2ND FLOOR

Nordic Sizer - Canada 7.1

Page 2

Additional	Data:									
FACTORS:	f/E	KD	KH	KZ	KL	KT	KS	KΝ	LC#	
Vr	2336	1.00	1.00		***	-			#2	
Mr+	6255	1.00	1.00	-	1.000	•••	~ .		#2	
EI	371.1 m	illion.	· 			-	-	_	#2	
CRITICAL LO	DAD COMB	INATIONS	3:			-				
Shear	: LC #2		5D + 1.5							
Moment(+) ; LC #2	= 1.2	5D + 1.5	L			÷			
Deflection	on: LC #1	= 1.01	D (perma	anent)						
			D + 1.0L							
	LC #2	= 1.0	D + 1.0L	(tota	1.)					
	LC #2	= 1.0	D + 1.0L	(bare	joist)					
Bearing	: Suppo	rt 1 - :	LC #2 =	1,25D +	1.5L					
	Suppo	rt 2 -	LC #2 =	1,25D +	1.5L		171	مدا مسما الد		
Load Typ	es: D=dea	d W=wi	nd S≈sn	ow H=e	arth, grou	undwate	r E=ear	rinquake		
	L=11v	e(use,o	ccupancy)	ive(stor	age, equ	ipment)	r=trte		
Load Pat	terns: s=	S/2 L=	L+Ls _=	no patt	ern load	in thi	s span			
	Combinat	ions (L	Cs) are	listed	in the A	nalysis	output			
CALCULATI	ONS:					06.11				
Deflecti	on: Elef	f =	448e06 l	b-in2	K= 6.18	ene Tps	111	. امعان	more 1	
"Live" d	eflection	= Defl	ection f	rom all	non-dea	a roads	s (11Ae'	willa, s	1110W)	
			·····			···			***************************************	

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application.

2. Please verify that the default deflection limits are appropriate for your application.

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

b. Joists snall be laterally supported at supports and continuously along the compression edge.

6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building from suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy of this component

based on the design criteria and loadings shown.

OVENO. TAN BS-09-18 t STRUCTURAL COMPONENT ONLY

-T-181528W

NORDIC STRUCTURES

COMPANY J9 1ST FLOOR July 26, 2018 08;22 PROJECT J1 1ST FLOOR J1 1ST FLOOR

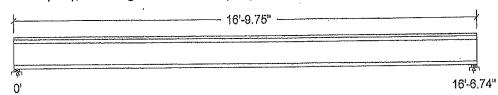
Design Check Calculation Sheet

Nordic Sizer - Canada 7.1

Loads:

Load	Type	Distribution	Pat- tern	Location Start	[ft] End	Magnitude Start	End	Unit
Load1 Load2	Dead Live	Full Area Full Area				20.00 40.00		psf psf

Maximum Reactions (lbs), Bearing Resistances (lbs) and Bearing Lengths (in):



Unfactored: Dead Live	221 442		221 442
Factored: Total Bearing:	939		939
Resistance Joist Support Des ratio	2102 3659		2102 3659
Joist Support Load case	0.45 0.26 #2 2-3/8	FROM SE STONE SE STON	0.45 0.26 #2 2-3/8
Length Min req'd Stiffener KD	1-3/4 No . 1.00	Assessmental assessment assessment	1-3/4 No 1.00
KB support fcp sup Kzcp sup	1.00 769 1.00		1,00 769 1,00

Nordic Joist 11-7/8" NI-40x Floor joist @ 16" o.c.

Supports: All - Lumber Sill plate, No.1/No.2.

Total length: 16'-9.75"; Clear span: 16'-4.99"; 5/8" nailed and glued OSB sheathing This section PASSES the design code check.

Limit States Design using CSA O86-14 and Vibration Criterion:

maked and an appropriate to the control	O			
Criterion	Analysis Value	Design Value	Unit	Analysis/Design
Shear	Vf = 939	Vr = 2336	lbs	Vf/Vr = 0.40
Moment (+)	Mf = 3886	Mr = 6255	lbs-ft	Mf/Mr = 0.62
	$0.12 = \langle L/999 \rangle$	0.55 = L/360	in.	0.21
	0.23 = L/863	0.41 = L/480	in	0.56
	0.35 = L/575	0.83 = L/240	in	0.42
Total Defl'n	0,00	0.55 = L/360	in (0.49
Bare Defl'n	1 0,00	Lv = 17'-2.4	ft	0.96
Vibration	$L_{max} = 16'-6.8$		1 7 7	0.89
Defl'n	= 0.034	= 0.038	in	0103

DWUND. TAMBSTO . 10 H STRUCTURAL COMPONENT ONLY

Nordic Sizer - Canada 7.1

Page 2

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	Additional								W PA 19	7.01	
1	FACTORS:	f/E	KD	KH	KZ	KL	\mathbf{KT}	KŞ	KN	LC#	
1	Vr	2336	1.00	1.00	***	• -	. ~	•••	-	#2	
	Mr+	6255	1.00	1.00	-	1.000	-			#2	
ŀ	EI	371.1 m	illion		. ••				design (#2	
	CRITICAL LC	AD COMB	INATIONS	3 :							
١	Shear	: LC #2	= 1.25	5D + 1.51	L						
1	Moment(+)										
	Deflection	n: LC #1	= 1.0D) (perma	anent)						
	Deflection	LC #2	= 1.00	0 + 1.0L	(live).					
		LC #2	= 1.0D) + 1.0L	(tota	1)					
-		LC #2	= 1.0I	0 + 1.0L	(bare	joist)		•		,	
	Bearing	: Suppo	rt 1 - I	LC ∦2 ≔	1.25D +	1.5L			٠.		
İ	1	Suppo	rt 2 - I	LC #2 =	1,25D +	1.5L					
	Load Type	es: D=dea	d W=wir	nd S=sn	ow. H≃e	arth,grou	ndwate	r E≔ear	thquake		
		L=liv	e(use,o	ccupancy) Ls=l	ive(stora	ge,equ	(ipment)	f=fire		
!	Load Patt	erns: s≃	S/2 L=1	Ĺ+Ls ≂	no patt	ern load	in thi	s span.			
	All Load	Combinat	ions (L	Cs) are	listed	in the An	alysis	output			
	CALCULATION	ONS:									
	Deflection	on: Elef	f = 4	448e06 l	b-in2	K= 6.18e	06 lbs	3			
	"Live" de	eflection	= Defl	ection f	rom all	non-dead	loads	; (live,	wind, s	now)	
											,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

Design Notes:

1. WoodWorks analysis and design are in accordance with the 2015 National Building Code of Canada (NBC), Division B, Part 4, and the CSA O86-14 Engineering Design in Wood standard, Update No. 2 (June 2017).

2. Please verify that the default deflection limits are appropriate for your application. **CONFORMS TO OBC 2012**

3. Refer to Nordic Structures technical documentation for installation guidelines and construction details.

4. Nordic I-joists are listed in CCMC evaluation report 13032-R.

5. Joists shall be laterally supported at supports and continuously along the compression edge.

6. The design assumptions and specifications have been provided by the client. Any damages resulting from faulty or incorrect information, specifications, and/or designs furnished, and the correctness or accuracy of this information is their responsibility. This analysis does not constitute a record of the structural integrity of the building ror suitability of the design assumptions made. Nordic Structures is responsible only for the structural adequacy

based on the design criteria and loadings shown.

DWO NO . TAM OSTO TO W STRUCTURAL COMPONERT ONFA

T. 181152960





PASSED

B2

1ST FLOOR FRAMING\Flush Beams\B1(i671)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Build 6475

Job name:

Address:

City, Province, Postal Code: BRA...ON

BC CALC® Member Report

Customer: Code reports:

CCMC.12472-R

File name:

UNIT 1701.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B1(i671)

Specifier:

Designer: Company:

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1																												
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											-	-	_		,			•	 				. ,	 	 • • •			T\\$

B1.

Total Horizontal Product Length = 16-09-12

Reaction Summary (Down / Uplift) (lbs)

Live Dead Bearing 743/0 1,018 / 0 B1, 2-3/8" 971/0 986 / 0 B2, 2-3/8"

	ad Oummains	٠.		1			Live	Dead	Snow	Wind	Tributary
Tag	ad Summary Description	Load Type	Ref.	Start	End ·	Loc.	1.00	0.65	1.00	1.15	
	Self-Welght	Unf. Lin. (lb/ft)	L	00-00-00	16-09-12	Тор		12			00-00-00
1	FC1 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	16-09-12	Тор	13	7			· n\a
, 2	FC1 Floor Material	Unf, Lin, (lb/ft)	L	00-00-00	08-06-02	Top	15	7			n\a
	WALL	Unf. Lln. (lb/ft)	4.	08-05-14	16-07-06	Top		60			n\a
٠,		Unf. Lin. (lb/ft)	ī	08-06-02	16-09-12	qoT	6	3			n\a
4	FC1 Floor Material	' '	l-	08-05-04	0.8-05-04	Top	1,607	826			n\a
5	B2(i724)	Conc. Pt. (lbs)	L	00-00-04	0.0 -00-0-1	٦٠,	//				

Controls Summary	Factored Demand	Factored Resistance	Demand <i>l</i> Resistance	Case	Location
Pos, Moment	17,731 ft-lbs	35,392 ft-lbs	50.1%	1	08-05-04
End-Shear	2,553 lbs	14,464 lbs	17.6%	' 1	15-07-08
Total Load Deflection	L/369 (0.539")	n\a	65.1%	4	08-05-04
Live Load Deflection	1./643 (0.309")	n\a	56.0%	5.	08-05-04
Max Defl.	0.539"	n\a	n\a	4	08-05-04
Span / Depth	16.7				# ci

Manufac	Cunnada	Patrice (1 mARIA	Demand .	Demand/ Resistance Support	Demand/ Resistance Member	Material
bearing	Supports	Dim. (LxVV)				
B1	Wall/Plate	2-3/8" x 3-1/2"	2,455 lbs	69.1%	24.2%	Unspecified
₽1	T TOURT TOUT		5 man = 44		രത്തവ	1 lunnantified
5 0	Moll/Dlate	2-3/8" v 3-1/2"	2.693 bs	75.8%	26.6%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

DWO NO. TAN SSVIAGO STRUCTURAL COMPONENT ONLY

T. 1811580





PASSED

1ST FLOOR FRAMING\Flush Beams\B1(i671)

BC CALC® Member Report

Job name:

Dry i 1 span | No cant.

July 26, 2018 08:00:47

Bulid 6475

Address:

City, Province, Postal Code: BRA...ON

Customer:

CCMC 12472-R Code reports:

File name:

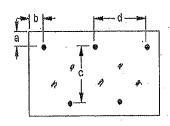
UNIT 1701.mmdi

Description: 1ST FLOOR FRAMING\Flush Beams\B1(i671)

Specifier:

Designer: Company:

Connection Diagram: Full Length of Member



a minimum = 2"

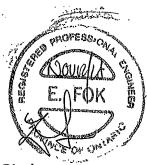
c = 7-7/8" d = 9 8 4

b minimum = 3"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are: 1

3-1/2" ARDOX SPIRAL



Disclosure

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

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®.

OVENO PAMBSIT STOLE STRUCTURAL COMPONENT ONLY

T- Unstolo





Single 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP 1ST FLOOR FRAMING\Flush Beams\B2(1724)

PASSED

BC CALC® Member Report

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Build 6475

Job name:

Address: City, Province, Postal Code: BRA...ON

File name:

UNIT 1701.mmdl

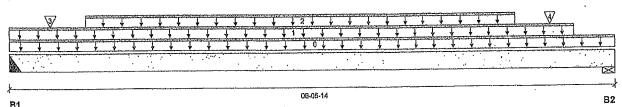
1ST FLOOR FRAMING\Flush Beams\B2(i724) Description:

Specifier:

Designer:

Customer: Code reports:

Company: CCMC 12472-R



Total Horizontal Product Length = 08-05-14

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	1,624 / 0	835 / 0
B2, 6-7/8"	1,604 / 0	827 / 0

Loa	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,15	
0	Self-Weight	Unf, Lin. (lb/ft)	L	00-00-00	08-05-14	Тор		6			00-00-00
1	STAIR	Unf. Lin. (lb/ft)	L	00-00-00	07-11-00	Top	240	120			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-01-00	07-01-00	Тор	171	85			n\a
3	J3(1663)	Conc. Pt. (lbs)	Ļ	00-07-00	00-07-00	Тор	148	74			n\a
4	J3(1668)	Conc. Pt. (lbs)	L	07-07-00	07-07-00	Top	154	77 ·			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand <i>l</i> Resistance	Case	Location
Pos. Moment	6,803 ft-lbs	17,696 ft-lbs	38.4%	1 .	03-11-08
End Shear	2,706 lbs	7,232 lbs	37.4%	1	06-11-02
Total Load Deflection	L/999 (0,11")	n\a	n\a	4	04-01-00
Live Load Deflection	L/999 (0.073")	n\a	n\a	5	04-01-00
Max Defl.	0.11"	n\a	n\a	4	04-01-00
Span / Depth	8.0				•

Bearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	3,480 lbs	n\a	81.5%	Hanger
B2	Wall/Plate	6-7/8" x 1-3/4"	3,439 lbs	25.3%	23,4%	Unspecified

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

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA 088.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBG 2012

Importance Factor: Normal Part code: Part 9

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

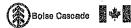
Disclosure

obtain installation Guide or ask questions, please call (800)232-0788 before installation.

BC CALC®, BC FRAMER® , AJS™ ALLJOIST®, BC RIM BOARD M, BCI®, BOISE GLULAMIM, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWOND. TAM BSN=18 H STRUCTURAL COMPONENT ONLY

T-1811881



BC CALC® Member Report



Double 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

1ST FLOOR FRAMING\Flush Beams\B3(i723)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Build 6475

Job name: Address:

CCMC 12472-R

File name:

UNIT 1701.mmdl

Description: 1ST FLOOR FRAMING\Flush Beams\B3(i723)

City, Province, Postal Code: BRA...ON

Customer: Code reports:

Specifier: Designer:

Company:

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			Ť	<u> </u>	†	<u> </u>	*	+	 -12-10			1	Ť	Ť	Ť	ö,		Ť	Ţ	Ť	Ť	1	Ţ	 WATE.		¥	****	Ţ	Ţ	Ţ	Ţ	Ţ
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⊴			.,																					 								

В1

Total Horizontal Product Length = 03-08-00

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 4"	157 / 0	388 / 0
B2, 4"	157 / 0	388 / 0

نما	al Currence and						Live	Dead	Snow	Wind	Tributary
LQ:	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0,65	1,00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Тор		12			00-00-00
1	E1((141)	Unf. Lin. (lb/ft)	L	00-00-00	03-08-00	Тор	65	190			n\a
2	FC1 Floor Material	Unf, Lin. (lb/ft)	L	00-00-00	03-08-00	Top	20	10	•		n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	362 ft-lbs	23,005 ft-lbs	1.6%	0	01-10-00
End Shear	151 lbs	9,401 lbs	1,6%	0	01-03-14
Total Load Deflection	L/999 (0,001")	n\a	n\a	. 4	01-10-00
Live Load Deflection	L/999 (0")	n\a	n\a	5	01-10-00
Max Defl.	0.001"	n\a	n\a	4	01-10-00
Span / Depth	3,2				

Bearing Supports Dim. (LxW) Demand Support Member Me B4 Well/Plate 4" x 3-1/2" 544 lbs 14.0% 4.9% Ur		Material
B) VVall/Plate 4 X 3"1/2 344 to 17.00	Wall/Plate 4" x 3	Unspecified Unspecified



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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Member has no side loads.

OWG NO. TAM 8573-1014 STRUCTURAL COMPONENT ONLY

ていらいか





PASSED

July 26, 2018 08:00:47

1ST FLOOR FRAMING\Flush Beams\B3(1723)

BC CALC® Member Report

Build 6475

Job name:

Address:

City, Province, Postal Code: BRA...ON

Customer: Code reports:

CCMC 12472-R

Dry | 1 span | No cant.

UNIT 1701.mmdl

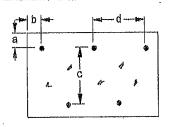
File name:

Description: 1ST FLOOR FRAMING\Flush Beams\B3(i723)

Specifier: Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum = 3"

c = 7-7/8" d = 200 13 4

Member has no side loads.

Connectors are: 16d

3-1/2" ARDOX SPIRAL



Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BCISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS®,

DWGNO.TAM 8573-18 H STRUCTURAL PER COMPONENT DNLY

-UNSPUS



BC CALC® Member Report

Triple 1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP

PASSED

MAIN FLOOR FRAMING\Flush Beams\B4(i1392)

Dry | 1 span | No cant.

May 1, 2019 14:16:54

Bulld 6766

Job name:

Address:

City, Province, Postal Code: BRA...ON

Customer: Code reports:

CCMC 12472-R

File name:

UNIT 1701 EL A.mmdl

MAIN FLOOR FRAMING\Flush Beams\B4(i1392) Description:

Wind

Specifier:

Designer: AJ

Company:

		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
×		
R1	16-09-12	, B

Total Horizontal Product Length = 16-09-12

Snow

Reaction Summary (Down / Uplift) (jbs)

Dead LÌve Bearing 1,303 / 0 2,205/0 B1, 2-3/8 598/0 856/0 B2, 2-3/8"

							Livo	Dead	Snow	Wind	Tributary
	d Summary	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1.15	
Tag	Description		ī	00-00-00	16-09-12	Tob		18			00-00-00
0	Self-Welght	Unf. Lin. (lb/ft)					22	11			n\a
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L.	00-00-00	•	•		, ,			
		Unf. Lin. (lb/ft)	L	00-00-00	04-06-14	Top	9	4			n\a
2	FC2 Floor Materlal		1	00-02-06	04-08-11	Ton	240	120			n\a
3	STAIR	Unf. Lin. (lb/ft)	<u> </u>			•		9			n\a
4	FC2 Floor Material	Unf. Lin. (lb/ft)	Ĺ	04-06-14	16-09-12	тор	18	-			
4		Conc. Pt. (lbs)	1	04-08-10	04-08-10	Top	1,345	740			n\a
. 5	B5(I1366)	Cotto: Lr (ins)	Les	5,55,6		•					

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
	16,433 ft-lbs	55,212 ft-lbs	29.8%	1	04-08-10
Pos. Moment	4,327 lbs	21,696 lbs	19.9%	1	01-02-04
End Shear	1/592 (0.335")	n\a	40.5%	4	07-09-07
Total Load Deflection	L/963 (0.206")	n\a	37.4%	5	07-07-06
Live Load Deflection Max Defl. Span / Depth	0.335" 16.7	n\a	nla	4	07-09-07

Bearing Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1 Wall/Plate B2 Wall/Plate	2-3/8" x 5-1/4"	4,935 lbs	92.7%	32.4%	Unspecified
	2-3/8" x 5-1/4"	2,032 lbs	38.1%	13.4%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

importance Factor: Normal Part code: Part 9

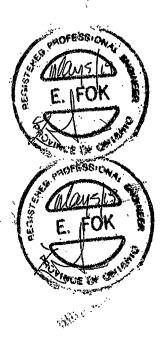
Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record,

Nailing schedule applies to both sides of the member.

Nail one ply to another with 3 ½" spiral nails @ 1011

oic staddered in 2 rows







PASSED

MAIN FLOOR FRAMING\Flush Beams\B5(i1366)

Dry | 1 span | No cant.

May 1, 2019 14:16:64

BC CALC® Member Report

Bulld 6766 Job name:

Address:

City, Province, Postal Code: BRA...ON

CCMC 12472-R

Customer:

Code reports:

File name:

UNIT 1701 EL A.mmdl

Description: MAIN FLOOR FRAMING\Flush Beams\B5(ff366)

Specifier:

AJ Designer:

Company:

_		-
		<u> </u>
	<u>∤</u> 11-08-04	∤ B2
	P4	

Total Horizontal Product Length = 11-08-04

Reaction Summar	y (Down / Uplift)	(lbs) Dead	Snow	Wind	
Bearing B1, 4" B2, 5-1/2"	1,375/0 1,318/0	757 / 0 1,131 / 0			

							Live	Dead	Snow	Wind	Tributary
	ad Summary	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1.00	1.15	
Tag	Description	Unf. Lin. (lb/ft)	L	00-00-00	11-08-04	Тор		12			00-00-00
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-02-04	10-02-04	Top	247	124			n <u>l</u> a
1	Smoothed Load	Conc. Pt. (lbs)	1.	10-08-04	10-08-04	Top	224	112			n\a
2	J2(I1394)	Conc. Pt. (lbs)	l L	11-05-08	11-05-08	Top		401			n\a
3	E8(I257)	Conc. Pt. (ins)	L	11.00.00	,,	4					

O mentala Cummany	Factored Demand	Factored Resistance	. Demand/ Resistance	Case	Location
Controls Summary	8,270 ft-lbs	35,392 ft-lbs	23,4%	1	05-08-04
Pos. Moment	2,666 lbs	14,464 lbs	18.4%	· 1	01-03-14
End Shear .	L/1,014 (0.13")	n\a	23.7%	4	05-09-12
Total Load Deflection	L/999 (0.084")	n\a	n\a	5	05-09-12
Live Load Deflection Max Defl.	0.13"	n\a	n\a	4	05-09-12
Span / Depth	11.1				15

Danis	Cunnarte	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Bearing B1 B2	Supports Hanger Wall/Plate	4" x 3-1/2" 5-1/2" x 3-1/2"	3,009 lbs 3,390 lbs	n\a 41.2%	17.6% 14.4%	HGUS410 Unspecified

Cautions

Header for the hanger HGUS410 at B1 is a Triple 1-3/4" x 11-7/8" VERSA-LAM® 1.7 2400 DF.

Hanger model HGUS410 and seat length were input by the user.

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86.

Design based on Dry Service Condition.

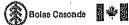
Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

Nail one ply to another with 3 1/2" spiral nails @ 10"

o.c. staggered in 2 rows





PASSED

2ND FLOOR FRAMING\Flush Beams\B6(i777)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

BC CALC® Member Report Build 6475

Job name:

Address:

City, Province, Postal Code: BRA...ON

Customer;

Code reports:

CCMC 12472-R

UNIT 1701.mmdl File name:

Description: 2ND FLOOR FRAMING\Flush Beams\B6(i777)

Specifier: Designer:

Company:

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Total Horizontal Product Length = 16-09-12

ation Summary (Down / Unlift) (lbs)

Reaction aut	ilitiary (Down / Of		_	140
Bearing	Live	Dead	Snow	Wi
B1, 2-3/8"	1,095 / 0	790 / 0		
B2, 2-3/8"	1,004/0	988 / 0		

1	ad Occuments						Live	Dead	Snow	Wind	Tributary
Tag	ad Summary Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1,15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	16-09-12	Top		12			00-00-00
1	FC2 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	16-09-12	Тор	17	8			n\a
9	FC2 Floor Material	Unf, Lin. (lb/ft)	Ĺ	00-00-00	08-03-02	Top	17	9			n\a
2	FC2 Floor Material	Unf. Lin. (lb/ft)	1	08-03-02	16-09-12	Top	6	3			n\a
3		Unf. Lin. (lb/ft)	ī	08-03-05	16-07-06	Top	_	60			n\a
4	WALL	• •	ı.	08-02-04	08-02-04	Top	1,628	839			n\a
5	B7(i750)	Conc. Pt. (lbs)	L	しんしていっしょ	00 0L-0-1		.,				

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	18,265 ft-lbs	35,392 ft-lbs	51.6%	1	08-02-04
End Shear	2,592 lbs	14,464 lbs	17.9%	1	15-07-08
	L/356 (0.657")	n\a	67.4%	4	08-04-12
Total Load Deflection	L/621 (0.32")	n\a	58.0%	5	08-03-96
Live Load Deflection Max Defl.	0.557"	n\a	n/a	4	08-04/125
Span / Depth	16.7				

Rooring	Supports	Dim, (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
Dearing				74.1%	25.9%	Unspecified
B1	Wall/Plate	2-3/8" x 3-1/2"	2,630 lbs	74.170	20.070	
• •		0.0100 0.4700	0.740 lbn	77.2%	27.0%	Unspecified
R2	Wall/Plate	2-3/8" x 3-1/2"	2,740 lbs	11,419	21.070	Of to be a river

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

DWUNG, TAM BS/678 H STRUCTURAL COMPONENT ONLY

T-1811585





PASSED

2ND FLOOR FRAMING\Flush Beams\B6(i777)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

BC CALC® Member Report

Bulld 6475

Job name:

Address:

City, Province, Postal Code: BRA...ON

Customer:

Code reports:

CCMC 12472-R

File name:

UNIT 1701.mmdi

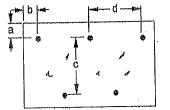
Description: 2ND FLOOR FRAMING\Flush Beams\B6(I777)

Specifier:

Designer:

Company:

Connection Diagram: Full Length of Member



a minimum = 2" b minimum ≈ 3"

8" $c = 7.7/8^{\circ}$ d = 🕸

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Nalls Connectors are:

3-1/2" ARDOX SPIRAL



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

BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®, BOISE GLULAM™, BC FloorValue®, STRUGTURAL

STRUGTURAL COMPONENT ONLY



PASSED

July 26, 2018 08:00:47

2ND FLOOR FRAMING\Flush Beams\B7(i750) Dry | 1 span | No cant,

BC CALC® Member Report **Build 6475**

Job name:

Address:

City, Province, Postal Code: BRA...ON

Customer:

Code reports:

File name:

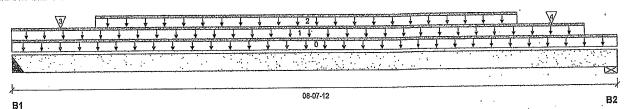
UNIT 1701.mmdl

2ND FLOOR FRAMING\Flush Beams\B7(1750) Description:

Specifier:

Designer:

Company:



CCMC 12472-R

Total Horizontal Product Length = 08-07-12

Reaction Summary (Down / Uplift) (lbs) LİVG Dead Bearing 1,649 / 0 849 / 0 B1, 2"

832 / 0 1,611/0 B2, 5-1/2"

ا م	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0.65	1,00	1,15	
0	Self-Weight	Unf. Lin. (lb/ft)	L	00-00-00	08-07-12	Top		6			00-00-00
1	STAIR	Unf, Lin, (lb/ft)	L	00-00-00	08-02-04	Тор	240	120			n\a
2	Smoothed Load	Unf. Lin. (lb/ft)	L	01-02-08	07-02-08	Top ·	166	83			n\a
3	J3(1784)	Conc. Pt. (lbs)	L	00-08-08	80-80-00	Тор	154	77			n\a
4	J3(1747)	Conc. Pt. (lbs)	L	07-08-08	07-08-08	Тор	142	71			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	7,196 ft-lbs	17,696 ft-lbs	40.7%	1	04-02-08
End Shear	2,788 lbs	7,232 lbs	38.6%	1	01-01-14
Total Load Deflection	L/999 (0,125")	n\a	n \a	4	04-02-08
Live Load Deflection	L/999 (0.082")	n\a	n\a	5	04-02-08
Max Defl.	0.125"	n\a	n\a ·	4	04-02-08
Span / Depth	8.2				

Bearing	supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4" .	3,535 lbs	n\a	82.8%	Hanger
B2	Wall/Plate	5-1/2" x 1-3/4":	3,456 lbs	84.1%	29,4%	Unspecified

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

Notes

Design meets Code minimum (L/240) Total load deflection criteria. Design meets Code minimum (L/360) Live load deflection criteria.

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA O86. CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIMBORD™, BCI®, BOISE GLULAM™, BC FloorValue®, 7 gyersa-Lame, VERSA-RIM PLUSE.

OVONO.TAN 85 STRUCTURAL COMPONENT ONLY





PASSED

3RD FLOOR FRAMING\Flush Beams\B10(i793)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Bulld 6475 Job name:

Address: City, Province, Postal Gode: BRA...ON

BC CALC® Member Report

File name:

UNIT 1701.mmdi

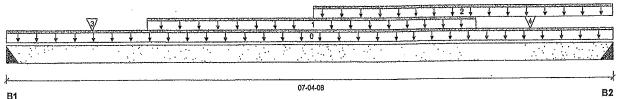
3RD FLOOR FRAMING\Flush Beams\B10(i793)

Description: Specifier:

Customer: Code reports:

CCMC 12472-R

Designer: Company:



Total Horizontal Product Length = 07-04-08

Snow

Reaction Summary (Down / Uplift) (lbs)

Bearing	Live	Dead
B1, 2"	724 / 0	384 / 0
B2, 2"	1,183 / 0	613/0

Los	ad Summary				•		Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1.00	0,65	1,00	1.15	
0	Self-Weight	Unf. Lin. (lb/ft)	L,	00-00-00	07-04-08	Тор		6			00-00-00
1	Smoothed Load	Unf. Lin. (lb/ft)	L	01-08-08	05-08-08	Top	158	79			n\a
2	STAIR	Unf. Lin. (lb/ft)	L.	03-08-08	07-04-08	Top	240	120			n\a
3	J3(1797)	Conc. Pt. (lbs)	L,	01-00-08	01-00-08	Top	199	100			n\a
4	J3(1800)	. Conc. Pt. (lbs)	L	06-04-08	06-04-08	Top	196	98			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	3,917 ft-lbs	17,696 ft-lbs	22,1%	1	04-01-08
End Shear	1,877 lbs	7,232 lbs	26.0%	1	06-02-10
Total Load Deflection	L/999 (0.051")	n\a	n\a	4	03-09-08
Live Load Deflection	L/999 (0.034")	n\a	n\a	. 5	03-09-08
Max Defl.	0.051"	n\a	.n\a	4	03-09-08
Span / Depth	7.2				

Bearing	Supports	Dim. (L.xW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Hanger	2" x 1-3/4"	1,567 lbs	nla	36.7%	Hanger
B2	Hanger	2" x 1-3/4"	2,541 lbs	n\a	59.5%	Hanger

Cautions

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

Notes

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

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

Calculations assume member is fully braced.

Hanger Manufacturer: Unassigned

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

CONFORMS TO OBC 2012

Importance Factor: Normal Part code: Part 9

<u>Disclosure</u>

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BC CALC®, BC FRAMER® , AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, BOISE GLULAM™, BC FloorValue®,

DWO NO. TAM BS18-18 H VERSA-LAMO, VERSA-RIM PLUSO. STRUCTURAL

COMPONENT ONLY

T-1811387





PASSED

3RD FLOOR FRAMING\Flush Beams\B8(i801)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Build 6475

Job name:

Address:

City, Province, Postal Code:

BC CALC® Member Report

Customer:

Code reports:

BRA...ON

CCMC 12472-R

File name:

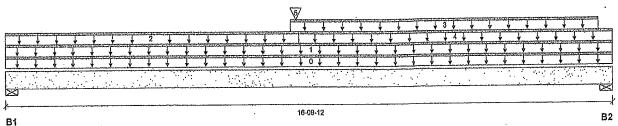
UNIT 1701.mmdl

Description: 3RD FLOOR FRAMING\Flush Beams\B8(i801)

Specifier:

Designer:

Company:



Total Horizontal Product Length = 16-09-12

Snow

Reaction Summary (Down / Uplift) (lbs)

Live Dead B1, 4-3/8" 706 / 0 604/0 B2, 4-3/8" 590 / 0 784/0

Los	ad Summary	•					Live	Dead	Snow	Wind	Tributary
Tag	Description	Load Type	Ref.	Start	End	Loc.	1,00	0.65	1,00	1.15	
0	Self-Welght	Unf, Lin, (lb/ft)	L	00-00-00	16-09-12	Тор		12			00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	16-09-12	Top	19	10			n\a
2	FC3 Floor Material	Unf. Lin. (lb/ft)	L	00-00-00	08-00-12	Top	24	12			n\a
3	WALL	Unf. Lin. (lb/ft)	L,	07-10-02	16-05-06	Тор		60			n\a
4	FC3 Floor Material	Unf, Lin. (lb/ft)	Ï.	08-00-12	16-09-12	Top	6	3			n\a
5	B10(i793)	Conc. Pt. (lbs)	Ĺ	07-11-14	07-11-14		. 731	387			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	10,557 ft-lbs	35,392 ft-lbs	29.8%	1	07-11-14
End Shear	1,698 lbs	14,464 lbs	11.7%	1	15-05-08
Total Load Deflection	L/596 (0,326")	n\a.	40.3%	4	08-03-09
Live Load Deflection	L/1,162 (0.167")	n\a	31.0%	5	08-03-09
Max Defl.	0.326"	n\a	n\a	4	08-03-09
Span / Depth	16.4				

Bearin	g Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	1,814 lbs	27.7%	9.7%	Unspecified
B2	Wall/Plate	4-3/8" x 3-1/2"	1.865 lbs	28.5%	10.0%	Unspecified



Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA Q86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086.

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

CONFORMS TO OBC 2012

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

DWB NO. TAM 8519.10 H STRUCTURAL COMPONENT ONLY

T-1811588



PASSED

3RD FLOOR FRAMING/Flush Beams/B8(i801)

Dry | 1 span | No cant.

July 26, 2018 08:00:47

BC CALC® Member Report **Bulld 6475**

Job name:

Address:

Customer:

Code reports:

City, Province, Postal Code: BRA...ON

CCMC 12472-R

File name:

Description:

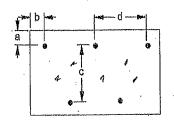
3RD FLOOR FRAMING\Flush Beams\B8(i801)

UNIT 1701.mmdl

Specifier:

Designer: Company:

Connection Diagram: Full Length of Member



a minimum ≈ 2" b minimum = 3"

c = 7-7/8" d = 🕮

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record.

Connectors are:

Nalls

3-1/2" ARDOX SPIRAL



Disclosure

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BC CALC®, BC FRAMER®, AJS™, ALLJOIST®, BC RIM BOARD™, BCI®, ALLJOIST®, BC RIM BOARD™, BCI®, YERSA-LAM®, VERSA-RIM PLUS®, VERSA-LAM®, VERSA-RIM PLUS®,

STRUCTURAL COMPONENT ONLY





PASSED

3RD FLOOR FRAMING\Flush Beams\B9(i798)

BC CALC® Member Report

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Build 6475 Job name:

Customer:

Code reports:

Address: City, Province, Postal Code: BRA...ON

CCMC 12472-R

UNIT 1701.mmdl File name:

Description: 3RD FLOOR FRAMING\Flush Beams\B9(i798)

Specifier: Designer:

Company:

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Total Horizontal Product Length = 16-09-12

Reaction Sur	mmary (Down / Uן	olift) (lbs)			
Bearing	Live	Dead	Snow	Wind	
B1, 4-3/8"	917 / 0	1,054/0			
B2, 4-3/8"	783 / 0	985 / 0			

Los	ad Summary						Live	Dead	Snow	Wind	Tributary
Tag		Load Type	Ref.	Start	End	Loc.	1.00	0.65	1.00	1,15	
0	Self-Weight	Unf, Lin. (lb/ft)	L	00-00-00	16-09-12	Top		12			00-00-00
1	FC3 Floor Material	Unf. Lin. (lb/ft)	L.	00-00-00	16-09-12	Top	17	9			n\a
,	FC3 Floor Material	Unf, Lin. (lb/ft)	L.	00-00-00	08-00-12	Top	23	11			n\a
٠ <u>٠</u> .	WALL.	Unf. Lin. (lb/ft)	L.	00-04-06	16-05-06	Top		60			n\a
4	FC3 Floor Material	Unf. Lin. (lb/ft)	1.	08-00-12	16-09-12	Top	6	3			n\a
5	B10(i793)	Conc. Pt. (lbs)	Ĺ	07-11-14	07-11-14	Тор	1,177	610			n\a

Controls Summary	Factored Demand	Factored Resistance	Demand/ Resistance	Case	Location
Pos. Moment	15,336 ft-lbs	35,392 ft-lbs	43.3%	1	07-11-14
End Shear	2,484 lbs	14,464 lbs	17.2%	1	01-04-04
Total Load Deflection	L/416 (0.468")	n\a	57.7%	4	08-03-09
Live Load Deflection	L/834 (0.233")	n\a	43.2%	5	08-03-09 08-03-09-47
Max Defl.	0.468"	n\a	n\a	4	08-03-09 47
Span / Depth	16.4				

Rearing	Supports	Dim. (LxW)	Demand	Demand/ Resistance Support	Demand/ Resistance Member	Material
B1	Wall/Plate	4-3/8" x 3-1/2"	2,693 lbs	41.2%	14,4%	Unspecified
B2	Mall/Plate	4-3/8" × 3-1/2"	2.405 lbs	36.8%	12.9%	Unspecified

Notes

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

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

Calculations assume member is fully braced.

Resistance Factor phi has been applied to all presented results per CSA O86.

BC CALC® analysis is based on Canadian Limit States Design, as per NBCC 2015 and CSA 086. CONFORMS TO OBC 2012

Design based on Dry Service Condition.

Importance Factor: Normal Part code: Part 9

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads,

please consult a technical representative or professional of Record.

UNG NO. TAM 852918 H STRUCTURAL COMPONENT ONLY

T-1811589





PASSED

3RD FLOOR FRAMING\Flush Beams\B9(i798)

BC CALC® Member Report Build 6475

Dry | 1 span | No cant.

July 26, 2018 08:00:47

Job name:

Address:

City, Province, Postal Code: BRA...ON

UNIT 1701.mmdl

File name: Description: 3RD FLOOR FRAMING\Flush Beams\B9(1798)

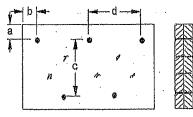
Specifier: Designer:

Customer; Code reports:

CCMC 12472-R

Company:

Connection Diagram: Full Length of Member



a minimum = 2"

c=7-7/8" "

b minimum = 3"

Connection design assumes point load is top-loaded. For connection design of side-loaded point loads, please consult a technical representative or professional of Record. Connectors are:

3-1/2" ARDOX SPIRAL

Disclosure

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BC CALC®, BC FRAMER®, AJS™ DWS NO. TAM @52011 HBOISE GLULAM™, BC FloorValue®, VERSA-LAM®, VERSA-RIM PLUS® STRUCTURAL COMPONENT ONLY

T-1811889Cy



Maximum Floor Spans







VIII III			Ba	re		1	1/2" Gyp	sum Ceiling	
	Series			e Spacing				re Spacing	
Depth	Delles .	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	15'-1"	14'-2"	13'-9"	N/A	15'-7"	14'-8"	14'-2"	N/A
	NI-20 NI-40x	16'-1"	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
	NI-40X NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	,15'-3"	N/A
9-1/2"	NI-50 NI-70	17'-1"	16'-1"	15'-6"	N/A	17'-5"	16'-5"	15'-10"	N/A
	•	17'-3"	16'-3"	15'-8"	N/A	17'-8"	16'-7"	16'-0"	N/A
	NI-80	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-20	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-1 <i>i</i> "	N/A
	NI-40x	18'-4"	17'-3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
11-7/8"	NI-60	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
Traire	NI-70	19'-9"	18'-3"	17'-6"	N/A	20'-4"	18°-10"	17'-11"	N/A
	NI-80 NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	1953"	18'-5"	N/A
	NI-90X NI-40X	20'-1"	18*-7"	17'-10"	N/A	20°-10°	19'-4"	18 ^r -6"	N/A
	NI-40X NI-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19°-7"	18 ⁻ 9"	N/A
		21'-7"	20°-9"	19*-1"	N/A	22 ^t -3 ⁿ	201-7"	19'-8"	N/A
14"	NI-70 NI-80	21 ⁵ -11 ⁿ	20'-3"	19*-4"	N/A	22'-7"	20'-11"	20"-0"	N/A
	• • • •	22'-7"	20'-11"	19'-11"	N/A.	23'-3"	21-6"	20'-6"	N/A
	• NI-90x	22'-3"	20°-8"	19'-9"	N/A	23'-1"	21'5"	20'-6"	N/A
	NI-60	23*-6"	21:-9"	20*-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
16"	NI-70	23'-11"	22'-1"	21'-1"	N/A	24'-8"	22'-10"	21'-9"	N/A
70	NI-80	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22°-4"	N/A
	NI-90x	27.0							

			Mid-Span	Blocking		Mid-S	pan Blocking ar	id 1/2" Gypsum	Ceiling
	Series		On Centre				On Cent	re Spacing	
Depth	Series -	12"	16"	19.2"	24"	12"	16"	19.2"	24"
	NI-20	16'-8"	15'-3"	14'-5"	N/A	16'-8"	15'-3"	14'-5"	N/A
	NI-20 NI-40x	17'-11"	. 16'-11"	16'-1"	N/A	18'-5"	17'-1"	16'-1"	N/A
	NI-60	18'-2"	17'-1"	16'-4"	N/A	18'-7"	17'-4"	16'-4"	N/A
9-1/2"		19'-2"	17'-10"	17'-2"	N/A	19'-7"	18'-3"	17'-7"	N/A
	NI-70	19'-5"	18'-0"	17'-4"	N/A	19'-10"	18'-5"	17'-8"	N/A
	NI-80	19'-6"	18'-1"	17'-3"	N/A	19'-11"	18'-3"	17'-3"	N/A
	NI-20	21'-0"	19'-6"	18'-8"	N/A	21'-7"	20'-2"	19'-2"	N/A
	NI-40x	21'-4"	19'-9"	18'-11"	N/A	21'-11"	20'-4"	19'-6"	N/A
11-7/8"	NI-60	22'-6"	20'-10"	19'-11"	N/A	23'-0"	21'-5"	20'-5"	N/A
11.110	NI-70	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"	20'-8"	N/A
	NI-80	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"	21'-2"	N/A
	NI-90x	23'-7"	21'-11"	20'-11"	N/A	24'-3"	221-711	21'-7"	N/A
	NI-40x	24'-0"	22'-3"	21'-3"	N/A	24'-8"	22'-11"	21'-11"	N/A
	NI-60	25'-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"	22'-11"	N/A
14"	NI-70	25°-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"	23'-2"	N/A
	NI-80	26'-4"	24'-4"	23'-3"	N/A	26'-10"	24-11"	23'-9"	N/A
	NI-90x	26'-5"	24'-6"	23'-4"	N/A	27'-2"	25'-3"	24'-2"	N/A
	NI-60	20-5 27' - 9"	25' - 8"	24'-6"	N/A	28'-5",	26'-5"	25'-2"	N/A
16"	NI-70	28'-2"	26'-1"	24'-10"	N/A .	28'-10"	26'-9"	25¹-6"	N/A
Τα	NI-80	20 -2 29'-0"	26'-10"	25'-7"	N/A	29'-7"	27'-5"	26'-2"	N/A
	NI-90x	23-0							

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a liveload deflection limit of L/480 and a total load deflection limit of L/240.

a liveload deflection limit of L/480 and a total load deflection limit of L/480.

2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spacing of 19.2 Inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking atmid-span with strapping. Strapping shall be minum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. Strapping shall be minum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

^{3.} Minimum bearing length shall be 1-3/4 inches for the end bearings.
4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{4.} Bearing stiffeners are not required when i joins are used with this open and opening distributed loads, an engineering analysis may be required 5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and 08C 2012.

based on the use on the design properties. An advantage of the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans Live Load = 40 psf; Déad Load = 30 psf Simple Spans, L'480 Deflection Umit 5/8" psg g&N sheathing,







			. В	are		_1	1/2º Gyp	sum Celling	
Depth	Series		On Centi	e Spacing				tre Spacing	
Dehan	<u> </u>	12"	16"	19.2"	24"	12"	1 6"	19.2"	24"
	NI-20	15'-1"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A
.*	NI-40x	16¹-1¹¹	15'-2"	14'-8"	N/A	16'-7"	15'-7"	15'-1"	N/A
9-1/2"	NI-60	16'-3"	15'-4"	14'-10"	N/A	16'-8"	15'-9"	15'-3"	N/A
3414	NI-70	17'-1"	16'-1"	15'-6"	· N/A	17'-5"	16'-5"	15'-10"	N/A
	NI-80	17'-3"	16'-3"	15'-8"	N/A	17¹-8"	16'-7"	16'-0"	N/A
	NI-20	16'-11"	16'-0"	15'-5"	N/A	17'-6"	16'-6"	16'-0"	N/A
	NI-40x	18'-1"	17'-0"	16'-5"	N/A	18'-9"	17'-6"	16'-11"	N/A
	NI-60	18'-4"	17 '- 3"	16'-7"	N/A	19'-0"	17'-8"	17'-1"	N/A
11-7/8"	NI-70	19'-6"	18'-0"	17'-4"	N/A	20'-1"	18'-7"	17'-9"	N/A
	NI-80	19'-9"	18'-3"	17'-6"	n/a	20'-4"	18'-10"	17'-11"	N/A
	NI-90x	20'-4"	18'-9"	17'-11"	N/A	20'-10"	19'-3"	18 5"	N/A
	NI-40x	20'-1"	18'-7"	17'-10"	N/A	20'-10"	19'-4"	18'-6"	N/A
	N!-60	20'-5"	18'-11"	18'-1"	N/A	21'-2"	19'-7"	18 '- 9"	N/A
14"	NI-70	21'-7"	20'-0"	19'-1"	N/A	22'-3"	20'-7"	19 ^r -8 ^{ir}	N/A
	N1-80	21'-11"	20'-3"	19'-4"	N/A	22'-7"	20-11"	20'-0"	N/A
	NI-90x	. 22'-7"	20'-11"	19'-11"	N/A	23'-3"	21'-6"	20′-6°	N/A
	NI-60	22'-3"	20'-8"	19'-9"	N/A	23'-£" -	21'-5"	20'-6"	N/A
	NI-70	23'-6"	211-9"	20'-9"	N/A	24'-3"	22'-5"	21'-5"	N/A
16"	NI-80	23-11"	22'-1"	21'-1"	N/A	24-8"	22'-10"	21'-9"	N/A
•	NI-90x	24'-8"	22'-9"	21'-9"	N/A	25'-4"	23'-5"	22'-4"	N/A

		Mīd-Span Blocking				Mid-Span Blocking and 1/2" Gypsum Ceiling				
Depth	Series		On Centr	e Spacing	On Centre Spacing					
Depui		12°	1.6 ^{1†}	19.21	24"	12"	16"	19.2"	24"	
	NI-20	15'-7"	14'-1"	13'-3"	N/A	15'-7"	14'-1"	13'-3"	N/A	
	NI-40x	17'-9"	16¹-1°	15 '- 1"	N/A	17'-9"	16'-1"	15'-1"	N/A	
9-1/2"	NI-60	18'-1" ·	16*-4"	15'-4"	N/A	18'-1"	16'-4"	re Spacing 19.2" 13'-3"	N/A	
9-1/4	NI-70	191-2"	17'-10"	16'-9"	N/A	19'-7"	17'-10"		N/A	
	N1-80	19'-5"	18'-0"	17'-1"	N/A	19'-10"	18'-3"		N/A	
	NJ-20	18¹-9¹¹	1.7'-0"	16'-0"	N/A	18'-9"	17'-0"		N/A	
	NI-40x	210"	19'-3"	17'-9"	N/A	21'-3"	19'-3"	Ite Spacing 19.2" 13'-3" 15'-1" 15'-4" 16'-9" 17'-3" 16'-0" 17'-9" 18'-5" 20'-5" 21'-2" 19'-6" 21'-0" 22'-9" 23'-2" 23'-4" 25'-6"	N/A	
	NI-60	21'-4"	19'-8"	18'-5"	N/A	21'-8"	19'-8"		N/A	
11-7/8"	NI-70	22¹-6"	20'-10"	19'-11"	N/A	23'-0"	21'-4"		N/A	
	NI-80	22'-9"	21'-1"	20'-1"	N/A	23'-3"	21'-7"		N/A	
	NI-90x	23'-4"	21'-8"	20'-8"	N/A	23'-10"	22'-2"		N/A	
	NI-40x	23'-7"	21'-5"	19'-6"	N/A	24'-1"	21'-5"		N/A	
	NI-60	24'-0"	22'-3"	21'-0"	N/A	24'-8"	22'-5"		N/A	
4 411	NI-70	25¹-3"	23'-4"	22'-3"	N/A	25'-10"	24'-0"		N/A	
14"	NI-80	25'-7"	23'-8"	22'-7"	N/A	26'-2"	24'-4"		N/A	
	NI-90x	26¹-4"	24'-4"	23'-3"	N/A	26'-10"	24'-11"		N/A	
	NI-60	26'-5"	24'-6"	23'-4"	N/A	27'-2"	24'-10"		N/A	
	. NI-70	27'-9"	25'-8"	24'-6"	N/A	28'-5"	26'-5"		N/A	
16"	NI-80	28'-2"	26'-1"	24'-10"	N/A	28'-10"	26'-9"	re Spacing 19.2" 13'-3" 15'-4" 15'-4" 16'-9" 17'-3" 16'-0" 20'-5" 21'-2" 19'-6" 22'-9" 22'-9" 23'-2" 23'-4" 25'-6"	N/A	
	NI-80 NI-90x.	29'-0".	26'-10"	25'-7"	N/A	29'-7"	27'-5"		N/A	

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The 1. Maximum clear span applicable to simple-span residence involvement a besign live load of 40 psr and dead load of 30 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, uniquate minicacacca are passed on the rectional robus of LOSET LIZED. The Se a live load deflection limit of L/480 and a total load deflection limit of L/240.

a live load deflection limit of 1/480 and a total load detrection limit of 1/240.

2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 5/8 inch for a joist spading of 19.2 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping, Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists.

3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

4. Bearing stiffeners are not required when i-joists are used with the spans and spacings given in this table, except as required for hangers.

^{4.} Bearing starteners are not required when reposes are used with decapons and specings given in this table, except as required for hangers.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA O86-09, NBC 2010, and OBC 2012.

Dased on the use of the design proposed at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-L274C.



Maximum Floor Spans Livel bad 5:40.osf, pead Load 5:30.osf, Simple Spats 5:2/480 periection: Limit

NI-80

N1-90x

NI-60

NI-70

NI-80

NI-90x

..

16º

3/4 LOSB G&N Sheathing





24'-8"

24'-6"

25"-9"

26'-1"

26'-11'

22'-10"

22'-9"

23'-10"

24'-2"

24'-11"

21°-9"

21'-8'

22'-9"

23"-1"

23'-8"

20'-7"

20'-6"

21'-6"

21'-10"

22'-5"

20'-0"

19'-10'

20°-10"

21'-2"

21'-10"



						•				
		Bare								
_	Series		On Centr	On Centre Spacing						
Depth	Delica	.12"	16"	19.2"	24"	12"		19,2"	24"	
	NI-20	15'-7"	14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"	
	NI-40x	17'-0"	16'-0"	15'-1"	13'-11"	17'-5"	16'-1"	15'-1"	13'-11"	
	NI-40X NI-60	17'-2"	16'-2"	15'-5"	14'-3"	17'-6"	16'-S"	re Spacing 19,2" 13'-4"	14'-3"	
9-1/2"	•	18'-0"	16'-11"	16 '- 3"	15'-6"	18'-5"	1.7'-3"		15'-6"	
	NI-70	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	1.7'-5"		15'-10"	
	NI-80	17'-10"	16'-10"	16'-0"	14'-10"	18'-6"	17'-1"	16'-0"	14'-10"	
	NI-20	19'-4"	17'-11"	17'-3"	15'-10"	19'-11"	18'-6"	19.2" 13'-4" 15'-1" 15'-5" 16'-7" 16'-9" 16'-9" 17'-11" 18'-10" 19'-6" 19'-6" 19'-6" 19'-6" 19'-6" 19'-6"	15'-10"	
	NI-40x	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"		17 ¹ -1"	
11-7/8"	NI-60	20'-9"	19'-2"	18'-3"	17'-5"	21'-4"	19 ^t -9 ⁿ		17'-10"	
TIMO	NI-70	21'-1"	·19'-5"	18'-6"	17'-7"	21'-7"	20'-0"		18'-0"	
	NI-80	21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20'-6"		18'-6"	
	NI-90x	21'-5"	19°-10"	18'-11"	17'-5"	22 ^t -1 ^u	20'-6"	19'-6"	17'-5"	
	NI-40x	21'-10"	20'-2"	19'-3"	18'-2"	22'-5"	20-10'*	19 ^r -11 ^r	18-10"	
•	NI-60	23'-0"	21'-3"	20'-3"	19°-2"	23'-8"	21-11"	20°-10°	19 ^r -9 ^u	
14"	NI-70	23'-5"	21:-7"	20'-7"	19'-5"	24"-0"	16" 19. 14'2" 13'-4 16'-4" 15'-1 16'-5" 15'-5 17'-3" 16'-7 17'-5" 16'-9 17'-1" 16'-0 18'-6" 17'-9 18'-9" 18'-1 19'-9" 18'-1 20'-0" 19'-0' 20'-6" 19'-6' 20'-6" 19'-6' 20'-6" 19'-6' 20'-10" 19'-12' 21'-11" 20'-16'	21'-2"	20°-0"	
	NI-80	4J "J			# P 1 P 1	n at ou	ant our			

21'-2"

20'-11"

22'-0"

22'-4"

23'-1"

221-3"

22'-0'

23'-2"

23'-6"

24:-3"

24'-1"

23'-9"

25'-1"

25'-6"

26'-4"

Series _			270-171-17							
Series		Mid-Span Blocking On Centre Spacing				OnCentre Spacing				
	12"	16"	19.2"	24 ^u	12"	16"	19.2"	24"		
11120		14'-2"	13'-4"	12'-4"	15'-7"	14'-2"	13'-4"	12'-4"		
			15¹-1"	13'-11"	17'-9"	16'-1"	19.2" 13'-4" 15'-1" 16'-9" 17'-1" 16'-0" 17'-9" 18'-5" 20'-1" 0" 20'-5" 19'-6" 21'-0" 22'-9" 0" 22'-9" 0" 23'-3" 1" 23'-5" 1" 25'-3"	13'-11"		
			15'-5"	14'-3"	18'-1"	16'-5"		14'-3"		
			16'-9"	15'-6"	19'-10"	17'-11"		15'-6"		
	***		17'-1"	15'-10"	20'-2"	18'-3"		15'-10"		
		17'-1"	16'-0"	14'-10"		17'-1"	16'-0"	14'-10"		
		19'-3"	17'-9"	15'-10"		19'-3"	tre Spacing 19.2" 13'-4" 15'-1" 15'-5" 16'-9" 17'-1" 16'-0" 17'-9" 18'-5" 20'-1" 20'-5" 21'-3" 19'-6" 21'-0" 22'-9" 23'-3" 24'-3" 23'-5" 25'-10"	15'-10"		
•		19'-8"	18'-5"	17'-1"		19¹-8"		17'-1"		
		21'-5"	20'-1"	18'-6"		21'-5"		18'-6"		
		21'-10"	20'-5"	18'-11"		21'-10"		18'-11"		
		22'-6"	21'-3"	19'-7"		22'-7"		19'-7"		
		21'-5"	19'-6"		ľ	21'-5"	19'-6"	17'-5"		
•		22'-5"	21'-0"			22'-5"	e Spacing 19.2" 13'.4" 15'-1" 15'-5" 16'-9" 17'-1" 16'-0" 17'-9" 18'-5" 20'-1" 20'-5" 21'-3" 19'-6" 21'-0" 22'-3" 23'-5" 24'-3" 25'-10"	19'-6"		
-		24'-3"	22'-9"			24'-3"		21'-0"		
		24'-7"	23'-3"			24'-10"		21'-6"		
		25'-4"	24'-1"					22'-4"		
		24'-11"	23'-5"				23'-5"	21'-7"		
		26'-8"	25'-3"	23'-4"	29'-3"	26'-11"	25'-3"	23'-4"		
		27'-0"	25'-9"	23'-10"	29'-8"	27'-6"	tre Spacing 19.2" 13'-4" 15'-1" 15'-5" 16'-9" 17'-1" 16'-0" 17'-9" 18'-5" 20'-1" 20'-5" 21'-3" 19'-6" 21'-0" 22'-9" 23'-3" 24'-3" 25'-10"	23'-10"		
•	29'-11"	27'-10"	26'-6"	24'-10"	30'-6"	28'-5"		24'-10"		
	NI-20 NI-40x NI-60 NI-70 NI-80 NI-20 NI-40x NI-60 NI-70 NI-80 NI-90x NI-60 NI-70 NI-80 NI-60 NI-60 NI-60 NI-70 NI-80 NI-80 NI-80 NI-80	NI-20 15'-7" NI-40x 17'-9'* NI-60 18'-1" NI-70 19'-10" NI-80 20'-2" NI-20 18'-10" NI-60 21'-3" NI-60 21'-9" NI-70 23'-4" NI-80 23'-7" NI-90x 24'-3" NI-60 24'-9" NI-70 26'-1" NI-80 26'-6" NI-90x 27'-3" NI-70 28'-8" NI-70 28'-8"	NI-20 15-7" 14'-2" NI-40x 17'-9" 16'-1" NI-60 18'-1" 16'-5" NI-70 19'-10" 17'-11" NI-80 20'-2" 18'-3" NI-20 18'-10" 17'-11" NI-80 21'-9" 19'-8" NI-70 23'-4" 21'-5" NI-80 23'-7" 21'-10" NI-90x 24'-3" 22'-6" NI-40x 24'-2" 21'-5" NI-60 24'-9" 22'-5" NI-60 24'-9" 22'-5" NI-70 26'-1" 24'-3" NI-80 26'-6" 24'-7" NI-80 27'-3" 25'-4" NI-60 27'-3" 25'-4" NI-60 27'-3" 24'-11" NI-60 27'-3" 24'-11" NI-70 28'-8" 26'-8" NI-70 28'-8" 26'-8" NI-70 28'-8" 26'-8" NI-70 28'-8" 26'-8"	NI-20 15'-7" 14'-2" 13'-4" NI-40x 17'-9" 16'-1" 15'-1" 15'-1" NI-60 18'-1" 16'-5" 15'-5" NI-70 19'-10" 17'-11" 16'-9" NI-80 20'-2" 18'-3" 17'-1" 16'-0" NI-80 21'-9" 19'-8" 17'-9" NI-60 21'-9" 19'-8" 18'-5" NI-70 23'-4" 21'-5" 20'-1" NI-80 23'-7" 21'-10" 20'-5" NI-90x 24'-3" 22'-6" 21'-3" NI-90x 24'-3" 22'-6" 21'-3" NI-60 24'-9" 22'-5" 21'-0" NI-60 24'-9" 22'-5" 21'-0" NI-60 24'-9" 22'-5" 21'-0" NI-80 26'-6" 24'-7" 23'-3" NI-90x 27'-3" 25'-4" 24'-1" NI-60 27'-3" 24'-1" 23'-5" NI-90x 27'-3" 25'-4" 24'-1" NI-60 27'-3" 24'-11" 23'-5" NI-90x 27'-3" 26'-8" 25'-3" NI-90x 27'-3" 26'-8" 25'-3" NI-70 28'-8" 26'-8" 25'-3" NI-70 28'-8" 26'-8" 25'-3" NI-70 28'-8" 26'-8" 25'-5" NI-70 28'-8" 26'-8" 25'-5" NI-70 28'-8" 26'-8" 25'-5" NI-80 29'-1" 27'-0" 25'-5"	NI-20 15'-7" 14'-2" 13'-4" 12'-4" NI-40x 17'-9" 16'-1" 15'-1" 13'-11" NI-60 18'-1" 16'-5" 15'-5" 14'-3" NI-70 19'-10" 17'-11" 16'-9" 15'-6" NI-80 20'-2" 18'-3" 17'-1" 15'-10" NI-40x 21'-3" 19'-3" 17'-1" 15'-10" NI-60 21'-9" 19'-8" 18'-5" 17'-1" 18'-6" NI-70 23'-4" 21'-5" 20'-1" 18'-6" NI-80 23'-7" 21'-10" 20'-5" 18'-11" NI-90x 24'-3" 22'-6" 21'-3" 19'-6" 17'-5" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 17'-5" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 17'-5" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 17'-5" NI-80 26'-6" 24'-7" 23'-3" 21'-6" NI-90x 27'-3" 25'-4" 24'-1" 22'-4" NI-60 27'-3" 25'-4" 24'-1" 22'-4" NI-60 27'-3" 25'-4" 24'-1" 22'-4" NI-60 27'-3" 25'-4" 24'-1" 22'-4" NI-60 27'-3" 25'-4" 24'-1" 22'-4" NI-70 28'-8" 26'-8" 25'-3" 23'-4" NI-70 28'-8" 26'-8" 25'-3" 23'-4" NI-70 28'-8" 26'-8" 25'-3" 23'-4" NI-70 28'-8" 26'-8" 25'-9" 23'-10" NI-70 28'-8" 26'-8" 25'-9" 23'-10" 28'-6" 28'-10" 25'-9" 23'-10"	NI-20 15'-7" 14'-2" 13'-4" 12'-4" 15'-7" NI-40x 17'-9" 16'-4" 15'-1" 13'-4" 17'-9" NI-60 18'-1" 16'-5" 15'-5" 14'-3" 18'-1" NI-70 19'-10" 17'-11" 16'-9" 15'-6" 19'-10" NI-80 20'-2" 18'-3" 17'-1" 15'-10" 20'-2" NI-20 18'-10" 17'-1" 16'-0" 14'-10" 18'-10" NI-40x 21'-3" 19'-3" 17'-9" 15'-10" 21'-3" NI-60 21'-9" 19'-8" 18'-5" 17'-1" 21'-9" NI-70 23'-4" 21'-5" 20'-1" 18'-11" 24'-1" NI-90x 24'-3" 22'-6" 21'-3" 19'-7" 24'-8" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 17'-5" 24'-2" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 24'-9" NI-70 26'-1" 24'-3" 22'-9" 21'-0" 26'-8" NI-70 26'-1" 24'-3" 22'-9" 21'-6" 24'-9" NI-70 26'-1" 24'-3" 22'-9" 21'-6" 26'-8" NI-90x 27'-3" 25'-4" 24'-1" 22'-4" 27'-9" NI-90x 27'-3" 25'-4" 24'-1" 22'-4" 27'-9" NI-60 27'-3" 25'-4" 24'-1" 22'-4" 27'-9" NI-60 27'-3" 25'-4" 24'-1" 23'-5" 21'-7" 27'-6" NI-90 28'-8" 26'-8" 25'-3" 23'-4" 29'-3" NI-80 29'-1" 27'-0" 25'-9" 23'-10" 30'-6"	NI-20 15 ¹ -7" 14 ¹ -2" 13 ¹ -4" 12 ¹ -4" 15 ¹ -7" 14 ¹ -2" NI-40x 17 ¹ -9" 16 ¹ -1" 15 ¹ -1" 13 ¹ -11" 17 ¹ -9" 16 ¹ -1" 16 ¹ -5" 15 ¹ -5" 14 ¹ -3" 18 ¹ -1" 16 ¹ -5" 16 ¹ -5" 15 ¹ -5" 14 ¹ -3" 18 ¹ -1" 16 ¹ -5" NI-70 19 ¹ -10" 17 ¹ -11" 16 ¹ -9" 15 ¹ -6" 19 ¹ -10" 17 ¹ -11" 16 ¹ -9" 15 ¹ -6" 19 ¹ -10" 17 ¹ -11" 16 ¹ -9" 15 ¹ -10" 20 ¹ -2" 18 ¹ -3" NI-20 18 ¹ -10" 17 ¹ -1" 16 ¹ -0" 14 ¹ -10" 18 ¹ -10" 17 ¹ -4" 19 ¹ -3" 19 ¹ -5" 10 ¹ -10" 21 ¹ -3" 19 ¹ -5" 10 ¹ -10" 21 ¹ -3" 19 ¹ -5" 10 ¹ -10" 21 ¹ -3" 19 ¹ -5" 10 ¹ -10" 21 ¹ -5" 19 ¹ -5" 10 ¹ -10" 21 ¹ -5" 19 ¹ -5" 10 ¹ -10" 19 ¹ -5" 19 ¹ -5" 10 ¹ -10" 19 ¹ -5" 19 ¹ -5" 10 ¹ -10" 19 ¹ -5" 19 ¹ -5" 10 ¹ -10" 19 ¹ -5" 19 ¹ -5" 10 ¹ -10" 19 ¹ -5" 19 ¹ -5" 10 ¹ -10" 19 ¹ -5" 10 ¹ -10" 10 ¹ -5" 10 ¹ -10" 10 ¹ -5"	NI-20 15'-7" 14'-2" 13'-4" 12'-4" 15'-7" 14'-2" 13'-4" NI-40x 17'-9" 16'-1" 15'-1" 13'-11" 17'-9" 16'-1" 15'-1" 13'-11" 17'-9" 16'-1" 15'-1" 15'-1" 16'-5" 15'-5" 14'-3" 18'-1" 16'-5" 15'-5" 14'-3" 18'-1" 16'-5" 15'-5" NI-70 19'-10" 17'-11" 16'-9" 15'-6" 19'-10" 17'-11" 16'-9" NI-80 20'-2" 18'-3" 17'-1" 15'-10" 20'-2" 18'-3" 17'-1" NI-20 18'-10" 17'-1" 16'-0" 14'-10" 18'-10" 17'-1" 16'-0" NI-40x 21'-3" 19'-3" 17'-9" 15'-10" 21'-3" 19'-3" 17'-9" NI-60 21'-9" 19'-8" 18'-5" 17'-1" 21'-9" 19'-8" 18'-5" NI-70 23'-4" 21'-5" 20'-1" 18'-6" 21'-9" 21'-10" 20'-5" NI-80 23'-7" 21'-10" 20'-5" 18'-11" 24'-1" 21'-10" 20'-5" NI-90x 24'-3" 22'-5" 21'-0" 19'-6" 17'-5" 24'-2" 21'-5" 19'-6" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 24'-9" 22'-5" 21'-0" NI-60 24'-9" 22'-5" 21'-0" 19'-6" 24'-9" 22'-5" 21'-0" NI-80 26'-6" 24'-7" 23'-3" 21'-0" 26'-8" 24'-3" 22'-9" NI-80 26'-6" 24'-7" 23'-3" 21'-6" 27'-1" 24'-10" 23'-3" NI-90x 27'-3" 25'-4" 24'-1" 23'-5" 21'-0" 26'-8" 24'-11" 23'-5" NI-90x 27'-3" 25'-4" 24'-11" 23'-5" NI-90x 27'-3" 25'-4" 24'-11" 23'-5" NI-90x 27'-3" 25'-4" 24'-11" 23'-5" NI-90x 27'-3" 24'-11" 23'-5" 21'-0" 27'-6" 24'-11' 23'-5" NI-90x 27'-3" 24'-11" 23'-5" 21'-0" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-9" 23'-10" 29'-8" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-9" 23'-10" 29'-8" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-9" 23'-10" 29'-8" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-9" 23'-10" 29'-8" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-9" 23'-10" 29'-8" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-9" 23'-10" 29'-8" 27'-6" 24'-11' 23'-5" NI-90 29'-1" 27'-0" 25'-10" 24'-10" 29'-8" 27'-6" 25'-10" 28'-8" 27'-10" 28'-8" 27'-6" 25'-10" 28'-5" 27'-10" 28'-8" 27'-6" 25'-10" 28'-5" 27'-10" 28'-8" 27'-6" 27'-10" 28'-8" 27'-6" 28'-10" 28'-8" 27'-6" 28'-10" 28'-8" 27'-6" 28'-10" 28'-5" 28'-10" 28'-8" 27'-6" 28'-10" 28'-5" 28'-10" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10" 28'-5" 28'-10"		

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 30 psf. The 1. Maximum crear span appropriate to simple span to solve the service ability limit states include the consideration for floor vibration, ultimate limit states are based on the factored loads of 1.50L + 1.25D. The service ability limit states include the consideration for floor vibration, a liveload deflection limit of L/480 and a total load deflection limit of L/240.

a live load denection initial or 4-load and a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist 2, Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist 2. Spans are used on a composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at midspan with strapping, spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at midspan with strapping. spacing of 24 micros of load inchange at miospan with str Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

^{3.} Minimum usually support and specified when I-joists are used with the spans and spacings given in this table, except as required for hangers.

4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

^{4.} Bearing summers are not required which is passed on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required. 5. This span unit is based on Similar to based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012, based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and OBC 2012.

based on the use of the design properties and continuously along the compression edge. Refer to technical documentation for installation 6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation 6. Joists snan be laterary supported to support the commentation for guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-1274C.



Maximum Floor Spans







()MJ.=			Ba	are			1/2" Gyp	sum Celling	
	C-dea		On Centr	e Spacing	On Centre Spacing ·				
Depth	Series	12"	16"	19.2"	24"	12"	16"		24"
	NU 20	15'-10"	15'-0"	14'-5"	13'-5"	· 16'-4"	15'5"	14'-6"	13'-5"
	NI-20	17'-0"	16'-0"	15'-5"	14'-9"	17'-5"	16'-5"	15'-10"	15'-2"
	NI-40x	17'-2"	1.6'-2"	15 '-7 "	14'-11"	17'-6"	16'-7"	15'-11"	15'-3"
9-1/2"	NI-60	18'-0"	16'-11"	16'-3"	15'-7"	18'-5"	17'-3"	16'-7"	15'-11"
	NI-70	18'-3"	17'-1"	16'-5"	15'-9"	18'-8"	17'-5"	16'-9"	16'-1"
	NI-80	17'-10"	16'-10"	16'-2"	15'-6"	18'-6"	17'-4"	16'-9"	16'-1"
,	Ni-20	19'-4"	17'-11"	17'-3"	16'-6"	19'-11"	18'-6"	17'-9"	17'-0"
	N1-40x	19'-7"	18'-2"	17'-5"	16'-9"	20'-2"	18'-9"	re Spacing 19.2" 14'-6" 15'-10" 15'-11" 16'-9" 16'-9" 17'-11" 18'-10" 19'-6" 19'-7" 19'-12" 21'-12" 21'-12" 21'-12" 21'-12" 21'-13"	17'-2"
44 4101	NI-60	20'-9"	19'-2"	18'-3"	17'-5"	215-4"	19'-9"		17'-10"
11-7/8"	NI-70		19'-5"	18'-6"	17'-7"	21'-7"	20'-0"		18°-0"
	N1-80	21'-1" 21'-8"	20'-0"	19'-1"	18'-0"	22'-2"	20°-6"		18'-6"
	NI-90x	21'-8	19'-10"	18'-11"	17'-11"	221-111	20°-6"		18'-7"
	NI-40x		20'-2"	19'-3"	18'-2"	22'-5"	20°-10"	19'-11"	18'-10"
	N1-60	21'-10"	21'-3"	20'-3"	19'-2"	23'-8"	21 ¹ -11 ¹¹		19'-9"
14"	NI-70	23'-0"	21-7"	20°-7"	19'-5"	24'-0"	225-3°		20'-0"
	NI-80	23'-5"	22 ^r -3 ⁿ	21'-2"	20'-0"	24 ^t -8 ⁿ	22'-10"		20°-7"
	NI-90x	24'-1"	22'-0"	20"-11"	19°-10°	24 ^r -6 ^{ir}	22'-9"		20 ^r -6"
	NI-60	23'-9"	23*-2"	22'-0"	20°-10°	25'-9"	23'-10"		21'-6"
11	NI-70	25"-1"	23'-6"	22'-4"	21"-2"	26 ¹ -1"	24*-2"	tre Spacing 19.2" 14'-6" 15'-10" 15'-11" 16'-9" 16'-9" 17'-11" 18'-10" 19'-0" 19'-6" 19'-5" 19'-12" 21'-12" 21'-12" 21'-12" 21'-12" 21'-12" 22'-9" 23'-1"	21'-10"
16"	NI-80	25'-6"	24'-3"	23'-1"	21'-10"	26'-11"	24'-11"		22'-5"
	NI-90x	26'-4"	2773						

			Mid-Span	Blocking		- Mid-S	pan Blocking ar	ıd 1/2" Gypsum	Ceiling	
		On Centre Spacing				On Centre Spacing				
Depth	Series	12"	16"	19.2"	24"	12"	16"	19.2"	24"	
		16'-10"	15'-5"	14'-6"	13'-5"	16'-10"	15'-5"	14'-6"	13'-5"	
	NI-20	18'-8"	17'-2"	16'-3"	15'-2"	18'-10"	17'-2"	19.2"	15'-2"	
	NI-40x	18'-11"	17'-6"	16'-6"	15'-5"	19'-2"	17¹-6ª		15'-5"	
9-1/2"	NI-60	20'-0"	18'-7"	17'-9"	16'-7"	20'-5"	18¹-11"		16'-7"	
	NI-70	20'-3"	18'-10"	17'-11"	16'-10"	20'-8"	19'-3"	18'-2"	16'-10"	
	NI-80	20'-1"	18'-5"	17'-5"	16'-2"	20'-1"	18'-5"	17'-5"	16'-2"	
	NI-20	20-1	20'-4"	19'-4"	17'-8"	22'-5"	20'-6"	19'-4"	17'-8"	
	NI-40x	21'-10	20'-7"	19'-7"	18 ⁷ -4"	22¹-8"	20'-10"	re Spacing 19.2" 14'-6" 16'-3" 16'-6" 17'-10" 18'-2" 17'-5" 19'-4" 19'-8" 21'-2" 21'-5" 22'-0" 22'-4" 23'-9" 24'-8" 24'-9" 26'-1" 26'-5"	18'-4"	
-4 7 10 ¹¹	MI-60	22'-4"	21'-8"	20'-8"	19'-7"	23'-10"	22'-3"		19'-9"	
11-7/8"	NI-70	23'-7"	21'-11"	20'-11"	19'-9"	24'-1"	22'-6"		20'-0"	
	NI-80	25 -7 24'-3"	22'-6"	21'-6"	20'-4"	24'-8"	23'-0"		20'-9"	
	NI-90x	24'-5"	22'-9"	21'-8"	19'-5"	25'-1"	23'-2"	21'-9"	19'-5"	
	NI-40x	24 <i>-</i> 5 24'-10"	23'-1"	22'-0"	20'-10"	25'-6"	23'-8"	22"-4"	20'-10"	
	NI-60		24'-3"	23'-2"	21'-10"	26'-8"	24'-11"		22'-4"	
14"	NI-70	26'-1"	24'-7"	23'-5"	22'-2"	27'-1"	25'-3"		22'-9"	
	NI-80	26'-6"	25'-4"	24'-1"	22'-9"	27'-9"	25'-11"	re Spacing 19.2" 14'-6" 16'-3" 16'-6" 17'-10" 18'-2" 17'-5" 19'-8" 21'-2" 21'-5" 22'-0" 21'-9" 22'-4" 23'-9" 24'-1" 24'-8" 24'-9" 26'-1"	23'-4"	
_	NI-90x	. 27'-3"	25'-5"	24'-2"	22'-10"	28'-0"	26'-2"		23'-1"	
	NI-60	27'-3"	26'-8"	25'-4"	23'-11"	29'-3"	27'-4"		24'-8"	
. eti	NI-70 `	28'-8"	27'-0"	25'-9"	24'-4"	29'-8"	27'-9"	re Spacing 19.2" 14'-6" 16'-3" 16'-6" 17'-10" 18'-2" 17'-5" 19'-4" 19'-8" 21'-2" 21'-5" 22'-0" 22'-4" 23'-9" 24'-8" 24'-9" 26'-1" 26'-5"	25'-0"	
16"	NI-80	29'-1"	27'-10"	26'-6"	25'-0"	30'-6"	28'-5"		25'-8"	
	NI-90x	29'-11"	21 -2.0						25-0	

^{1.} Maximum clear span applicable to simple-span residential floor construction with a design live load of 40 psf and dead load of 15 psf. The ultimate limit states are based on the factored loads of 1.50L + 1.25D. The serviceability limit states include the consideration for floor vibration, a live load deflection limit of L/480 and a total load deflection limit of L/240.

a live joad detection limit or 1/460 and a local board collection limit or 1/460 and a local board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist 2. Spans are based on a composite floor with glued-nailed oriented strand board (OSB) sheathing with a minimum thickness of 3/4 inch for a joist spacing of 24 inches or less. The composite floor may include 1/2 inch gypsum ceiling and/or one row of blocking at mid-span with strapping. Strapping shall be minimum 1x4 inch strap applied to underside of joists at blocking line or 1/2 inch gypsum ceiling attached to joists. 3. Minimum bearing length shall be 1-3/4 inches for the end bearings.

^{3.} Minimum bearing length shall be 1907+ lineas for the Schol Scholars of the Spans and spacings given in this table, except as required for hangers.

4. Bearing stiffeners are not required when I-joists are used with the spans and spacings given in this table, except as required for hangers.

5. This span chart is based on uniform loads. For applications with other than uniformly distributed loads, an engineering analysis may be required based on the use of the design properties. Tables are based on Limit States Design per CSA 086-09, NBC 2010, and 08C 2012.

6. Joists shall be laterally supported at supports and continuously along the compression edge. Refer to technical documentation for installation guidelines and construction details. Nordic I-joists are listed in CCMC evaluation report 13032-R and APA Product Report PR-1274C.