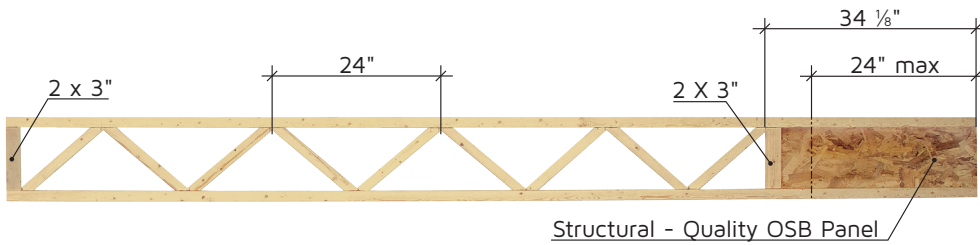


THE OPEN JOIST

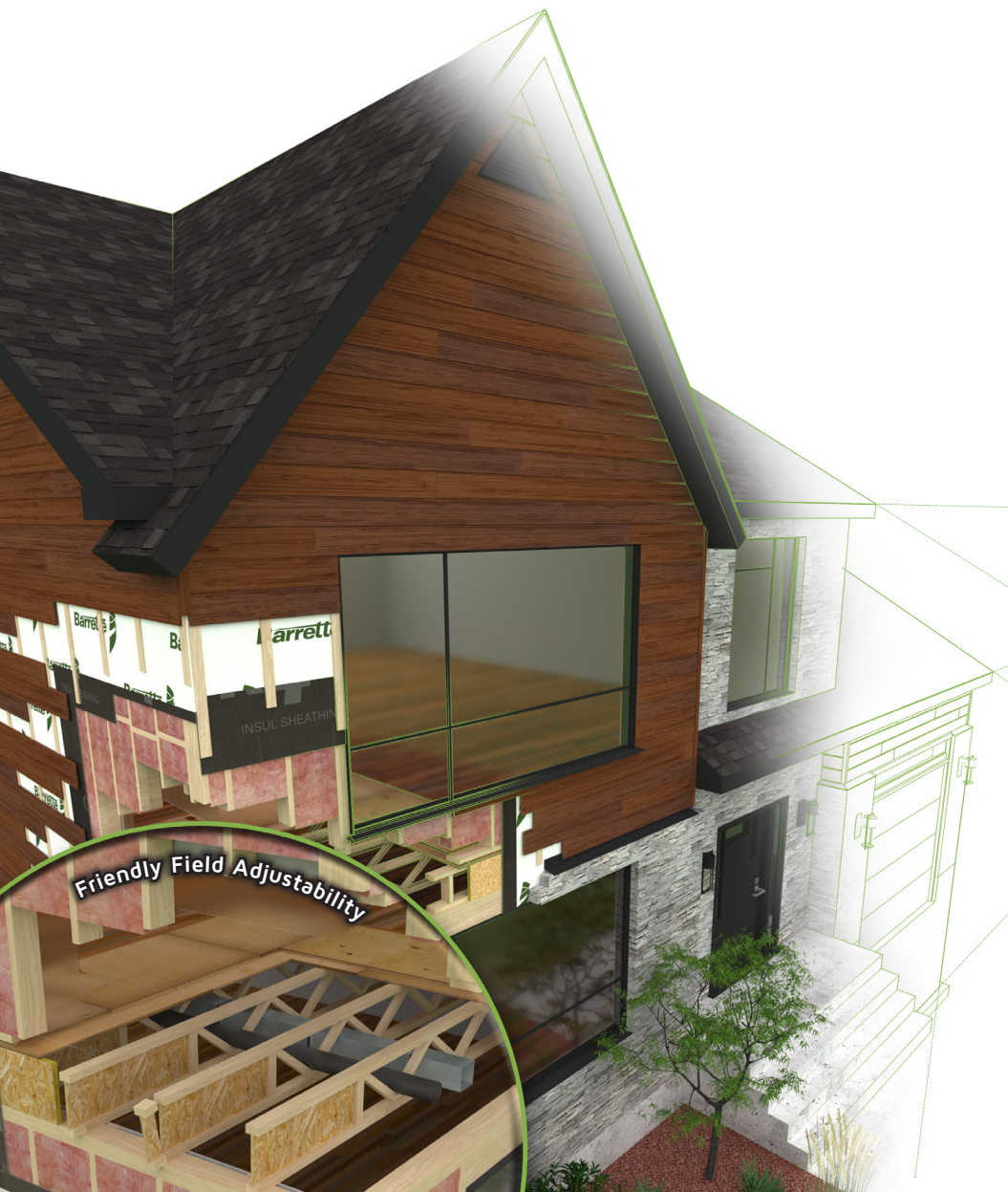


The Barrette Structural Open Concept Floor System

The strength of triangulation, accuracy of finger-jointed assembly, maximization of dimensional lumber and environmentally-friendly field adjustability, makes open joist **TRIFORCE**® the only trimmable, all-wood, open-webbed, finger-jointed floor joist installed without metal plate connectors.

Reengineering wood components for your needs

For more than 25 years, our finger joint technology has demonstrated its strength and durability throughout North America. The open joist **TRIFORCE**® has surpassed industry standards by establishing a new level of excellence in the engineering of floor systems, while optimizing the use of lumber in its components. The open joist **TRIFORCE**® provides... **Peace of mind underfoot!**™



Peace of mind underfoot™

www.openjoisttriforce.com

US Edition

Maximum allowable floor spans for residential application

USA - L/480, Glued and nailed, LL: 40 psf , DL: 15 psf							
Spacing		12"	16"	19.2"	24"		
Subfloor-CSP		5/8"	5/8"	5/8"	3/4"		
Depth (in)	Series	Chords	Weight (PLF)	Maximum spans o.c.			
9 1/2"	OJ314	2" x 3"	2.70	16'-0"	15'-7"	14'-7"	13'-0"
	OJ418	2" x 4"	3.25	18'-0"	18'-0"	17'-5"	16'-2"
11 7/8"	OJ314	2" x 3"	2.80	16'-0"	16'-0"	16'-0"	14'-10"
	OJ315	2" x 3"	2.80	18'-0"	18'-0"	17'-9"	16'-3"
	OJ415	2" x 4"	3.35	20'-0"	20'-0"	19'-9"	18'-4"
	OJ418	2" x 4"	3.35	22'-0"	22'-0"	20'-9"	-
14"	OJ314	2" x 3"	2.85	16'-0"	16'-0"	16'-0"	16'-0"
	OJ315	2" x 3"	2.85	20'-0"	20'-0"	20'-0"	-
	OJ415	2" x 4"	3.45	22'-0"	22'-0"	22'-0"	20'-11"
	OJ418	2" x 4"	3.45	26'-0"	25'-0"	23'-7"	-
16"	OJ314	2" x 3"	2.95	16'-0"	16'-0"	16'-0"	16'-0"
	OJ315	2" x 3"	2.95	20'-0"	20'-0"	20'-0"	19'-3"
	OJ418	2" x 4"	3.55	26'-0"	26'-0"	26'-0"	24'-2"
	OJ420	2" x 4"	3.55	30'-0"	28'-6"	26'-10"	-

Notes:

- Spans apply to simple span application only.
- Minimum end bearing length is 1 1/2", **except for bold spans minimum 1 1/2" at the OSB section with web stiffeners.**
- Maximum spans are measured **centerline to centerline** of bearing and are based on uniformly loaded joists.
- Dead load deflection is limited to L/240 and total load deflection is limited to L/240.
- Live Load is limited to **L/480**.
- The spans shown consider a minimum 5/8" thick rated sheathing nailed and glued to joist in accordance with the applicable code or a 3/4" at 24" o.c.
- Allowable spans take into consideration the composite effect from glued and nailed subfloor for deflections.
- Refer to appropriate sections of the Specifier Guide for installation guidelines and construction details.
- The nailing specifications are to be in accordance with in force building code and the adhesives used should comply with APA Specification AFG-01 or ASTM D3498.

Maximum Allowed Unfactored Live Load Chart for residential application

Dead Load: 15 PSF, L/360, Glued and nailed																
Length	9 1/2" Loads PSF				11 7/8" Loads PSF				14" Loads PSF				16" Loads PSF			
	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
8'-0"	287	211	174	136	314	232	191	149	319	236	194	152	324	239	197	154
10'-0"	177	129	105	81	233	171	140	109	252	185	152	118	256	188	154	120
12'-0"	117	84	68	51	157	114	92	71	191	139	113	88	211	154	126	98
14'-0"	82	58	45	-----	111	79	63	48	136	98	79	60	156	113	92	70
16'-0"	59	40	-----	-----	81	57	45	-----	100	71	57	42	116	83	66	50
18'-0"	76	59	50	-----	76	53	42	-----	95	68	54	40	113	81	65	49
20'-0"	-----	-----	-----	-----	81	62	51	-----	74	52	40	-----	88	62	49	-----
22'-0"	-----	-----	-----	-----	71	54	46	-----	80	63	50	-----	108	77	62	46
24'-0"	-----	-----	-----	-----	-----	-----	-----	-----	79	61	51	-----	98	69	55	41
26'-0"	-----	-----	-----	-----	-----	-----	-----	-----	63	48	-----	-----	83	63	50	-----
28'-0"	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	74	57	45	-----
30'-0"	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	61	47	-----	-----

Notes:

- Uniform loads shown are for full span (bearing included), higher loads could be applied using longer end bearing length.
- Minimum end bearing length is 1 1/2", **except for bold loads, minimum 1 1/2" with web stiffeners at the OSB section.**
- Dead load deflection is limited to L/240 and total load deflection is limited to L/240.
- Live load deflection is limited to **L/360**.
- Refer to appropriate sections of the Specifier Guide for installation guidelines and construction details.
- The nailing specifications are to be in accordance with in force building code and the adhesives used should comply with APA Specification AFG-01 or ASTM D3498.

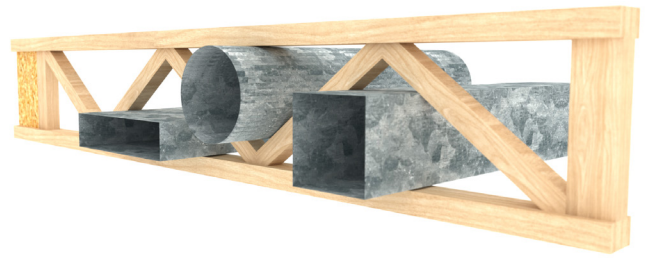
Mid Span Continuous Strongback Recommendations

LL = 40 psf DL = 15 psf																
Length	9 1/2"				11 7/8"				14"				16"			
	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
14'-0"	None	None	1-2x4	None	None	None	None	None	None	None	None	None	None	None	None	None
16'-0"	1-2x4	2-2x4	1-2x4	-----	None	1-2x4	1-2x4	None	None	None	None	None	None	None	None	None
18'-0"	2-2x4	1-2x6	2-2x6	2-2x6	1-2x4	1-2x6	1-2x6	1-2x6	None	1-2x6	1-2x6	1-2x6	None	None	1-2x6	1-2x6
20'-0"	-----	-----	-----	-----	2-2x4	1-2x6	2-2x6	1-2x8	1-2x6	1-2x6	1-2x6	-----	1-2x6	1-2x6	1-2x6	1-2x6
22'-0"	-----	-----	-----	-----	1-2x6	2-2x6	1-2x8	2-2x8	1-2x6	1-2x6	2-2x6	2-2x6	None	1-2x6	1-2x6	1-2x6
24'-0"	-----	-----	-----	-----	-----	-----	-----	-----	1-2x6	2-2x6	2-2x8	2-2x8	1-2x6	1-2x6	2-2x6	2-2x6
26'-0"	-----	-----	-----	-----	-----	-----	-----	-----	2-2x6	2-2x8	2-2x8	2-2x10	1-2x6	2-2x6	1-2x8	1-2x8
28'-0"	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2-2x6	2-2x8	2-2x8	-----
30'-0"	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	2-2x8	2-2x10	2-2x10	-----

Notes:

- Specified continuous strongbacks installed at mid span shown, take into consideration a performance criterion.
- Refer to appropriate sections of the Specifier Guide for installation guidelines and construction details.
- Live load deflection is limited to L/360.
- This table of continuous strongback for maximum spans can also be used for maximum spans when live load deflection is limited to L/480.

Mechanical Clearances



Depth	Mechanical Opening Dimension		
	Round	Square	Rectangular
9 1/2"	5"	4" x 6"	3" x 9"
11 7/8"	7 1/4"	5 3/4" x 5 3/4"	3" x 13"
14"	8 1/2"	6 1/2" x 6 1/2"	3" x 14", 6" x 8"
16"	9 1/2"	7 1/2" x 7 1/2"	3" x 15"

Typical Details

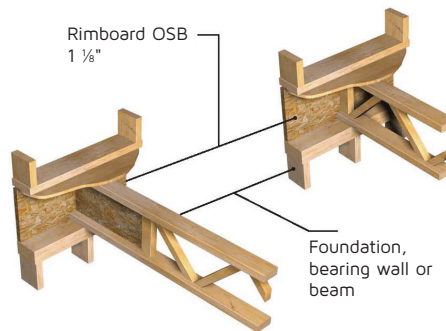
Detail N1



Possibility of round hole at 4 1/2" o.c. of joist extremity. Contact your TRIFORCE® representative for more details.

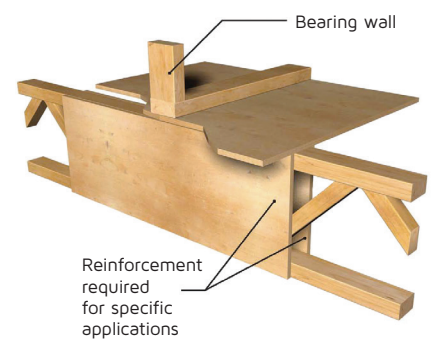
Detail N2

BEARING WALL



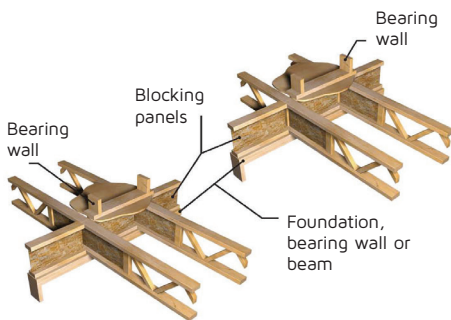
Detail N11VS

REINFORCEMENT UNDER CONCENTRATED LOAD



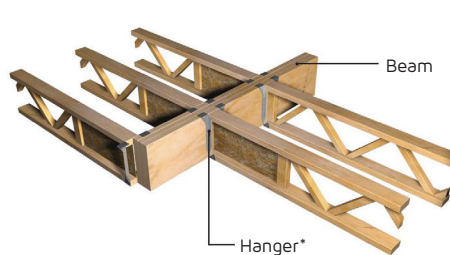
Detail N3P1

END TO END JOIST



Detail N4P1

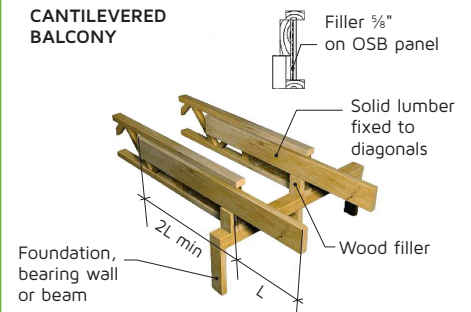
JOIST TO BEAM WITH HANGER



*Top or face mount hangers

Detail N12

CANTILEVERED BALCONY



Detail N5

CONTINUOUS STRONGBACK



Option #1

Secure strongback with 2 nails* through the bottom chord and 1 nail* through the diagonal web.
*(gun nails 0.122" x 3 1/4")

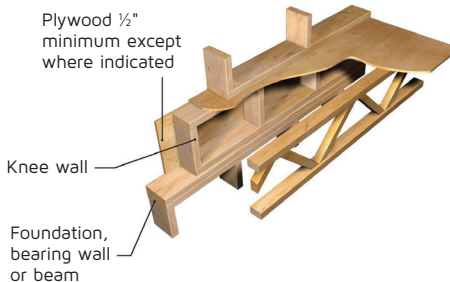
Option #2 (suggested)

Secure vertical (2x4) with 2 nails* to both chords and strongback to vertical with 2 nails*. *(gun nails 0.122" x 3 1/4")

* Gun nails can be substituted with 3" screws.

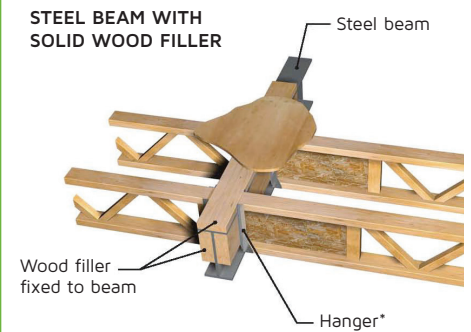
Detail 6M

KNEE WALL



Detail N15P1

STEEL BEAM WITH SOLID WOOD FILLER



*Top or face mount hangers

Features and Benefits

FEATURES	BENEFITS
SOLID SAWN KILN-DRIED CHORDS	<ul style="list-style-type: none"> • Wide nailing surface 2.5" and 3.5" • Glued finger joints eliminate potential squeaking • Dimensional stability • Ease of installation
SOLID SAWN KILN-DRIED WEBS	<ul style="list-style-type: none"> • 2" x 2" webs • Most effective wood usage • Environmentally-friendly
WEB STOCK OSB END DETAIL	<ul style="list-style-type: none"> • 24" trimmable end • Trimmable one end only • Manufactured in 2-foot increments
GLUED FINGER JOINTS TRIANGULATION	<ul style="list-style-type: none"> • Long-term performance • Accuracy • No plate corrosion • No potential mechanical, electrical and plumbing damage due to metal connectors • Eliminates potential squeaking
TRIANGULATED CONFIGURATION	<ul style="list-style-type: none"> • Proven • Light handling • No on-site thinking for holes to allow mechanical, electrical and plumbing installation • Increased floor performance
QUALITY GUARANTEED	<ul style="list-style-type: none"> • Independent third-party inspection • Individually tested to exceed load capacity • Unrivaled floor performance

When creating the open joist **TRIFORCE**[®] product, Barrette Structural modeled the manufacturing process on the Environmentally Conscious Manufacturing (ECM) model, which focuses on the most efficient and productive use of raw materials and natural resources, as well as minimizing any adverse impacts on workers or the natural environment. The entire life cycle of the open joist **TRIFORCE**[®] is considered, starting with design, then raw material and natural resources use, right through to end use and disposal.

In order to reach this goal, Barrette Structural has implemented a custom robotic assembly line. In addition, concepts like pollution prevention, energy efficiency, material substitution and maximization of recycled content, are all used as guidelines for the open joist **TRIFORCE**[®] manufacturing process.

This concept has allowed Barrette Structural to create a very efficient building product with little end waste in both manufacture and installation of the open joist **TRIFORCE**[®].

Barrette Structural takes great pride in the open joist **TRIFORCE**[®] floor joist and values the end result that both our customers and environmental considerations demand to complete all building projects.



Open joist **TRIFORCE**[®] product is now available for certified wood credits
 FSC SGS-COC-007236
 SFI SGS-SFI/COC-CA10/55562

