Canadian Edition

Specifier Guide

TRIFORCE®

OPEN JOIST

BUILT BY Barrette

Peace of mind underfoot™

www.openjoisttriforce.com

TRIFORCE®
Specifier Guide

March 8, 2021 - Canadian Edition

This guide is intended to provide general information for designers, general contractors and end-users. It is designed for loads that are uniformly distributed over joists with end bearings (minimum end bearing length is 1½"). For loads that are not uniformly distributed and/or for joists supported by bearings other than end bearings, joist capacity must be verified using the manufacturer's Analyzer software. Application of the contents of this guide is the responsibility of the designer and/or general contractor. For further information or assistance, contact a Barrette Structural Distribution representative.

In keeping with its ongoing commitment to product development, Barrette Structural Distribution periodically updates its literature. Please visit our website (www.openjoisttriforce.com) to confirm that this version is the most recent.

www.openjoisttriforce.com
info@ojtriforce.com

Evaluation Reports

Canadian Reports

Canada • CCMC-13474-R

www.nrc-cnrc.gc.ca

NRC · CNRC

Province of Ontario • 10-02-239 (13474-R)

www.mah.gov.on.ca

Intertek-approved fire-resistant assemblies

ID 35685 Standard

https://whdirectory.intertek.com

Look up "Barrette Structural Inc." in the Company field or "35685" in the Spec ID Lookup field.

intertek
Total Quality. Assured.

U.S. Reports

ESR-2999

https://icc-es.org/general-listing-directory/

ICC INTERNATIONAL CODE COUNCIL

ICC ES

IAPMO UES ER 480, 539, 708

www.iapmoes.org/EvaluationReports

UES

Table of Contents

TRIFORCE®

A Cost-Effective Open Design

The design of **TRIFORCE**® open joist allows professionals to quickly install plumbing, electrical and HVAC systems during or after construction— a great way to keep labor costs down!

Stock Product

TRIFORCE® open joist is make-to-stock, which helps us to keep a vast inventory so that order turnaround times can be measured in days instead of weeks or months.

Consistent Quality

Barrette Structural Distribution has installed state-of-the-art robotic manufacturing equipment to produce **TRIFORCE**® open joist, which leads to an extremely precise product. **TRIFORCE**® open joists are individually tested. Moreover, a third-party inspection body regularly tests **TRIFORCE**® open joists, ensuring that the manufacturing process consistently delivers quality joists to the construction market.

Field Adjustable

With a trimmable end of up to 24 inches, measuring mistakes won't slow down your projects!

High Performance

Adding strongbacks in strategic locations increases floor system performance by distributing loads to adjacent joists. The resulting rigidity effectively dampens vibration. Strongback installation is quick and easy.

Lighter and Safer

TRIFORCE® open joists avoid the use of metal plates and employ stronger finger joint connections and structural adhesives. Having no plates means that joists are lighter and avoid squeaking, framer injuries and damage to mechanical and wiring systems.

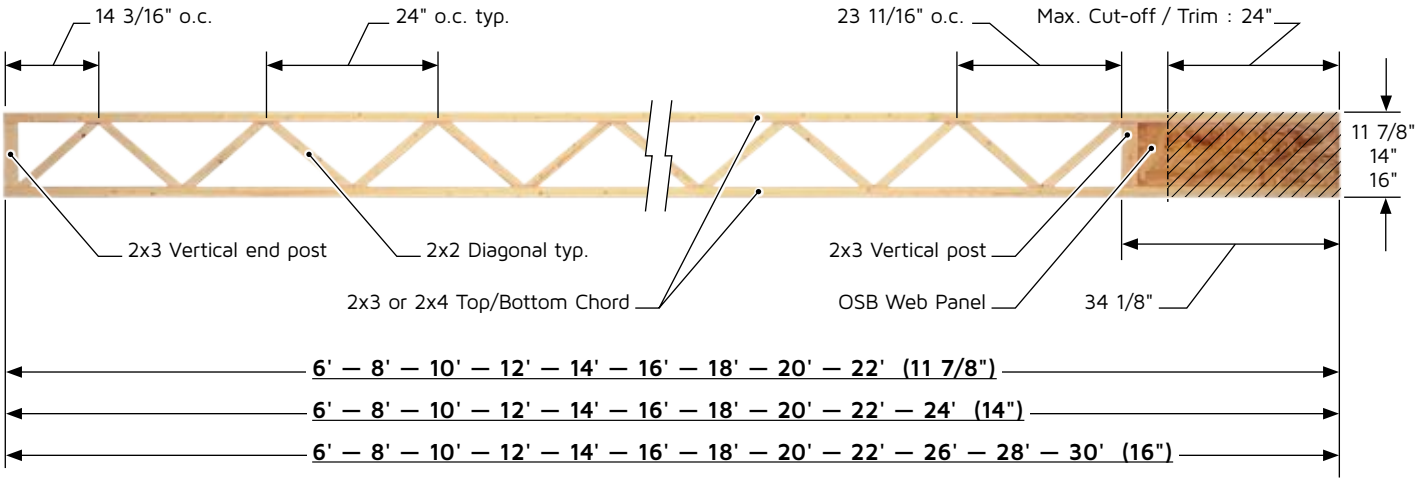
Environmentally Friendly

The **TRIFORCE**® open joist manfacturing facility was built according to standards of Canada's forward-thinking Environmentally Conscious Manufacturing Model. The product's design and assembly processes reduce the use of wood fiber and avoid energy expenses involved in steel plate production.

BUILT BY Barrette

Trimmable for Precision Fit

TRIFORCE® open joists are manufactured with an OSB panel at one end. This end of the joist may be trimmed up to 24" to achieve the desired joist length for installation. Structures can be designed with the OSB end panel facing the inside or outside wall.



Available Joist Sizes

TRIFORCE® open joist is produced in several depths and lengths to fulfill floor framing needs. Lengths are offered in two foot increments due to their 24" trimmability.

Depth	Series	Weight lbs/ft	Stock Lengths (feet)												
			6	8	10	12	14	16	18	20	22	24	26	28	30
9 ½" ◊	OJ314	2.70	✔	✔	✔	✔	✔	✔							
	OJ418	3.25							✔						
11 ⅞"	OJ314	2.80	✔	✔	✔	✔	✔	✔							
	OJ315	2.80							✔						
	OJ415	3.35								✔					
	OJ418	3.35							S	S	✔				
14"	OJ314	2.85	✔	✔	✔	✔	✔	✔							
	OJ315	2.85							✔	✔					
	OJ415	3.45									✔				
	OJ418	3.45								S		✔	✔		
16"	OJ314	2.95	✔	✔	✔	✔	✔	✔							
	OJ315	2.95							✔	✔					
	OJ418	3.55								S	✔	✔	✔		
	OJ420	3.55												✔	✔

✔ = In stock

S = Limited inventory. Please contact your representative to determine quantities.

◊ = The 9 1/2 depth is not available in all areas. Please contact your local representative before specifying this depth in your design.

Joist Identification and Orientation

Bottom - Bas
Abajo

OJ418

Identification

OJ418

Grades :
14 = 1.4E
15 = 1.5E
18 = 1.8E
20 = 2.0E

Flange :
3 = 2x3
4 = 2x4

Joist Orientation

Each **TRIFORCE**® open joist is marked to indicate a bottom flange. In order to achieve maximum shear capacity, the joist should be installed with proper orientation.

Maximum Spans

Glued and nailed subfloor with strongbacks / ceiling optional

ΔL ≤ L/360

Live Load				40 psf				40 psf				100 psf			
Dead Load				15 psf				36 psf				15 psf			
Spacing				12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
Subfloor[9]				19/32"			23/32"	19/32"			23/32"	19/32"			23/32"
Depth	Length	Series		Maximum span o.c. Required Strongback[1]											
9 ½" ◊	6' - 0"	OJ314 ◊	3x2	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None
	8' - 0"			8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None
	10' - 0"			10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	**9' - 2"** None
	12' - 0"			12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	11' - 8" None	12' - 0" None	11' - 3" None	**10' - 3"** None	-----
	14' - 0"			14' - 0" None	14' - 0" None	14' - 0" 1 - 2x4	13' - 6" 1 - 2x6	14' - 0" None	14' - 0" None	13' - 0" None	-----	12' - 9" None	-----	-----	-----
	16' - 0"			16' - 0" 1 - 2x4	16' - 0" 1 - 2x6	15' - 0" 1 - 2x6	-----	16' - 0" 1 - 2x4	14' - 3" 1 - 2x4	-----	-----	-----	-----	-----	-----
	18' - 0"	OJ418 ◊	4x2	18' - 0" 1 - 2x4	18' - 0" 1 - 2x6	18' - 0" 2 - 2x6	16' - 10" 1 - 2x6	18' - 0" 1 - 2x4	18' - 0" 1 - 2x6	**17' - 3"** 1 - 2x6	-----	-----	-----	-----	-----
11 ⅞"	6' - 0"	OJ314	3x2	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None
	8' - 0"			8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None
	10' - 0"			10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	**10' - 0"** None
	12' - 0"			12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	**11' - 8"** None	**10' - 3"** None
	14' - 0"			14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	13' - 3" None	14' - 0" None	**12' - 10"** None	-----	-----
	16' - 0"			16' - 0" None	16' - 0" 1 - 2x4	16' - 0" 1 - 2x4	15' - 4" 1 - 2x4	16' - 0" None	16' - 0" 1 - 2x4	14' - 10" None	-----	14' - 10" None	-----	-----	-----
	18' - 0"	OJ315	3x2	18' - 0" 1 - 2x4	18' - 0" 1 - 2x6	18' - 0" 1 - 2x6	16' - 11" 1 - 2x6	18' - 0" 1 - 2x4	18' - 0" 1 - 2x6	16' - 5" 1 - 2x4	-----	-----	-----	-----	-----
		OJ418S[10]	4x2	18' - 0" None	18' - 0" 1 - 2x4	18' - 0" 1 - 2x4	18' - 0" 2 - 2x4	18' - 0" None	18' - 0" 1 - 2x4	**18' - 0"** 1 - 2x4	**16' - 8"** 1 - 2x4	**18' - 0"** None	-----	-----	-----
	20' - 0"	OJ415	4x2	20' - 0" 2 - 2x4	20' - 0" 1 - 2x6	20' - 0" 2 - 2x6	**19' - 1"** 2 - 2x6	20' - 0" 2 - 2x4	20' - 0" 1 - 2x6	**19' - 5"** 2 - 2x6	-----	-----	-----	-----	-----
		OJ418S[10]	4x2	20' - 0" 1 - 2x4	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	**20' - 0"** 2 - 2x6	20' - 0" 1 - 2x4	20' - 0" 1 - 2x6	**20' - 0"** 1 - 2x6	-----	**18' - 7"** 1 - 2x4	-----	-----	-----
	22' - 0"	OJ418	4x2	22' - 0" 1 - 2x6	22' - 0" 2 - 2x6	22' - 0" 2 - 2x8	**20' - 2"** 1 - 2x8	22' - 0" 1 - 2x6	**22' - 0"** 2 - 2x6	**20' - 10"** 2 - 2x6	-----	-----	-----	-----	-----
14"	6' - 0"	OJ314	3x2	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None
	8' - 0"			8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None
	10' - 0"			10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None
	12' - 0"			12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	**11' - 0"** None
	14' - 0"			14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	**12' - 10"** None	-----
	16' - 0"			16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	14' - 6" None	16' - 0" None	-----	-----	-----
	18' - 0"	OJ315	3x2	18' - 0" None	18' - 0" 1 - 2x6	18' - 0" 1 - 2x6	18' - 0" 1 - 2x6	18' - 0" None	18' - 0" 1 - 2x6	18' - 0" 1 - 2x6	16' - 1" None	17' - 9" None	-----	-----	-----
	20' - 0"	OJ315	3x2	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" 2 - 2x6	18' - 7" 1 - 2x6	20' - 0" 1 - 2x6	19' - 9" 1 - 2x6	-----	-----	-----	-----	-----	-----
		OJ418S[10]	4x2	20' - 0" None	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" None	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	-----	20' - 0" None	-----	-----	-----
	22' - 0"	OJ415	4x2	22' - 0" 1 - 2x6	22' - 0" 1 - 2x6	22' - 0" 2 - 2x6	**21' - 8"** 1 - 2x8	22' - 0" 1 - 2x6	22' - 0" 1 - 2x6	**21' - 4"** 2 - 2x6	-----	-----	-----	-----	-----
	24' - 0"	OJ418	4x2	24' - 0" 1 - 2x6	24' - 0" 2 - 2x6	24' - 0" 2 - 2x8	**22' - 11"** 2 - 2x8	24' - 0" 1 - 2x6	24' - 0" 2 - 2x6	**22' - 4"** 2 - 2x6	-----	-----	-----	-----	-----
	26' - 0"			26' - 0" 2 - 2x6	26' - 0" 2 - 2x8	24' - 10" 2 - 2x8	-----	26' - 0" 2 - 2x6	**25' - 1"** 2 - 2x8	-----	-----	-----	-----	-----	-----

Maximum Spans (continued)

Live Load				40 psf				40 psf				100 psf			
Dead Load				15 psf				36 psf				15 psf			
Spacing				12"	16"	19.2"	24"	12"	16"	19.2"	24"	12"	16"	19.2"	24"
Subfloor[9]				19/32"			23/32"	19/32"			23/32"	19/32"			23/32"
Depth	Length	Series		Maximum span o.c. Required Strongback[1]											
16"	6' - 0"	OJ314	3x2	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None	6' - 0" None
	8' - 0"			8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None	8' - 0" None
	10' - 0"			10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None	10' - 0" None
	12' - 0"			12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	12' - 0" None	**12' - 0"** None
	14' - 0"			14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	14' - 0" None	**13' - 8"** None	**12' - 2"** None
	16' - 0"			16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	16' - 0" None	15' - 6" None	16' - 0" None	14' - 11" None	-----	-----
	18' - 0"	OJ315	3x2	18' - 0" None	18' - 0" None	18' - 0" 1 - 2x6	18' - 0" 1 - 2x6	18' - 0" None	18' - 0" None	18' - 0" 1 - 2x6	**17' - 4"** None	18' - 0" None	**16' - 9"** None	-----	-----
	20' - 0"	OJ315	3x2	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	19' - 5" 1 - 2x6	-----	19' - 4" None	-----	-----	-----
		OJ418**S**[10]	4x2	20' - 0" None	20' - 0" None	20' - 0" 1 - 2x6	20' - 0" 1 - 2x6	20' - 0" None	20' - 0" None	20' - 0" 1 - 2x6	**20' - 0"** 1 - 2x6	20' - 0" None	**18' - 10"** None	-----	-----
	22' - 0"	OJ418	4x2	22' - 0" None	22' - 0" 1 - 2x6	22' - 0" 1 - 2x6	22' - 0" 1 - 2x6	22' - 0" None	22' - 0" 1 - 2x6	**22' - 0"** 1 - 2x6	**20' - 2"** 1 - 2x6	**22' - 0"** None	-----	-----	-----
	24' - 0"			24' - 0" 1 - 2x6	24' - 0" 1 - 2x6	24' - 0" 2 - 2x6	**24' - 0"** 2 - 2x6	24' - 0" 1 - 2x6	24' - 0" 1 - 2x6	**24' - 0"** 2 - 2x6	-----	**23' - 5"** 1 - 2x6	-----	-----	-----
	26' - 0"			26' - 0" 1 - 2x6	26' - 0" 2 - 2x6	26' - 0" 1 - 2x8	**25' - 5"** 2 - 2x8	26' - 0" 1 - 2x6	**26' - 0"** 2 - 2x6	**25' - 3"** 1 - 2x8	-----	-----	-----	-----	-----
	28' - 0"	OJ420	4x2	28' - 0" 2 - 2x6	28' - 0" 2 - 2x8	**28' - 0"** 1 - 2x10	**26' - 3"** 2 - 2x8	28' - 0" 2 - 2x6	**28' - 0"** 2 - 2x8	-----	-----	-----	-----	-----	-----
	30' - 0"			30' - 0" 2 - 2x8	30' - 0" 2 - 2x10	**28' - 6"** 2 - 2x10	-----	30' - 0" 2 - 2x8	**28' - 8"** 2 - 2x8	-----	-----	-----	-----	-----	-----

Notes:

1. Strongbacks must be installed at mid-span to achieve the maximum spans indicated for the vibration criterion in section 9.23.4.3.(2) of the National Building Code of Canada (NBC). The 2x4's and 2x6's are considered to be in SPF #3/stud and the 2x8's and 2x10's, in SPF #1/#2.
2. The spans are based on simple-span joists.
3. The minimum bearing length is 1 ½", **spans values in bold indicate that web stiffeners are required at the OSB end panel**.
4. The maximum span is measured o.c. of bearings and is based on uniformly loaded joists.
5. Dead load deflection is limited to L/360 and total load deflection is limited to L/240.
6. Live load deflection is limited to **L/360**.
7. Spans are based on limit states design and comply with NBC and CAN/CSA-O86 requirements.
8. Refer to the appropriate sections of the Specifier Guide for installation guidelines and construction details.
9. The considered subfloor is a standard 19/32" plywood or 1F20 OSB for 12", 16" and 19.2" o.c. spacing and standard 23/32" plywood or 1F24 OSB for 24" o.c. spacing and must be glued with adhesive per CAN/CGSB-71.26-M88 and nailed per NBC.
10. **S** = Limited inventory. Please contact your representative to determine quantities.
11. ◊ = The 9 1/2 depth is not available in all areas. Please contact your local representative before specifying this depth in your design.

Maximum Live Loads

Glued and nailed subfloor with strongbacks / ceiling optional

ΔL ≤ L/360

Dead Load				15 psf				36 psf			
Spacing				12"	16"	19.2"	24"	12"	16"	19.2"	24"
Subfloor[9]				19/32"			23/32"	19/32"			23/32"
Depth	Length	Series		Maximum Live Load (psf) Required strongback[1]							
9 ½" ◊	6' - 0"	OJ314 ◊	3x2	**360** None	**267** None	**220** None	**173** None	**342** None	**249** None	**203** None	**156** None
	8' - 0"			**267** None	**197** None	**162** None	**127** None	**249** None	**179** None	**144** None	**109** None
	10' - 0"			**183** None	**134** None	**110** None	**85** None	**166** None	**117** None	**92** None	**68** None
	12' - 0"			121 None	89 None	72 None	55 None	105 None	71 None	54 None	-----
	14' - 0"			80 None	60 None	49 1 - 2x4	-----	69 None	44 None	-----	-----
	16' - 0"			55 1 - 2x4	41 1 - 2x6	-----	-----	45 1 - 2x4	-----	-----	-----
	18' - 0"	OJ418 ◊	4x2	68 1 - 2x4	51 1 - 2x6	42 2 - 2x6	-----	68 1 - 2x4	**48** 1 - 2x6	-----	-----
11 ⅞"	6' - 0"	OJ314	3x2	**379** None	**281** None	**232** None	**183** None	**362** None	**264** None	**215** None	**166** None
	8' - 0"			**281** None	**208** None	**171** None	**134** None	**264** None	**190** None	**153** None	**117** None
	10' - 0"			**222** None	**163** None	**134** None	**105** None	**205** None	**146** None	**117** None	**87** None
	12' - 0"			**163** None	**119** None	**97** None	**75** None	**145** None	**101** None	**79** None	**57** None
	14' - 0"			116 None	84 None	67 None	51 None	98 None	66 None	50 None	-----
	16' - 0"			85 None	61 1 - 2x4	48 1 - 2x4	-----	68 None	43 1 - 2x4	-----	-----
	18' - 0"	OJ315	3x2	69 1 - 2x4	52 1 - 2x4	43 1 - 2x6	-----	64 1 - 2x4	41 1 - 2x4	-----	-----
		OJ418**S**[10]	4x2	**111** None	**83** 1 - 2x4	**69** 1 - 2x4	**52** 2 - 2x4	**100** None	**68** 1 - 2x4	**51** 1 - 2x4	-----
	20' - 0"	OJ415	4x2	71 2 - 2x4	53 1 - 2x6	44 2 - 2x6	-----	**71** 2 - 2x4	**50** 1 - 2x6	-----	-----
		OJ418**S**[10]	4x2	83 1 - 2x4	**62** 1 - 2x6	**52** 1 - 2x6	**41** 2 - 2x6	**83** 1 - 2x4	**58** 1 - 2x6	**43** 1 - 2x6	-----
	22' - 0"	OJ418	4x2	64 1 - 2x6	48 2 - 2x6	40 2 - 2x8	-----	**64** 1 - 2x6	**44** 2 - 2x6	-----	-----
14"	6' - 0"	OJ314	3x2	**407** None	**302** None	**250** None	**197** None	**390** None	**285** None	**232** None	**180** None
	8' - 0"			**302** None	**223** None	**184** None	**145** None	**285** None	**206** None	**166** None	**127** None
	10' - 0"			**239** None	**176** None	**145** None	**113** None	**222** None	**159** None	**127** None	**96** None
	12' - 0"			**197** None	**145** None	**118** None	**92** None	**180** None	**127** None	**101** None	**75** None
	14' - 0"			141 None	103 None	83 None	64 None	124 None	85 None	66 None	47 None
	16' - 0"			105 None	75 None	61 None	46 None	87 None	58 None	43 None	-----
	18' - 0"	OJ315	3x2	98 None	73 1 - 2x6	58 1 - 2x6	44 1 - 2x6	84 None	55 1 - 2x6	41 1 - 2x6	-----
	20' - 0"	OJ315	3x2	73 1 - 2x6	55 1 - 2x6	45 2 - 2x6	-----	62 1 - 2x6	-----	-----	-----
		OJ418**S**[10]	4x2	**113** None	**82** 1 - 2x6	**66** 1 - 2x6	**50** 1 - 2x6	**96** None	**64** 1 - 2x6	**48** 1 - 2x6	-----
	22' - 0"	OJ415	4x2	78 1 - 2x6	58 1 - 2x6	48 2 - 2x6	-----	**76** 1 - 2x6	**50** 1 - 2x6	-----	-----
	24' - 0"	OJ418	4x2	72 1 - 2x6	54 2 - 2x6	45 2 - 2x8	-----	**72** 1 - 2x6	**48** 2 - 2x6	-----	-----
	26' - 0"			57 2 - 2x6	43 2 - 2x8	-----	-----	55 2 - 2x6	-----	-----	-----

Maximum Live Loads (continued)

Dead Load				15 psf				36 psf			
Spacing				12"	16"	19.2"	24"	12"	16"	19.2"	24"
Subfloor[9]				19/32"			23/32"	19/32"			23/32"
Depth	Length	Series		Maximum Live Load (psf) Required strongback[1]							
16"	6' - 0"	OJ314	3x2	**461** None	**343** None	**283** None	**224** None	**444** None	**325** None	**266** None	**207** None
	8' - 0"			**343** None	**254** None	**209** None	**165** None	**325** None	**236** None	**192** None	**147** None
	10' - 0"			**271** None	**200** None	**165** None	**129** None	**254** None	**183** None	**147** None	**112** None
	12' - 0"			**224** None	**165** None	**135** None	**106** None	**207** None	**147** None	**118** None	**88** None
	14' - 0"			**162** None	**118** None	**97** None	**75** None	**145** None	**101** None	**79** None	**57** None
	16' - 0"			121 None	87 None	71 None	54 None	103 None	70 None	53 None	-----
	18' - 0"	OJ315	3x2	**119** 1 - 2x6	**86** 1 - 2x6	**70** 1 - 2x6	**53** 1 - 2x6	**102** 1 - 2x6	**69** 1 - 2x6	**52** 1 - 2x6	-----
	20' - 0"	OJ315	3x2	94 1 - 2x6	67 1 - 2x6	54 1 - 2x6	40 1 - 2x6	76 1 - 2x6	50 1 - 2x6	-----	-----
		OJ418**S**[10]	4x2	**129** None	**94** None	**76** 1 - 2x6	**58** 1 - 2x6	**112** None	**76** None	**58** 1 - 2x6	**41** 1 - 2x6
	22' - 0"	OJ418	4x2	**116** None	**84** 1 - 2x6	**68** 1 - 2x6	**52** 1 - 2x6	**99** None	**66** 1 - 2x6	**50** 1 - 2x6	-----
	24' - 0"			**95** 1 - 2x6	**71** 1 - 2x6	**59** 2 - 2x6	**46** 2 - 2x6	**88** 1 - 2x6	**58** 1 - 2x6	**44** 2 - 2x6	-----
	26' - 0"			76 1 - 2x6	**57** 2 - 2x6	**47** 1 - 2x8	-----	**76** 1 - 2x6	**52** 2 - 2x6	-----	-----
	28' - 0"	OJ420	4x2	68 2 - 2x6	**51** 2 - 2x8	**42** 1 - 2x10	-----	**68** 2 - 2x6	**46** 2 - 2x8	-----	-----
	30' - 0"			56 2 - 2x8	**42** 2 - 2x10	-----	-----	**53** 2 - 2x8	-----	-----	-----

Notes:

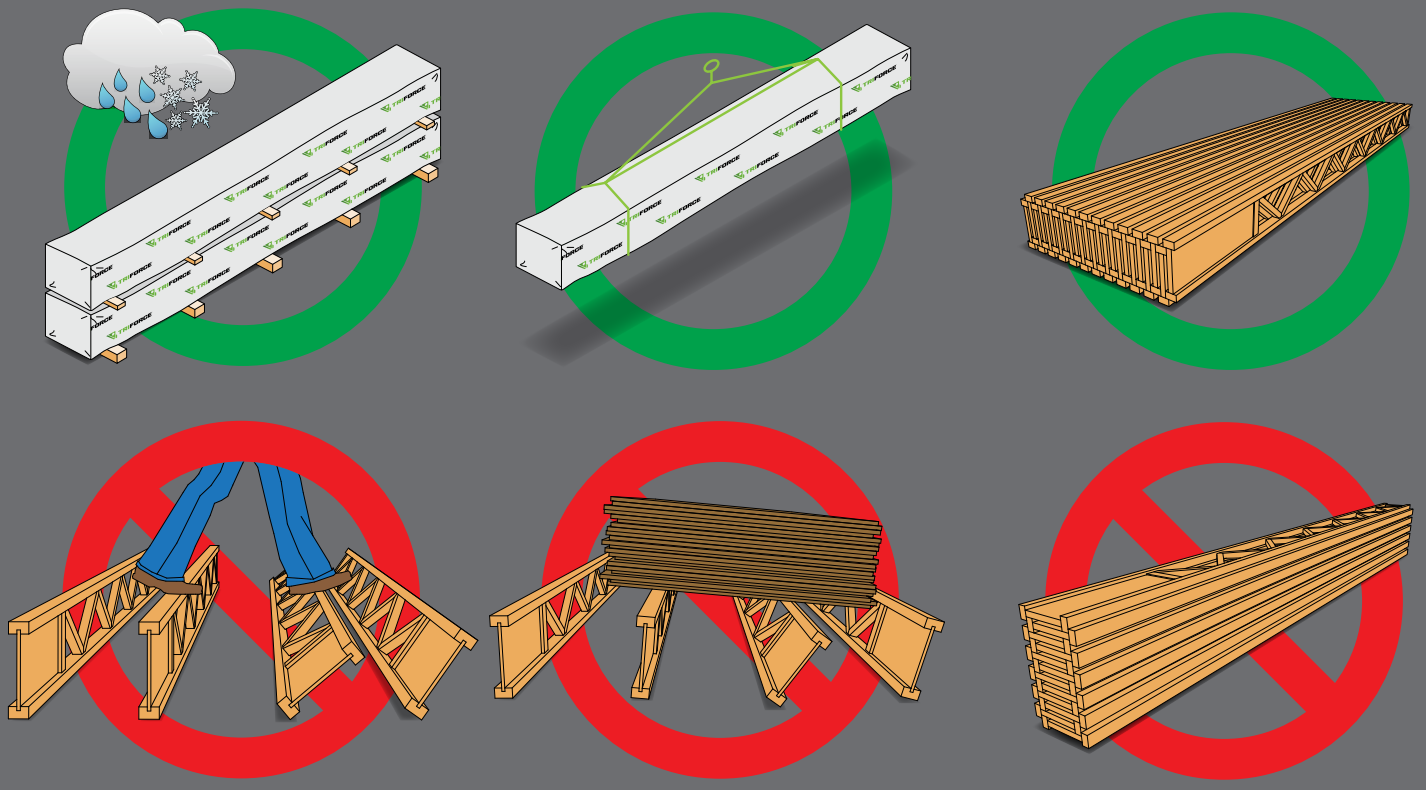
1. Strongbacks must be installed at mid-span to achieve the maximum spans indicated for the vibration criterion in section 9.23.4.3.(2) of the National Building Code of Canada (NBC). The 2x4's and 2x6's are considered to be in SPF #3/stud and the 2x8's and 2x10's, in SPF #1/#2.
2. The indicated loads are based on simple span joist, mesured center to center of bearings.
3. Minimum end bearing length is 1½", **Live Load values in bold indicate that web stiffeners are required at the OSB end panel.**
4. The indicated loads are based on uniformly loaded joists.
5. Dead load deflection is limited to L/360 and total load deflection is limited to L/240.
6. Live load deflection is limited to **L/360**.
7. The indicated loads are based on limit states design and comply with NBC and CAN/CSA-O86 requirements.
8. Refer to the appropriate sections of the Specifier Guide for installation guidelines and construction details.
9. The considered subfloor is a standard 19/32" plywood or 1F20 OSB for 12", 16" and 19.2" o.c. spacing and standard 23/32" plywood or 1F24 OSB for 24" o.c. spacing and must be glued with adhesive per CAN/CGSB-71.26-M88 and nailed per NBC.
10. **S** = Limited inventory. Please contact your representative to determine quantities.
11. ◊ = The 9 1/2 depth is not available in all areas. Please contact your local representative before specifying this depth in your design.

All information in this document is general in nature and intended for informed tradespeople with the appropriate qualifications and knowledge to properly install floor joists per the manufacturer's specifications and local codes.

The warranty does not extend to products that are misused or neglected, that are subjected to abnormal storage, use or exposure, that have been altered in any way, or that have not been maintained in accordance with published instructions. Products must be handled and installed based on the manufacturer's published instructions.

Storage and Handling

1. Keep **TRIFORCE** ® open joist bundles wrapped until the time of installation to protect them from bad weather.
2. Use wood filler to separate bundles.
3. Always store, stack and handle **TRIFORCE**® open joist vertically and level—never flat.
4. Do not store **TRIFORCE**® open joist in direct contact with the ground.
5. Be cautious when using forklift to avoid damage. If the ground is uneven in the storage area, reduce forklift speed to avoid "bouncing" the load.
6. When handling with a crane, use a spreader to pick up the load, if necessary, to minimize handling stresses. Keep **TRIFORCE**® open joist vertical.
7. Maintain stack height within safe limits.
8. Handling of **TRIFORCE**® open joists with a crane or forklift should be done by lifting from below the bottom of the bundle.
9. Do not stack other material on top of **TRIFORCE**® open joist bundles.
10. Bundle wrap can be slippery, especially when wet or icy. Avoid walking on material.

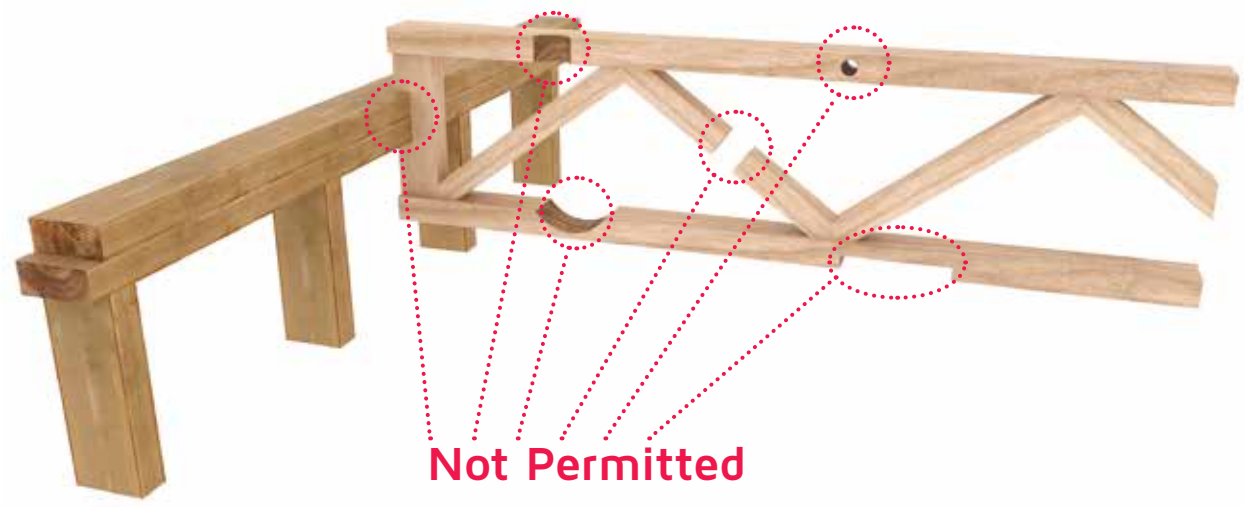


Installation Instructions

1. Except for trimming the joist length on the OSB end panel, chords should never be cut, drilled or notched.
2. Install **TRIFORCE**® open joist so that top and bottom flanges are within 1/2" of true vertical alignment.
3. Joists must be restrained at the ends to prevent rollover.
4. Apply concentrated loads only on top flanges. Do not suspend concentrated loads from bottom flanges, except for light loads such as ceiling fans or light fixtures.
5. **TRIFORCE**® open joists must be protected from bad weather prior to installation.
6. Joists should be used in dry conditions only.
7. Never install a damaged **TRIFORCE**® open joist.
8. If required as per Maximum Spans Table, strongbacks must be made of dry lumber.
9. End bearing must be a minimum of 1 ½". Placement Guide may specify longer bearings.
10. To transfer a vertical load applied above the joist to a bearing, it may be necessary to add a rim board, squash blocks or blocking panels.
11. Joists must not be in direct contact with masonry or concrete.
12. **DO NOT WALK ON JOISTS** until properly braced. Serious injury may occur.
13. **DO NOT PILE** construction materials on joists until they are fully installed, braced and have subfloor installed.
14. When nailing into the joist flange, nails must be spaced at least 2 ½" o.c.
15. Details on the following pages show only the installation requirements specific to **TRIFORCE**® open joists. For other installation requirements, refer to the bulding code or manufacturers' instructions.
16. Adhesives used for floor systems should comply with ASTM D3498-03 Standard Specification for Field-Gluing Plywood to Lumber Framing for Floor Systems. When gluing the subfloor to the joists, follow the instructions of the adhesive manufacturer.

Not permitted

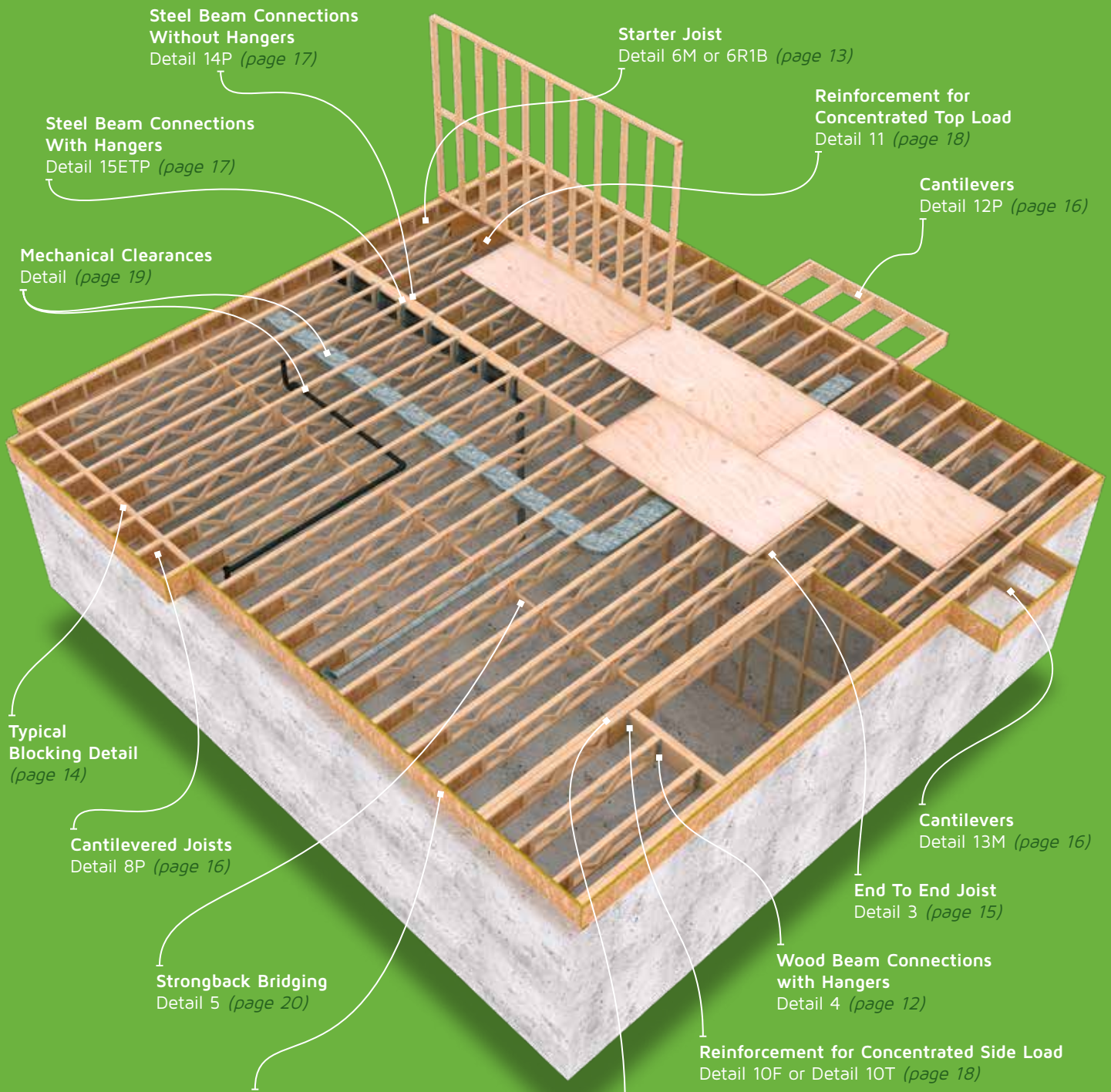
Never notch, cut or drill a joist member.



Standard Details

This section provides standard details for normal framing situations. For loads that are not uniformly distributed and/or for joists supported by bearings other than end bearings, joist capacity must be verified using the manufacturer's Analyzer software.

The project designer and/or general contractor is responsible for determining if standard details apply.



Rim Board Installation

Standard Rim Board Sizes

Depth (inches): 9 ½, 11 ⅞, 14, 16.

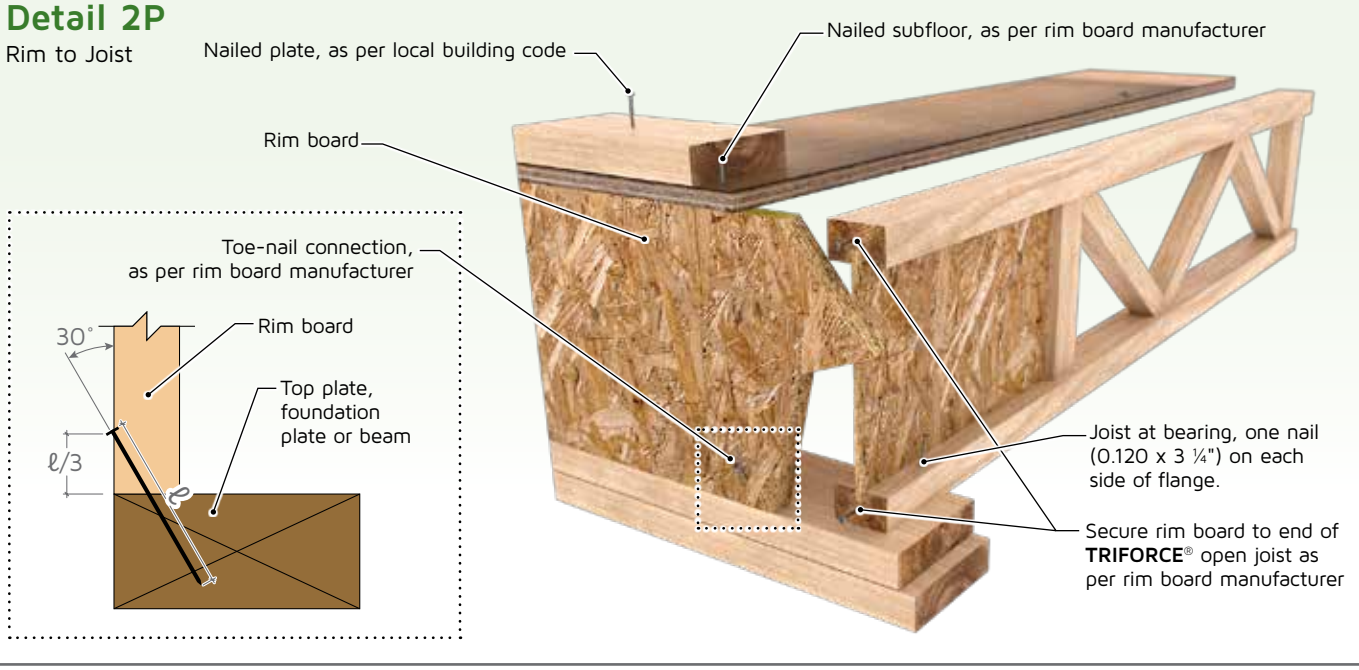
A structural rim board is required when **TRIFORCE**® open joists are installed perpendicular to bearing walls.

TRIFORCE® open joists should not be used as solo starter joists on exterior walls.

The vertical and/or horizontal loads to be transfered must be verified using the manufacturer's proprietary capacities.

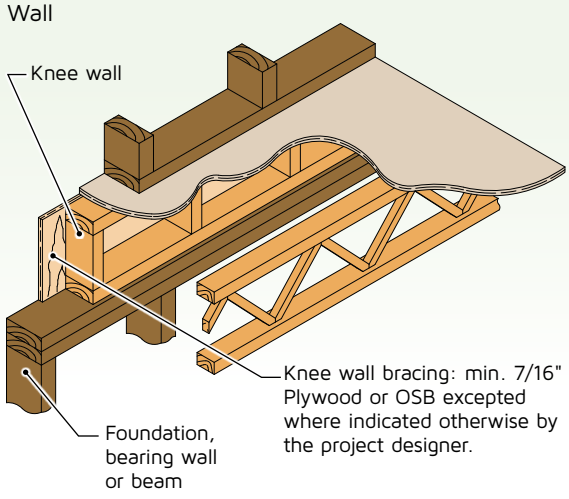
Detail 2P

Rim to Joist



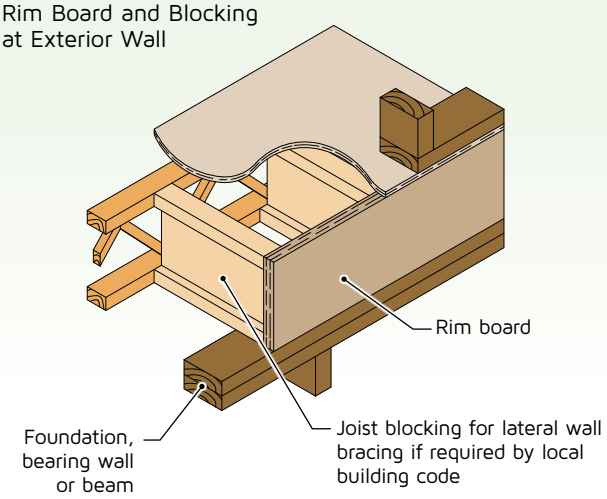
Detail 6M

Knee Wall

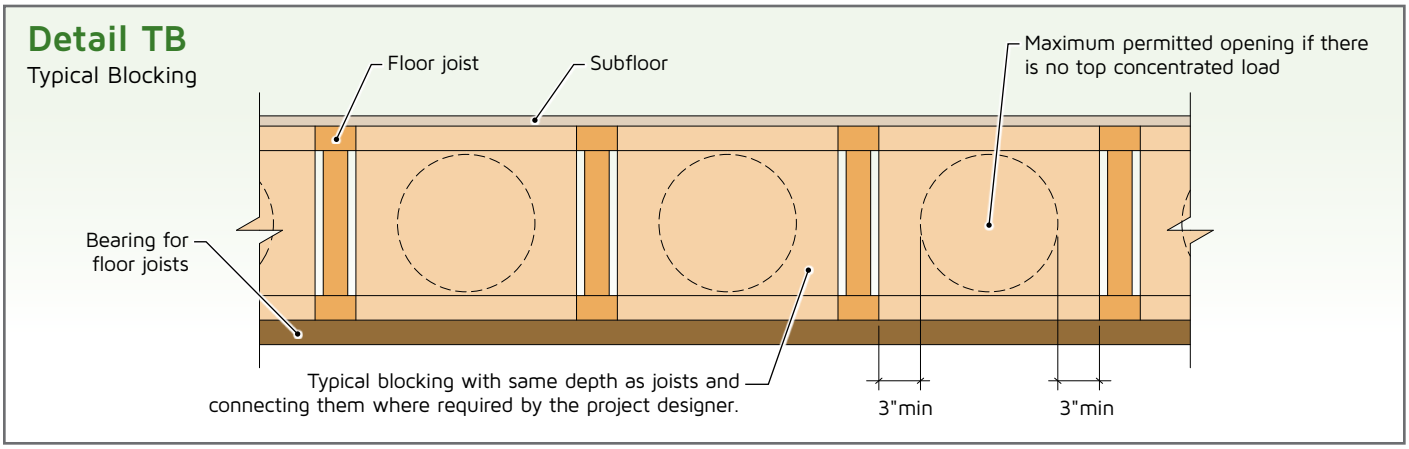


Detail 6R1B

Rim Board and Blocking at Exterior Wall



Typical Blocking Detail



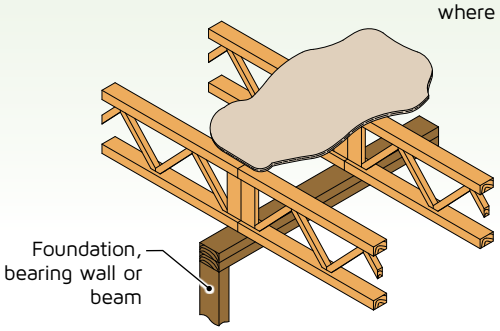
End To End Joists

Illustrated below

Detail 3

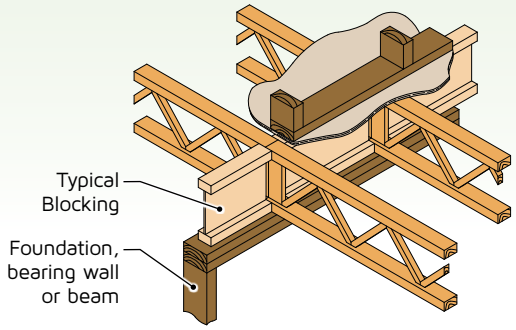
End To End Joist

Blocking not required between joists for residential applications located in low to moderated seismic zones where $S_a(0.2) \leq 0.7$



Detail 3B

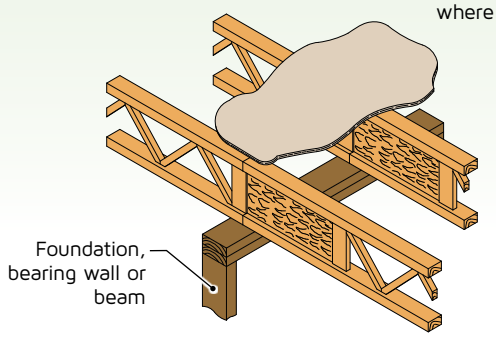
End to End Joist with Bearing Wall Above



Detail 3P1

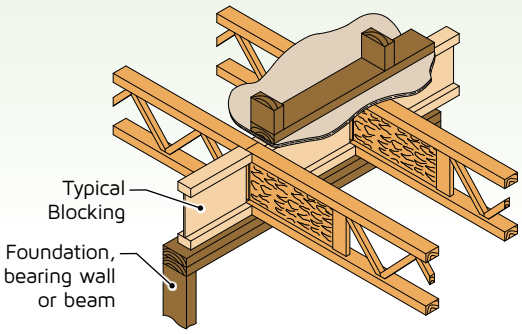
End To End Joist

Blocking not required between joists for residential applications located in low to moderated seismic zones where $S_a(0.2) \leq 0.7$



Detail 3P1B

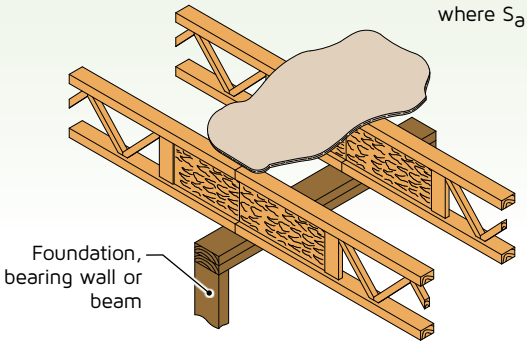
End to End Joist with Bearing Wall Above



Detail 3P2

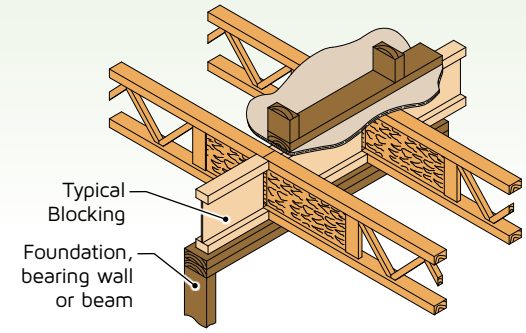
End To End Joist

Blocking not required between joists for residential applications located in low to moderated seismic zones where $S_a(0.2) \leq 0.7$



Detail 3P2B

End to End Joist with Bearing Wall Above

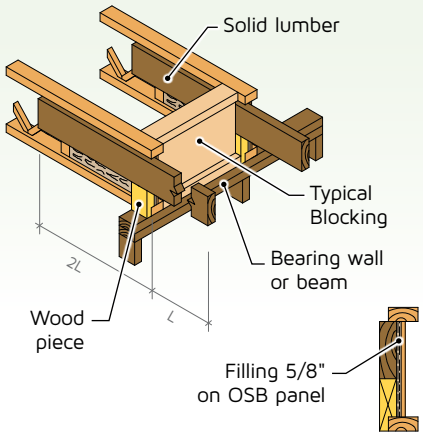


Cantilevered Joists

TRIFORCE® open joists can be cantilevered to support balconies, bays and other design features, subject to certain conditions. Verification of loading using manufacturer's Analyzer software will determine what type of reinforcement is required, if any.

Detail 12P

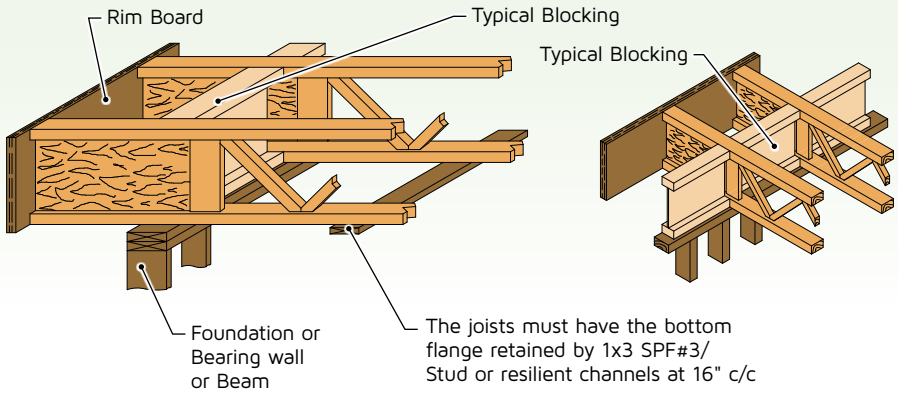
Cantilevered Balcony



Illustrated below

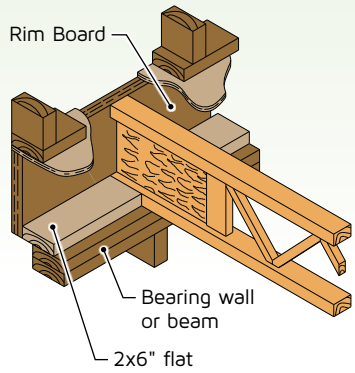
Detail 8P

Cantilevered Joist



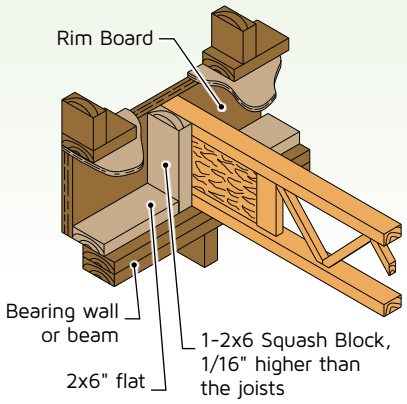
Detail 8BD

Multiple Level
Brick at Lower Level



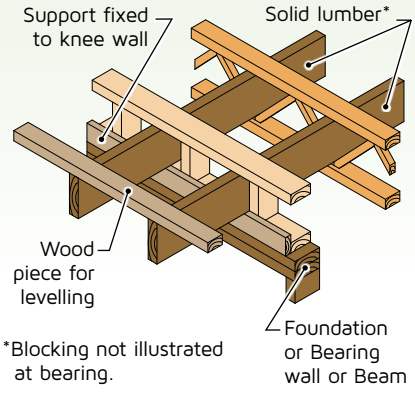
Detail 8BDG

Multiple Level
Brick at Lower Level



Detail 13M

Cantilever Perpendicular to Open Joist

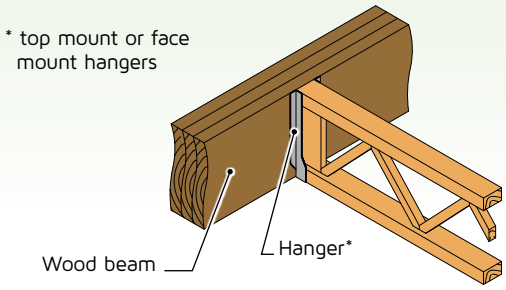


*Blocking not illustrated at bearing.

Wood Beam Connections with Hangers

Detail 4

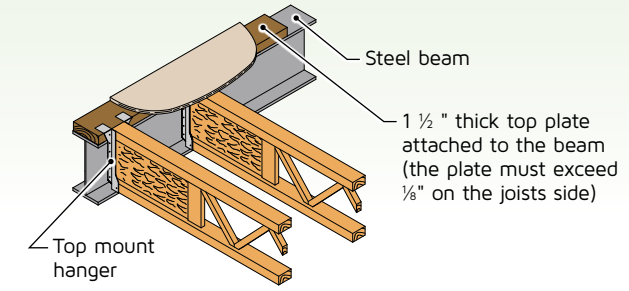
Wood Beam Connections with Hangers



Steel Beam Connections with Hangers

Detail 15ETP

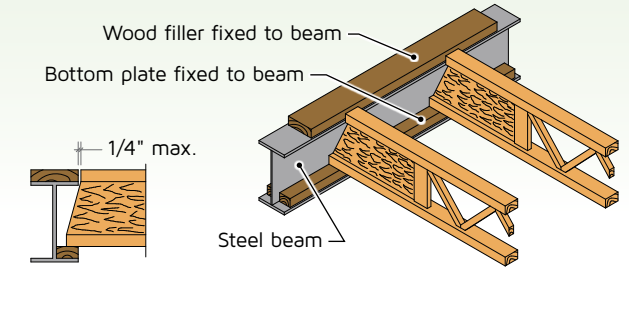
Steel Beam Connections With Top Plate and Hanger



Steel Beam Connections Without Hangers

Detail 14P

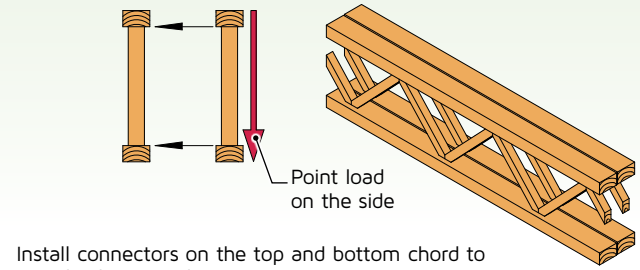
Steel Beam Bottom Flange Bearing



Doubled Joist for Concentrated Side Load

Detail DJ

Doubled Joist Load Transfer

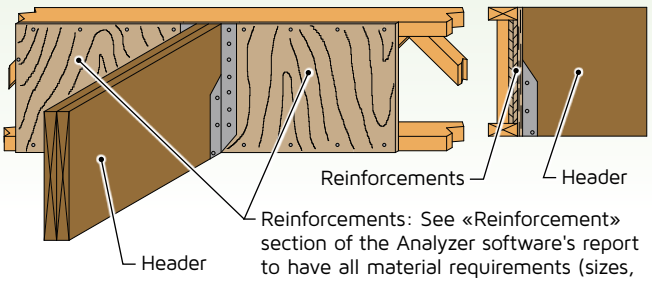


Install connectors on the top and bottom chord to transfer from the first ply to the second ply, the load indicated in manufacturer's «Analyzer» software report.

Reinforcement for a Concentrated Side Load

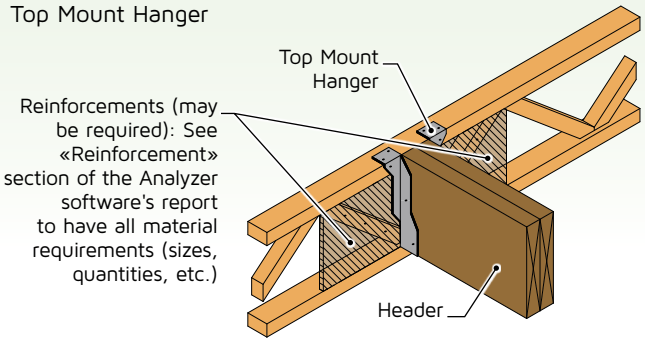
Detail 10F

Reinforcement for a Concentrated Side Load - Face Mount Hanger



Detail 10T

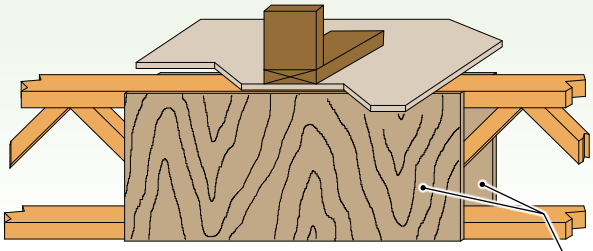
Reinforcement for a Concentrated Side Load - Top Mount Hanger



Reinforcement for a Concentrated Top Load Between Two Bearings

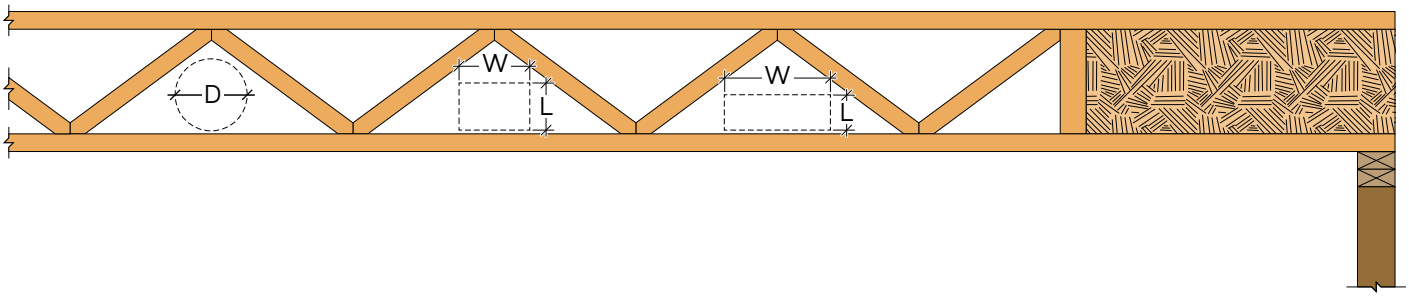
Detail 11

Reinforcement for a Concentrated Top Load

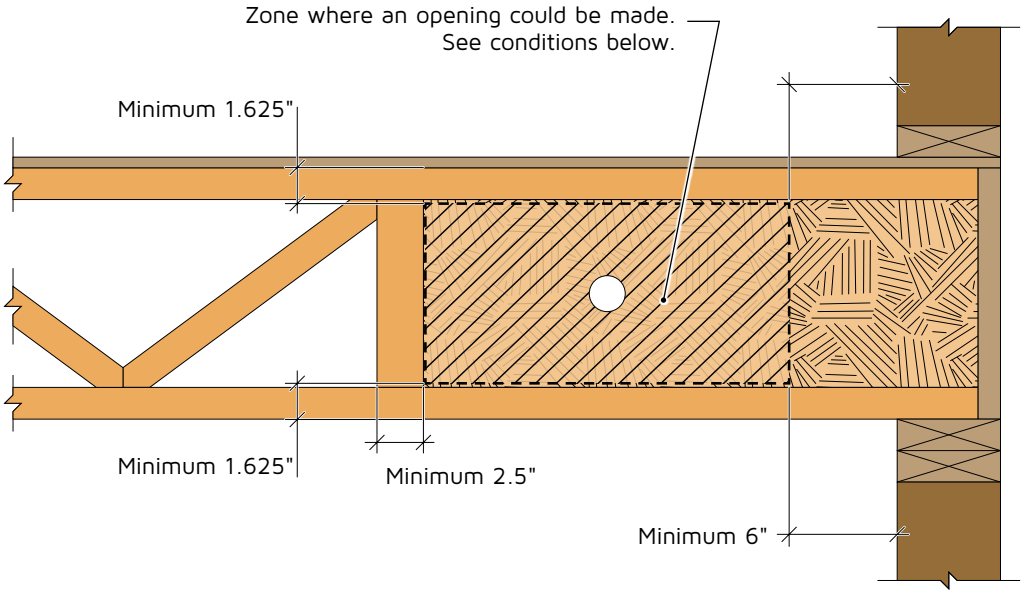


Mechanical Clearances

Maximum Size of Pipes, Ducts and Cable Trays Through Diagonal Web Members			
Depth	Round D	Square W x H	Rectangular W x L
9½"	5"	4" x 6"	3" x 9"
11⅞"	7¼"	5¾" x 5¾"	3" x 13"
14"	8½"	6½" x 6½"	3" x 14", 6" X 8"
16"	9½"	7½" x 7½"	3" x 15"



Openings in the OSB End Panel of a Joist



Conditions:

1. One round hole of 1.5" or less diameter can be made in this zone without any adjustment of the joist capacity.
2. For any other quantity or type of hole, the joist capacity has to be analyzed using **TRIFORCE**® Analyzer software.

Strongback Bridging

Refer to the "Maximum Spans" table for the size and quantity of the stongback required to reach the desired span.

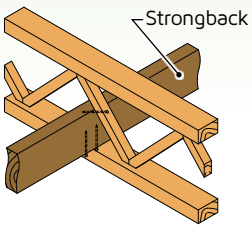
Strongbacks must be of dry lumber and can be cut between two joists for ducts or pipes, if needed, but at least three consecutive joists must remain fastened together.

Detail 5

Use gun nails 0.122" x 3.25" or 3" screws to secure strongback at mid span of joist. If two strongbacks are specified, install the second one adjacent to the next closest diagonal web bay.

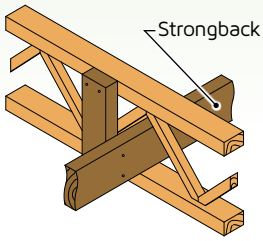
Option #1 (Good)

Attached to diagonal web and chord

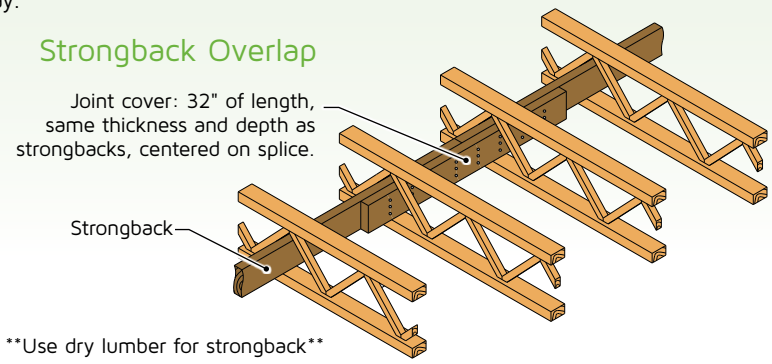


Option #2 (Better)

Attached to block



Strongback Overlap



Use dry lumber for strongback

TRIFORCE® Floor System Performance

Using Strongbacks to Dampen Vibration

TRIFORCE® open joists are engineered in order to achieve optimum floor system performance. Floor system performance is a subjective measure that varies from one person to another. Expectations of how a floor should feel differ widely according to individuals' reactions.

The most common performance factor that influence one's opinion of a floor system is vibration.

Adding strongbacks in strategic locations increases floor system performance by distributing loads to adjacent joists. In other words, all elements of the floor including joists, subflooring and strongbacks are working together as a unit. The resulting rigidity effectively dampens vibration.

Strongbacks improve performance more effectively than other type of bridging and are recommended for superior floor systems. Best of all, strongbacks can be put in with minimal price and minimal effort.

Strongbacks are more effective if installed properly (see Detail #5). They are positioned on edge on the joist's bottom chord and run through the floor framing, as close as possible to mid-span, and they may be spliced. The size and quantity of the strongbacks will vary with spans, joists spacing, depth of the joists, etc. as per "Maximum Spans" Table. If required, strongbacks may be cut to allow access for mechanical systems.

Considering strongbacks when specifying floor systems can help to satisfy end-users who carry heightened perceptions and expectations of how a floor should perform.

Strongback bridging is a major contributor to *Peace of mind underfoot™!*

Acoustic Performance

Knowing that sound performance should be considered in early design work, Barrette Structural Distribution has published **TRIFORCE**® open joist acoustic performance ratings as per the summary table below.

Sound Transmission Class (STC)

Joist Depth	Insulation	Topping[1]	STC
11 7/8"	No	No	46 db
		Yes	52 db
14"	No	No	46 db
		Yes	52 db
16"	No	No	47 db
		Yes	53 db

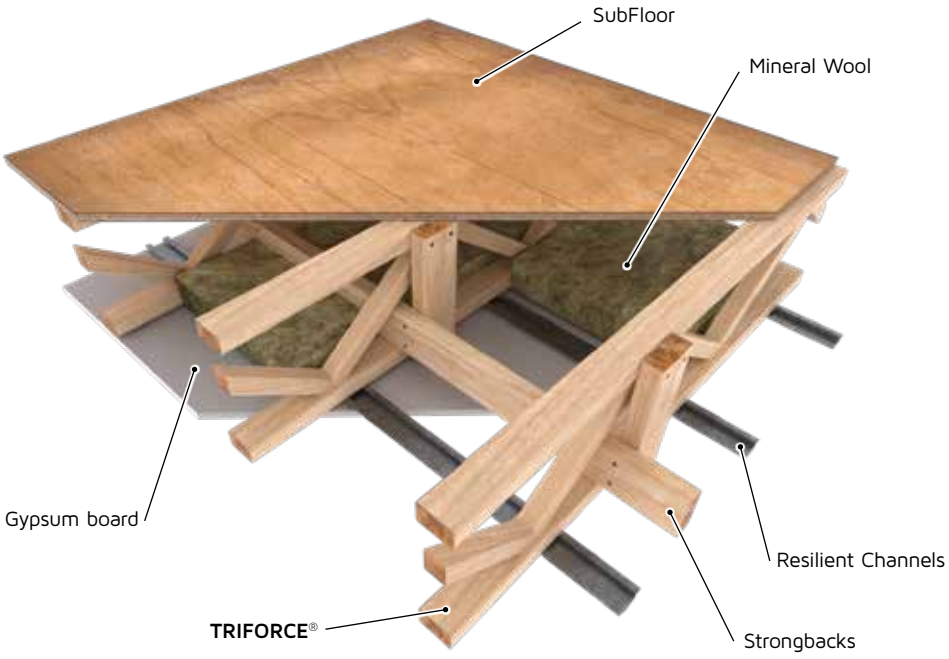
Note

Topping[1]: 1.5" normal weight or lightweight concrete or 3/4" gypcrete

intertek
Total Quality. Assured.

To obtain the detailed assemblies and complete acoustic performance data specific to **TRIFORCE**® open joist, check out the Intertek website (https://whdirectory.intertek.com) and look up "Barrette Structural Inc." in the Company field.

Fire Performance Ratings for Multifamily Buildings



intertek
Total Quality. Assured.

TRIFORCE® open joist fire-rated assemblies are listed in the Intertek Directory of Building Components.

Check out the Intertek website (https://whdirectory.intertek.com) and look up "Barrette Structural Inc." in the **Company** field.

Fire Performance Ratings for Multifamily Buildings

Summary Table

Intertek Design Number	BS/SFWT 45-01	BS/SFWT 60-01	BS/SFWT 60-02	BS/SFWT 60-03	BS/SFWT 60-04	BS/SFWT 60-05A	BS/SFWT 60-05B	BS/SFWT 60-11	BS/SFWT 90-01	BS/SFWT 120-01
Fire Rating Time	45 minutes	60 minutes	60 minutes	60 minutes	60 minutes	60 minutes	60 minutes	60 minutes	90 minutes	120 minutes
Floor Topping	Optional[1]	Optional[1]	Optional[1]	Optional[1]	Optional[1]	No	Yes[2]	Yes[2]	Optional[1]	Optional[1]
Floor Sheathing	19/32" (5/8)	19/32" (5/8)	19/32" (5/8)	19/32" (5/8)	23/32" (3/4)	2 x 23/32" (3/4)	23/32" (3/4)	23/32" (3/4)	19/32" (5/8)	19/32" (5/8)
Roof Sheating	15/32" (1/2)	15/32" (1/2)	15/32" (1/2)	15/32" (1/2)	15/32" (1/2)	N/A	N/A	N/A	15/32" (1/2)	15/32" (1/2)
TRIFORCE® Open Joist	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4	Top and bottom chord made of 2x3 or 2x4
Min. Depth	9,5"	9,5"	9,5"	9,5"	9,5"	9,5"	9,5"	9,5"	9,5"	9,5"
Max. Spacing	24" o.c.	24" o.c.	24" o.c.	24" o.c.	24" o.c.	24" o.c.	24" o.c.	24" o.c.	24" o.c.	24" o.c.
Strongback Bridging	Optional[1]	Optional[1]	Optional[1]	Optional[1]	Optional[1]	Installed as per Detail 5 and Strongback Bridging Table	Installed as per Detail 5 and Strongback Bridging Table	Installed as per Detail 5 and Strongback Bridging Table	Optional[1]	Optional[1]
Insulation	Optional[1]	Optional[1]	1-1/2" - 2.5 pcf of mineral wool	2" - 3.5 pcf of mineral wool	1" - 6 pcf of mineral wool	3" - 2.5 pcf of mineral wool	3" - 2.5 pcf of mineral wool	3" - 2.5 pcf of mineral wool	1-1/2" - 2.5 pcf of mineral wool	Optional[1]
Setting Strip	No	Optional[1]	Optional[1]	Min. 1x4	No	No	No	No	No	No
Supplementary Uncoupling System	No	No	No	No	No	No	No	GenieClip® RST	No	No
Channels Type	Resilient	Optional[1]	Resilient	Resilient	Resilient	Resilient	Resilient	Steel	Resilient	Resilient
Spacing	16 in o.c.	Optional[1]	16 in o.c.	16 in o.c.	24 in o.c.	16 in o.c.	16 in o.c.	16 in o.c.	12 in o.c.	16 in o.c.
Gypsum Board	1 x 5/8" Type X	2 x 1/2" Type X	1 x 5/8" Type C	1 x 5/8" Type C	1 x 1/2" Type C	1 x 5/8" Type C	1 x 5/8" Type C	1 x 5/8" Type C	2 x 5/8" Type C	3 x 5/8" Type C

1. Either with any type or nothing.
2. With an authorized material per Intertek fire resistant listing for Barrette Structural Inc.

intertek
Total Quality. Assured.

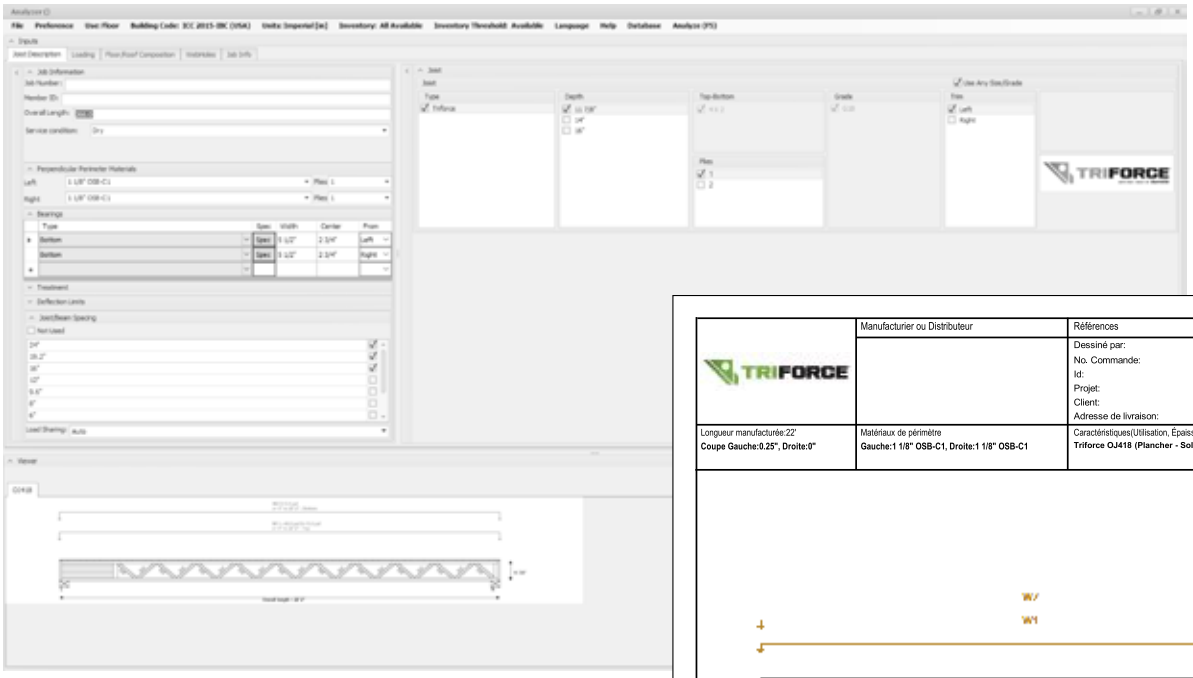
Intertek-approved fire-resistant assemblies ID 35685 Standard
https://whdirectory.intertek.com
Look up "Barrette Structural Inc." in the Company field.

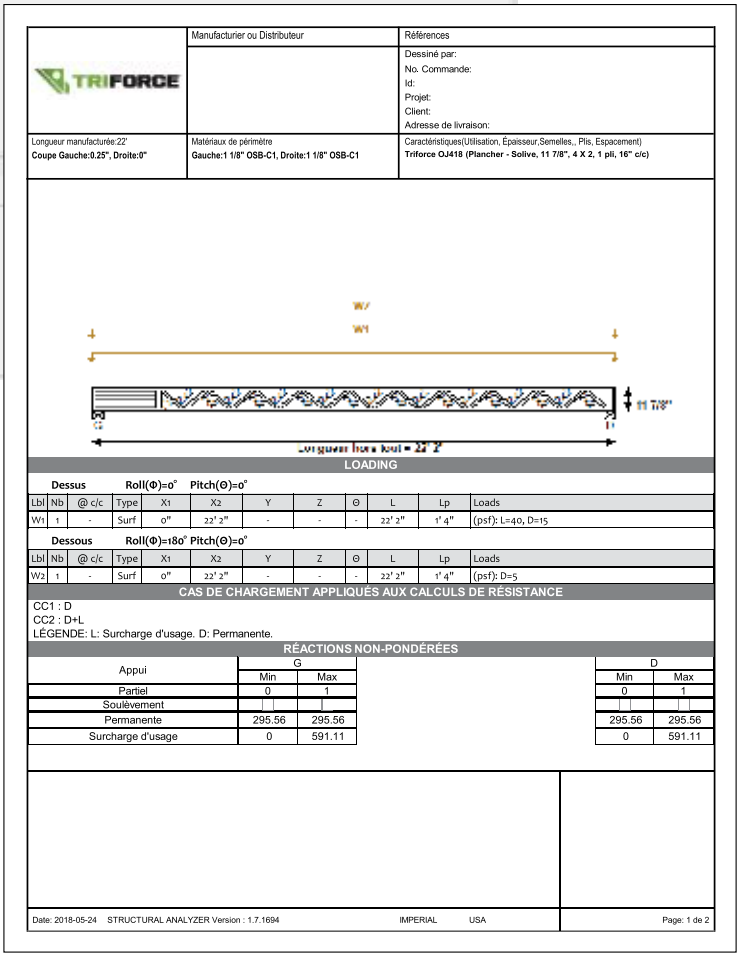
TRIFORCE® Analyzer Software

Barrette Structural Distribution has designed a cutting-edge yet easy-to-use software that can adjust to all our clients' needs. It includes detailed engineering analysis.

Our solutions will help your company at every stage, from whole-floor analysis to individual member sizing.

TRIFORCE® Analyzer is a member-sizing software program that engineers, architects and designers can use to size **TRIFORCE®** open joist. TRIFORCE® Analyzer is available as standalone software. To download it, visit the Analyzer section of our website at **www.openjoisttriforce.com**.





	Manufacturier ou Distributeur	Références
TRIFORCE		Dessiné par: No. Commande: Id: Projet: Client: Adresse de livraison:
Longueur manufacturée:22' **Coupe Gauche:0.25", Droite:0"**	Matériaux de périmètre **Gauche:1 1/8" OSB-C1, Droite:1 1/8" OSB-C1**	Caractéristiques(Utilisation, Épaisseur,Semelles,, Plis, Espacement) **Triforce OJ418 (Plancher - Solive, 11 7/8", 4 X 2, 1 pli, 16" c/c)**

LOADING

Dessus **Roll(Φ)=0°** **Pitch(Θ)=0°**

Lbl	Nb	@ c/c	Type	X1	X2	Y	Z	Θ	L	Lp	Loads
W1	1	-	Surf	0"	22' 2"	-	-	-	22' 2"	1' 4"	(psf): L=40, D=15

Dessous **Roll(Φ)=180° Pitch(Θ)=0°**

Lbl	Nb	@ c/c	Type	X1	X2	Y	Z	Θ	L	Lp	Loads
W2	1	-	Surf	0"	22' 2"	-	-	-	22' 2"	1' 4"	(psf): D=5

CAS DE CHARGEMENT APPLIQUÉS AUX CALCULS DE RÉSISTANCE

CC1 : D
CC2 : D+L
LÉGENDE: L: Surcharge d'usage. D: Permanente.

RÉACTIONS NON-PONDÉRÉES

Appui	G		D	
	Min	Max	Min	Max
Partiel	0	1	0	1
Soulèvement				
Permanente	295.56	295.56	295.56	295.56
Surcharge d'usage	0	591.11	0	591.11

Date: 2018-05-24 STRUCTURAL ANALYZER Version : 1.7.1694 IMPERIAL USA Page: 1 de 2

Design Values

Engineering properties for the TRIFORCE® Open Joist series

Limits States Design (LSD)

Series	Depth	Flange Width	Mr	Vr	EI	K	fcp chord	Joist Weight
	Inches	Inches	(lbs-ft)	(lbs)	(lb x in^2)	(lbs)	(psi)	plf
OJ314	9 ½" ◊	2 ½"	3 590	1255	170E+06	2,682E+06	769	2.70
	11 ⅞"	2 ½"	4 648	1805	285E+06	3,703E+06	769	2.80
	14"	2 ½"	5 567	2090	412E+06	4,616E+06	769	2.85
	16"	2 ½"	6 326	2180	554E+06	5,475E+06	769	2.95
OJ315	11 ⅞"	2 ½"	5 679	1805	305E+06	3,703E+06	769	2.80
	14"	2 ½"	6 835	2090	442E+06	4,616E+06	769	2.85
	16"	2 ½"	7 923	2180	593E+06	5,475E+06	769	2.95
OJ415	11 ⅞"	3 ½"	7 963	1805	427E+06	4,591E+06	769	3.35
	14"	3 ½"	9 585	2090	618E+06	5,724E+06	769	3.45
OJ418	9 ½" ◊	3 ½"	8 460	1255	306E+06	3,325E+06	943	3.25
	11 ⅞"	3 ½"	10 954	1805	512E+06	4,591E+06	943	3.35
	14"	3 ½"	13 184	2090	742E+06	5,724E+06	943	3.45
	16"	3 ½"	15 284	2180	997E+06	6,789E+06	943	3.55
OJ420	16"	3 ½"	15 526	2180	1108E+06	6,789E+06	943	3.55

1) Before specifying a series, make sure the required length is in stock. Refer to the table of stock lengths.
2) Factored moment and shear resistances include the Ø=0.9 factor and are based on a standard duration load. Resistances must be adjusted for other load durations in accordance with CSA O86. The Kh load distribution factor does not apply.
3) Factored shear resistances represent the shear capacity at a diagonal in traction.
4) ◊ = The 9 1/2 depth is not available in all areas. Please contact your local representative before specifying this depth in your design.
5) For a simple-span joist with a bearing at both ends, the deflection at mid-span must be calculated as follows:

$$\text{Deflection}(\Delta) = \frac{5wL^4}{384EI} + \frac{wL^2}{K}$$

Where :

Δ = Deflection (in)
L = Span (in)
EI = Bending stiffness (lbs x in^2)
K = Shear deflection factor (lbs)
w = Uniform Load (lbs/in)

Maximum factored reaction of TRIFORCE® Open Joist at bearings

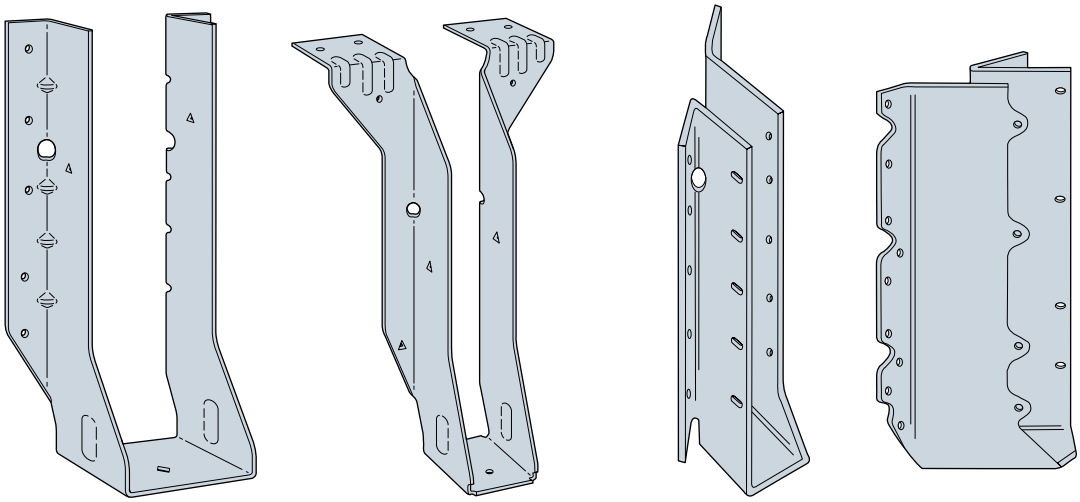
Series	Q_r[1][2] (lbs)						
	Bearing End		2x3 Post End		OSB End Panel[3]		
	Bearing length		1.5"	3.5"	1.5"	1.5"	3.5"
	Web Stiffener[4]		N/A	N/A	No	Yes	No
OJ-300 OJ-400	Depth	9 ½" ◊	2402	2999	1381	1677	1954
		11 ⅞"	2525	3170	1454	1764	2057
		14"	2635	3322	1715	1890	2173
		16"	2739	3467	1744	2133	2210

1) Factored resistances at bearings include the Ø=0.9 factor and are based on a normal duration load. Resistances must be adjusted for other load durations in accordance with CSA O86. The Kh load distribution factor does not apply. The indicated capacities do not include the verification of the perpendicular compression of the joist flanges. The factored reaction shall not exceed: a) the indicated capacity, and b) the capacity calculated in accordance with CSA O86 standard using the contact area of the bearing and the fcp value of the flanges indicated in the Engineering Properties table.
2) The minimum bearing length is 1.5". Linear interpolation is permitted between two bearing lengths.
3) The OSB panel end can be trimmed up to 24" without any change to the calculation values in the Maximum factored reaction table.
4) Where necessary, web stiffeners must be installed per the installation details provided.
5) ◊ = The 9 1/2 depth is not available in all areas. Please contact your local representative before specifying this depth in your design.

Single Joist Connectors

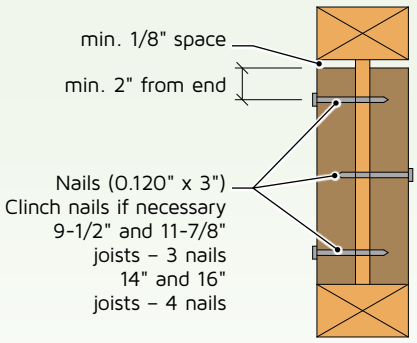
These are a few of the most commonly used hangers for the assembly of floor systems with **TRIFORCE**® open joist. Contact your local supplier to purchase these hangers or to find out more about their properties and limitations. The most popular brands include Simpson StrongTie and MiTek USP.

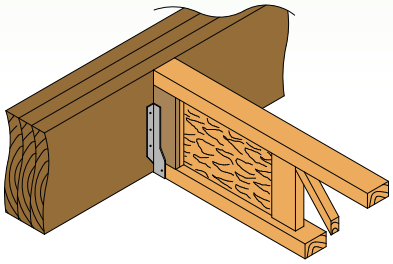
- Face mount hanger
- Top flange hanger
- Skewed 45° hanger (right or left)



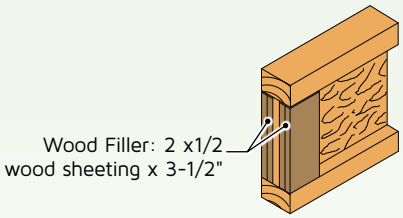
Lateral Bracing for a Single Joist with Hanger

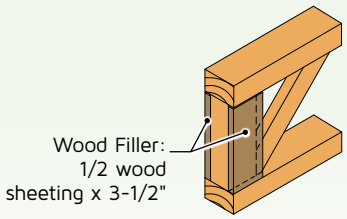
Only required if the hanger does not provide lateral support for the joist's top chord.



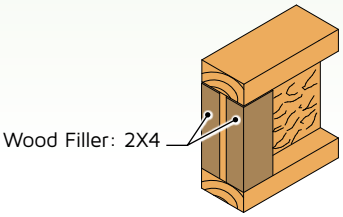


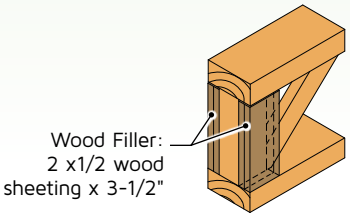
Joists with 3X2 chords





Joists with 4X2 chords

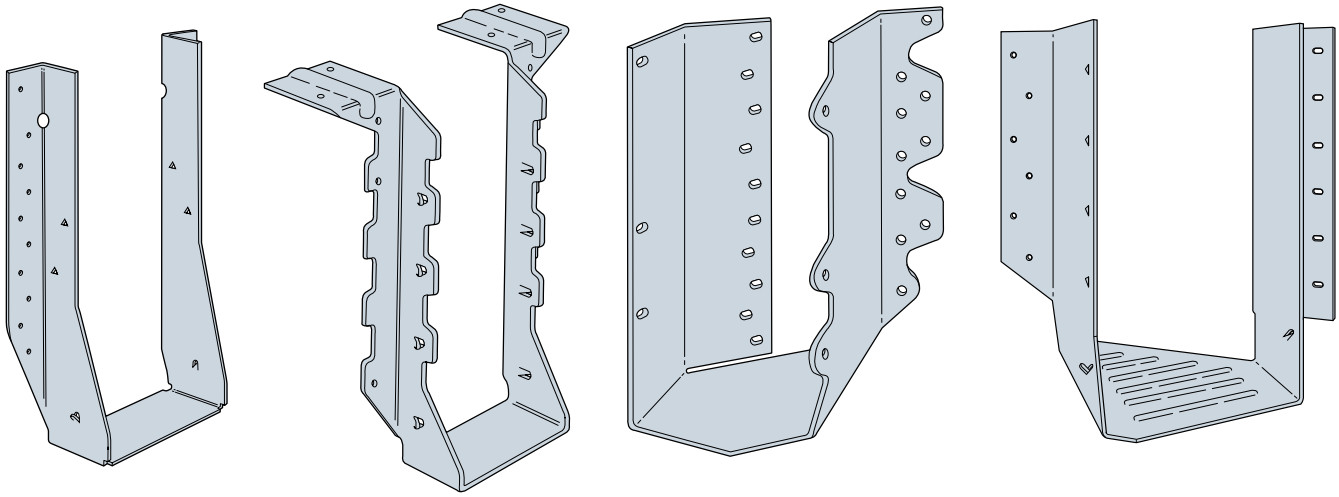




Double Joist Connectors

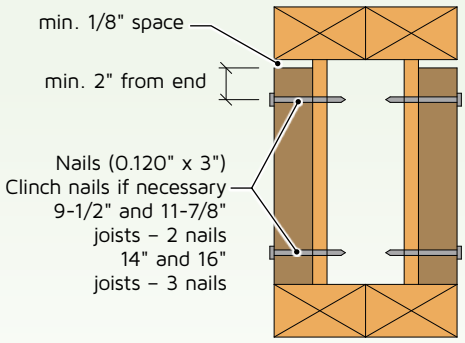
These are a few of the most commonly used hangers for the assembly of floor systems with **TRIFORCE**® open joist. Contact your local supplier to purchase these hangers or to find out more about their properties and limitations. The most popular brands include Simpson StrongTie and MiTek USP.

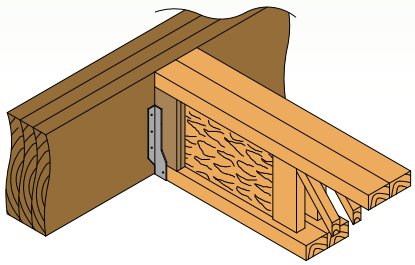
- Face mount hanger
- Top flange hanger
- Skewed 45° hanger (right or left)



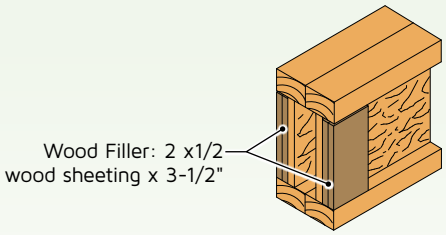
Lateral Bracing for a Double Joist with Hanger

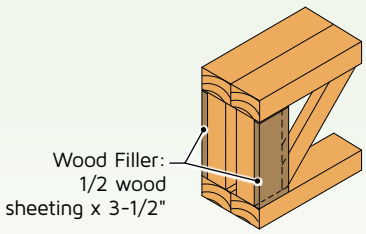
Only required if the hanger does not provide lateral support for the joist's top chord.



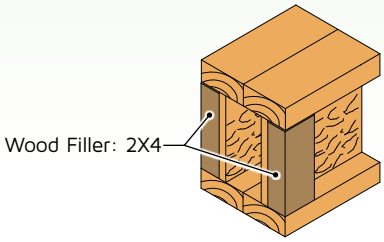


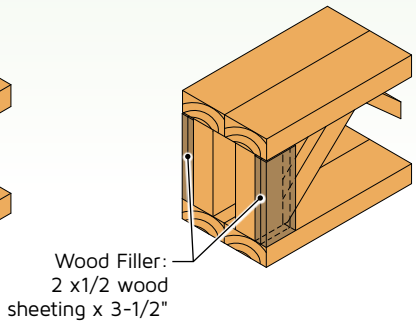
Joists with 3X2 chords





Joists with 4X2 chords





Notes

Warranty

Barrette Structural Distribution Inc.
Manufacturer's Product Warranty

Products manufactured by Barrette Structural Distribution Inc. (hereafter: "Barrette Structural Distribution") are guaranteed for the life of the structure against all manufacturing defects and faulty materials, for which manufacturer's original warranty applies.

This limited lifetime warranty is applicable if the products manufactured by Barrette Structural Distribution have been correctly stored, protected from climatic conditions such as sunlight, humidity, rain or wind, installed and used in accordance with the relevant product manufacturer's guidelines and applicable standards and codes, either as floor joists or roof trusses, whichever is the case.

This warranty does not cover perceived problems of design or defects caused by:

- prolonged exposure to water or climatic conditions, including but not limited to, fire, flooding, natural disasters or any other cause beyond the control of Barrette Structural Distribution;
- defective structure due to several factors, including but not limited to, poor construction practices, and incorrect installation methods;
- damage to the structure before, during or after installation;
- failure to respect installation instructions, current building codes and norms, and best practices installation techniques;
- the modification of joists or roof trusses after the proposed original installation;
- the presence of mold, spore, rot or termites or any other element likely to degrade the installed product;
- the application of a preservative treatment or any other coating not approved by Barrette Structural Distribution;
- defective ventilation, repeated exposure to water or humid conditions;
- excessive loads or tension not allowed for by Barrette Structural Distribution or abnormal or non-compliant use of the product contrary to the use to which it was intended or use contrary to Barrette Structural Distribution's guidance and/or instructions, or under abnormal conditions of use or under unforeseeable conditions by Barrette Structural Distribution.

IN THE CASE OF PROBLEMS WITH MANUFACTURING FAULTS COVERED BY THIS WARRANTY, BARRETTE STRUCTURAL DISTRIBUTION WILL PAY REASONNABLE COSTS FOR LABOUR AND MATERIALS TO REPAIR OR REPLACE ONLY THE PRODUCT UNDER ITS WARRANTY. THESE COSTS MUST NOT EXCEED BY MORE THAN THREE TIMES THE INITIAL PUSCHASE COST OF THE PRODUCT INVOLVED IN THE CLAIM. THESE REMEDIES ARE THE SOLE AND EXCLUSIVE REMEDIES FOR ANY BREACH OF WARRANTY. TO THE MAXIMUM EXTENT PERMITTED BY LAW, BARRETTE STRUCTURAL DISTRIBUTION IS NOT RESPONSIBLE FOR ANY DIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY.

IN THE EVENT OF A CLAIM, THE RESPONSIBILITY OF BARRETTE STRUCTURAL DISTRIBUTION IS LIMITED TO THAT WHICH HAS BEEN OUTLINED IN THIS WARRANTY. BARRETTE STRUCTURAL DISTRIBUTION MAY NOT BE HELD RESPONSIBLE FOR ANY OTHER DAMAGE WHATSOEVER. THIS WARRANTY SUPERSEDES ALL OTHER WARRANTIES AND REPRESENTATIONS ABOUT THE PRODUCT.

Warranty claims must be made in writing as soon as the manufacturing defect is discovered and in any case not more than thirty (30) days after such discovery.

BARRETTE STRUCTURAL DISTRIBUTION INC.
555, rang Saint-Malo, Trois-Rivières (Québec) G8V 0A8 CANADA

To obtain further information, please contact your representative.

Peace of mind underfoot™

www.openjoisttriforce.com

BAR70CA_20210308_V3W