



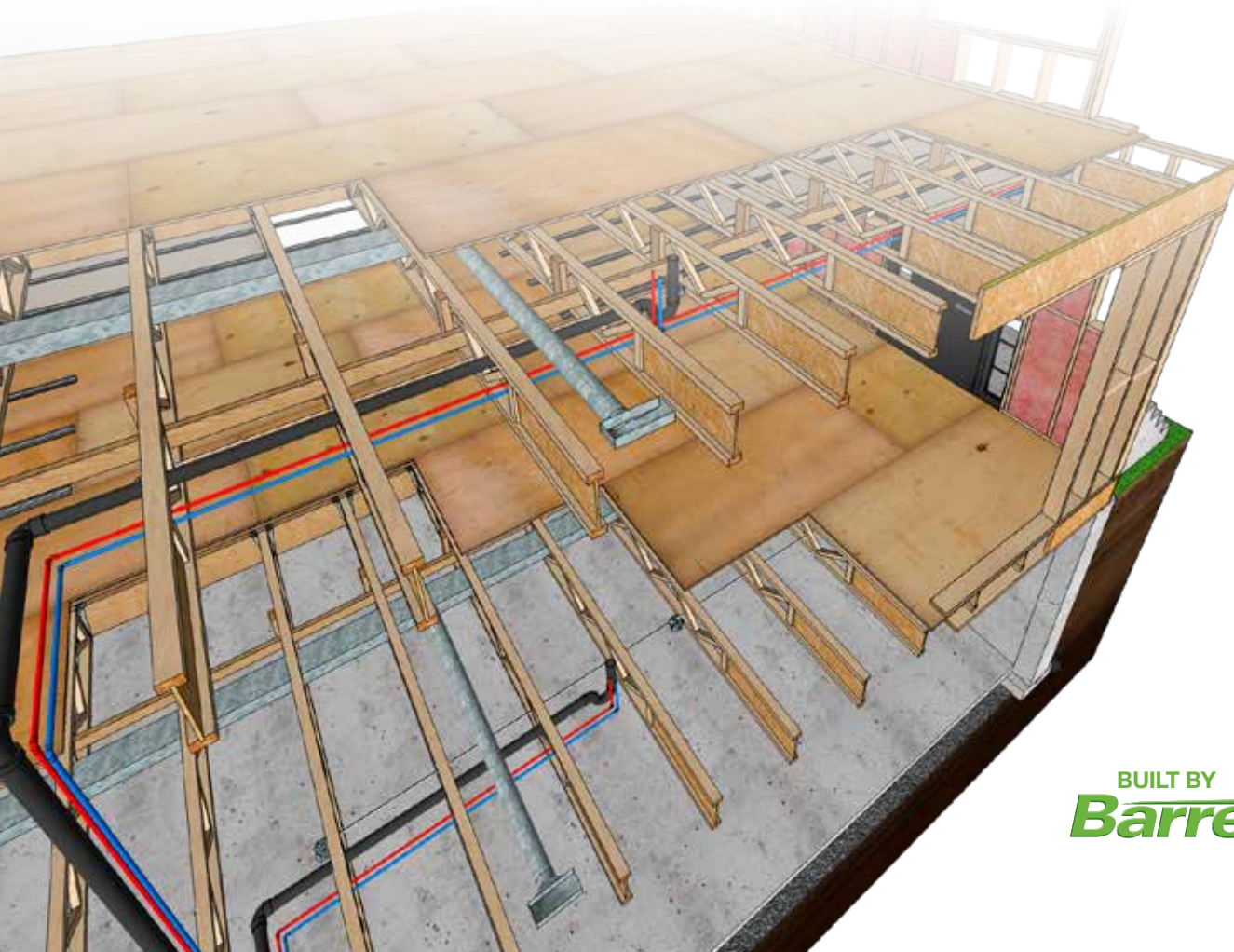
TRIFORCE®

OPEN JOIST



Barrette Structural Distribution Inc. manufactures **TRIFORCE®**, an engineered floor joist that features a triangulated configuration for strength with an open-web that provides easy installation of mechanical, plumbing and electrical. **TRIFORCE®** made-to-stock open joist is constructed entirely of wood and assembled using finger-joint technology.

TRIFORCE® open joist is trimmable up to 2 feet at one end to accommodate dimension changes and out-of-square foundations. Individually tested and produced in a state-of-the-art robotic manufacturing facility, **TRIFORCE®** open joist 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 **TRIFORCE®** open joist provides... *Peace of mind underfoot!*™



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Barrette 

Peace of mind underfoot™

www.openjoisttriforce.com

Maximum Spans

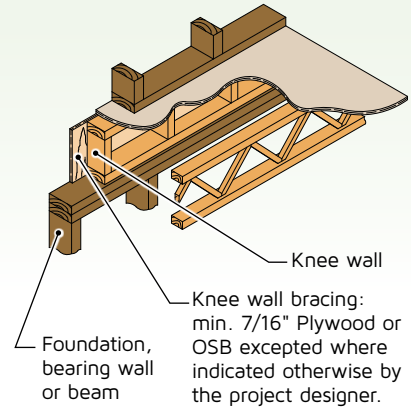
Glued and nailed subfloor with strongbacks / ceiling optional $\Delta L \leq L/360$

Live Load		40 psf				40 psf							
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 span o.c. Required Strongback ⁽¹⁾									
9 1/2" \diamond	6' - 0"	OJ314 \diamond	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	
	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	
	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	
	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	11' 8" 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	-----	-----	
	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 \diamond	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 7/8"	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	
	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	
	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	
	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	
	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	13' 3" 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	16' 0" 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" 1 2x4	18' 0" 1 2x4	18' 0" 2 2x4	18' 0" 2 2x4	18' 0" 1 2x4	18' 0" 1 2x4	18' 0" 1 2x4	16' 8" 1 2x4
				OJ415	4x2	20' 0" 2 2x4	20' 0" 2 2x4	20' 0" 2 2x6	19' 1" 2 2x6	20' 0" 2 2x4	20' 0" 2 2x4	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	-----
	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		
	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		
	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		
	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		
	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		
	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		
	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
				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	-----
				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	-----
	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" 2 2x6	26' 0" 2 2x8	24' 10" 2 2x8	-----	26' 0" 2 2x6	25' 1" 2 2x6	-----				
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		
	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		
	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		
	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		
	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		
	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		
	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	17' 4" None
				OJ315	3x2	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6	19' 5" 1 2x6	-----	
				OJ418S ⁽¹⁰⁾	4x2	20' 0" None	20' 0" None	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" None	20' 0" 1 2x6	20' 0" 1 2x6	20' 0" 1 2x6
						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
	OJ418	4x2	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	-----			
			26' 0" 1 2x6	26' 0" 2 2x6	26' 0" 2 2x8	25' 5" 2 2x8	26' 0" 1 2x6	26' 0" 2 2x6	25' 3" 1 2x8	-----			
	OJ420	4x2	28' 0" 2 2x6	28' 0" 2 2x8	28' 0" 2 2x10	26' 3" 2 2x8	28' 0" 2 2x6	28' 0" 2 2x8	-----				
			30' 0" 2 2x8	30' 0" 2 2x10	30' 0" 2 2x10	-----	30' 0" 2 2x8	28' 8" 2 2x8	-----				

Typical Details

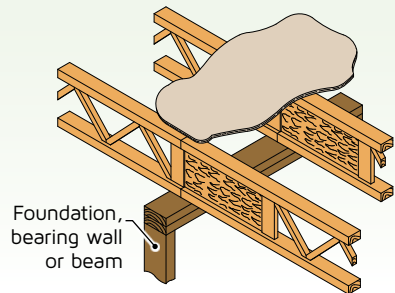
Detail 6M

Knee Wall



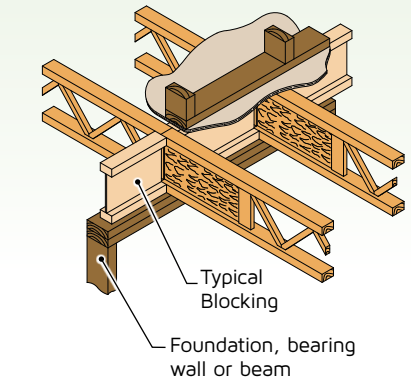
Detail 3P1

End to End Joist



Detail 3P1B

End to End Joist with Bearing Wall Above

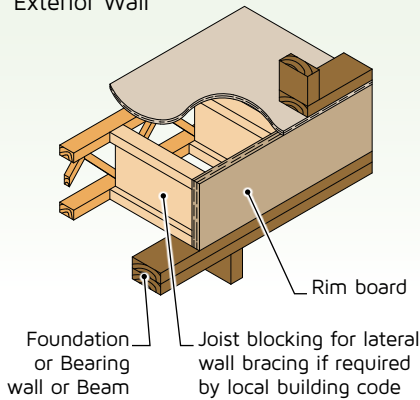


Notes:

- 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.
- The spans are based on simple-span joists.

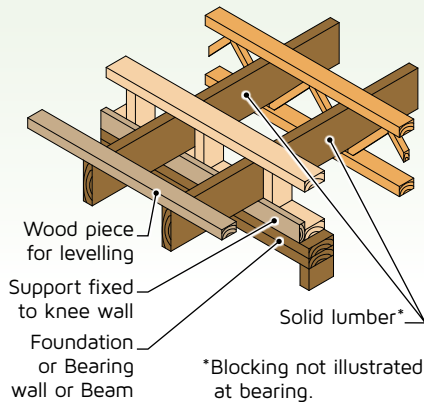
Detail 6R1B

Rim Board and Blocking at Exterior Wall



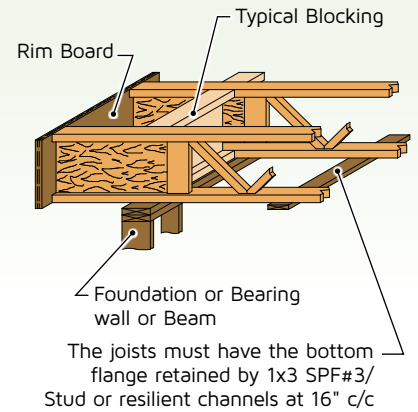
Detail 13M

Cantilever Perpendicular to Open Joist



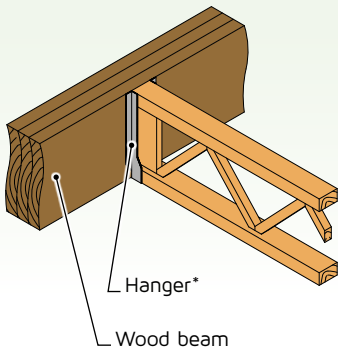
Detail 8P

Cantilevered Joist



Detail 4

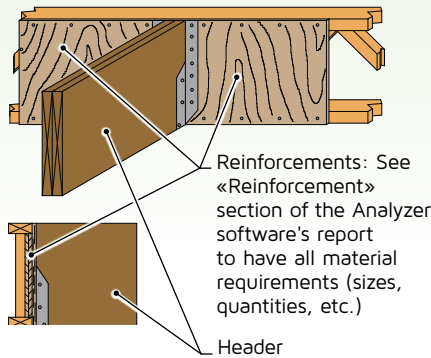
Wood Beam Connections with Hanger



* top mount or face mount hangers

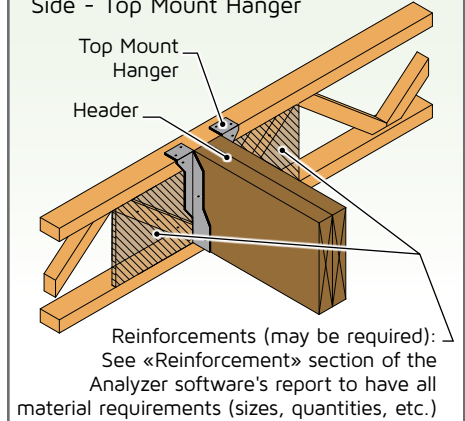
Detail 10F

Reinforcement for a Concentrated Side Load - Face Mount Hanger



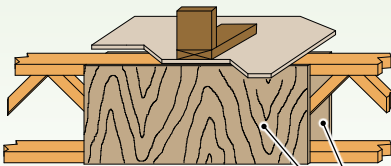
Detail 10T

Reinforcement for a Concentrated Side - Top Mount Hanger



Detail 11

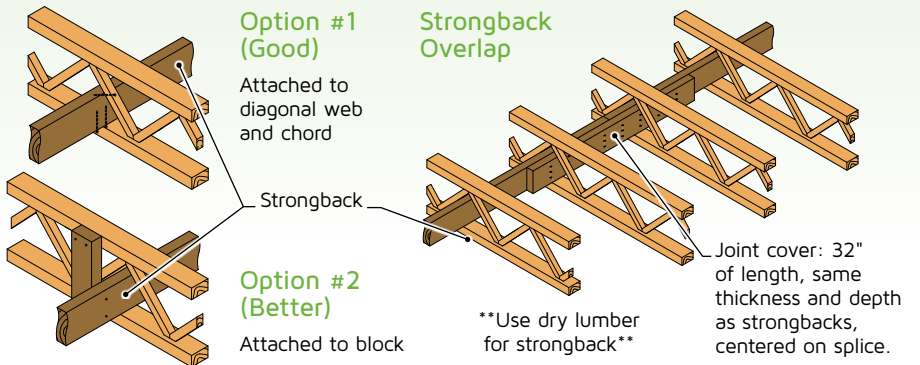
Reinforcement for a Concentrated Top Load



Reinforcements (may be required): See «Reinforcement» section of the Analyzer software's report to have all material requirements (sizes, quantities, etc.)

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.



- The minimum bearing length is 1 1/2", spans values in bold indicate that web stiffeners are required at the OSB end panel.
- The maximum span is measured o.c. of bearings and is based on uniformly loaded joists.
- Dead load deflection is limited to L/360 and total load deflection is limited to L/240.
- Live load deflection is limited to L/360.

- Spans are based on limit states design and comply with NBC and CAN/CSA-O86 requirements.
- Refer to the appropriate sections of the Specifier Guide for installation guidelines and construction details.
- 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.

- 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.

Available Joist Sizes

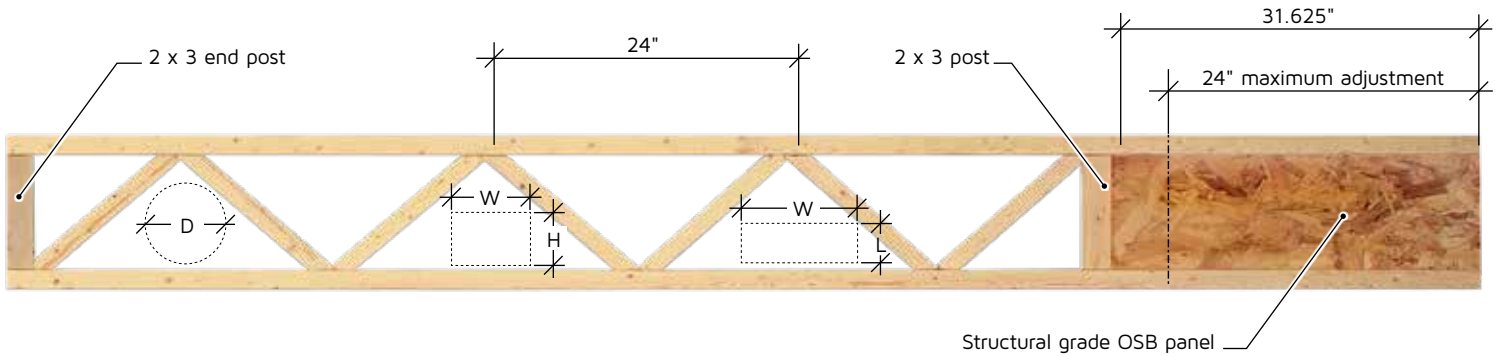
TRIFORCE® open joist is produced in several depths and lengths to fulfill floor framing needs. Lengths are offered in two foot increments due to their 24" trimmability.

Depth	Series	Weight lbs/ft	Stock Lengths (feet)												
			6	8	10	12	14	16	18	20	22	24	26	28	30
9 1/2" ◊	OJ314	2.70	✓	✓	✓	✓	✓	✓							
	OJ418	3.25							✓						
11 7/8"	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.



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
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"



NRC - CMRC
CCMC-13474-R

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Spec ID #35685

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