QAI LABORATORIES
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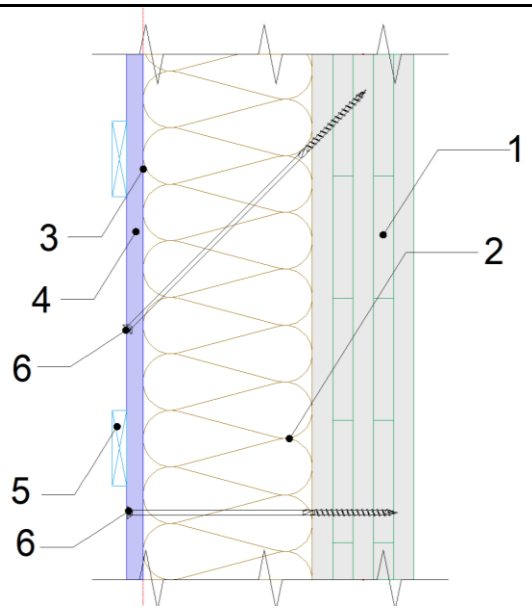
QAI LISTING REC799-1
Fab Structures Inc.
WALL PANELS evaluated under CSA A277 & Parts 4 & 9 of Ontario Building Code

CLT Wall Assembly



No.	COMPONENT	DESCRIPTION		
1.	Wood Structure	Product:	Cross-Laminated Timber (CLT) Panels	
		Thickness:	Minimum 5 layers - 3 15/16'' (100 mm)	
		Limitation:	Design under Part 4 of NBC done by registered professional	
		Certification:	Certified per ANSI/APA PRG320	
2.	Wood Fiberboard Insulation	Product:	Multitherm 110	
		Thickness:	Minimum 8" (200 mm)	
		R Value:	As indicated on QAI's Specification Nameplate	
		Certification:	Tested per CAN/ULC-S706.1	
3.	Weather Resisting Barrier (Building Wrap)	Product:	Monolithic Membrane Transpir Rothoblaas	
			SIGA Majvest 200	
		Certification:	Certified to CAN2-51.32-M77 ; CAN/ULC-S741	
			UL Labatory Canada / RDH building science	
4.	Vertical strapping	Product:	Wood furring	
			Strips of plywood at corners	
		Size :	Wood furring	1"x4'' (19 x 89mm)
			Plywood	Minimum 12" (300mm)
		Spacing :	At maximum 24'' (600mm) OC	
		Certification :	Wood furring	NLGA
			Plywood	Certified per CSA O151

Visit the QAI Online Listing Directory located at www.qai.org for the most up to date version of this Listing and to validate that this QAI Listing is active.

5.	**Horizontal Strapping (Optional)**	Product:	Wood furring
		Size :	1''x4'' (19 x 89mm)
		Spacing :	At maximum 24'' (600mm) OC
		Fasteners :	2 screws per vertical strapping : #8 x 1-1/2''
		Certification :	Wood furring NLGA
6.	**Screws**	Product:	8Øx300 ASSY Ecofast
		Spacing :	@ 90° @ 1200mm oc & @ 45° @ 1200mm oc Stagger screws
		Certification :	NRC / CCMC13677-R

WINDOWS, DOORS AND SKYLIGHTS INSTALLATIONS:

Structural panels included in this Listing may have windows, doors and skylights conform to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS and CSA A440S1, "Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440.

The energy performance of windows, doors and skylights is determined in accordance with CSA A440.2.

Structural wood frame are sealed with SIGA Rissan tape and Wigluv. Airtightness between walls structure and window/doors is performed with SIGA Fentrim IS 20 on the inside and SIGA Frentrim 230 on the Outside.

EXCLUSIONS:

Fire resistive assemblies and acoustical performance is not covered under this listing.

All wall components, interior partitions, electrical installations, plumbing and gas/propane systems, other than those described above are outside of the scope of this listing. For floor and roof panels refer to dedicated section.

This listing does not include wall panels intended to be used in multi-residential buildings such as hotels and motels, requiring shared egress facilities. It does not address panelized products for use in industrial, commercial, and office buildings, stores, hospitals, classrooms, and daycares and/or any buildings designed with multiple major occupancies.

CONDITIONS OF VALIDITY

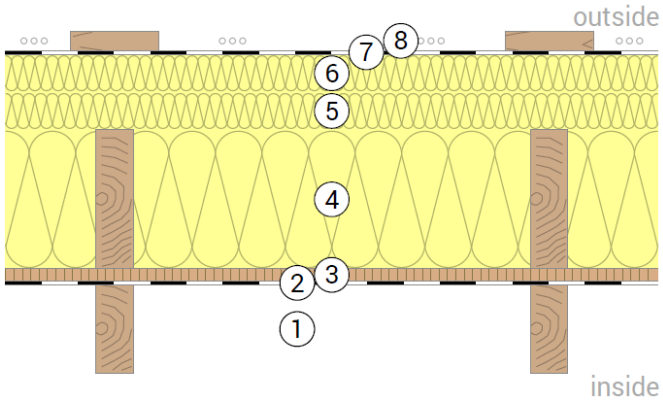
This listing is based on the assumption that no fundamental changes are made to the product described in this listing and engineering designs.

The performance of the panels could be affected by excessive humidity. Like other wood products, these panels must be protected from exposure to moisture/rain.

The field erection sequencing must be in strict accordance with the manufacturer's installation instructions and the applicable building code. In the event of a conflict between the manufacturer's installation instructions and code requirements, code stipulations shall govern. Approved construction documents shall be available at all times on the jobsite during installation.

QAI LISTING REC799-1
Fab Structures Inc.
WALL PANELS evaluated under CSA A277, Part 9 of Ontario Building Code & Parts 9 and 11 of Quebec Construction Code, Chapter I – Building.

High Performance Wall Assembly



No.	COMPONENT	DESCRIPTION	
1.	Interior Wood Furring / Service Cavity	Product:	Dimensional Lumber
		Size:	2”x3” (38 x 64 mm) or 2”x4” (38 x 89 mm)
		Spacing:	Maximum 16” (400mm) OC
		Certification:	NLGA
		Fasteners:	ASSY Ecofast 6mm x 140mm (min.), Countersunk Partially Threaded Structural Wood Screws 2 to 3 screws per vertical furring to studs 5 screws at floor landing
2.	Air & Vapour Barrier	Product:	SIGA Majrex 200
		Certification:	Evaluated to CAN/CGSB-51.33-M, CAN/ULCS741
			RDH Building Science
3.	Sheathing	Product:	OSB Panel
		Thickness:	7/16" (11mm)
		Certification:	CSA O437.0
		Fasteners:	0.131” (3.3mm) shank diameter x 2.5” (63mm) shank length Nails 4” (100mm) on perimeter & 12” (300mm) on center
2. & 3.	Air & Vapour Barrier + Sheathing (Alternate)	Product:	BP Enermax Insulating Fiberboard
		Thickness:	1/2" (12.5mm)
		Certification:	CAN/ULC S706.1
			CAN/ULC S742/S741 or Equivalent CCMC report
			ASTM E96/E96M, CAN/CGSB-51.33-M or Equivalent CCMC report
4.	Wood Frame	Product	Dimensional Lumber (SPF #2 or better)

	(Wall Studs & Wall Plates)	Size	2”x6” (38 x 140 mm) or 2”x8” (38 x 184 mm)	
		Stud Spacing	Maximum 16” (400mm) OC	
		Certification	NLGA	
		Fasteners	ASSY Ecofast 6mm x 140mm, Countersunk Partially Threaded Structural Wood Screws, and 3.25” (82mm) Nails 1 screw and 3 end nails per stud to top wall plates 1 screw and 3 end nails per stud to bottom wall plates	
		Limitation	The use of Structural Composite Lumber (SCL), Design & and Installations of wall panels outside of OBC / QCC Section 9.23 is done by registered professionals under Part 4	
	Insulation	Product	Mineral Wool Insulation or Hemp Fibre Insulation	
		R Value	As indicated on QAI’s Specification Nameplate	
		Certification	CAN/ULC-S702, or Equivalent CCMC report	
5.	**Rigid Insulation**	Product	Wood Fiber Insulating Boards	
		R value	Minimum R4	
6.		Certification	CAN/ULC-S706, or Equivalent CCMC report	
7.	**Weather Resisting Barrier (Building Wrap)**	Product:	Monolithic MembraneTranspir Rothoblaas	
			SIGA Majvest 200	
		Certification:	Certified to CAN2-51.32-M77 ; CAN/ULC-S741	
			UL Labatory Canada / RDH building science	
8.	**Vertical strapping**	Product:	Wood furring	
			Strips of plywood at corners	
		Size :	Wood furring	1’’x4’’ (19 x 89mm) or 2”x4” (38 x 89 mm)
			Plywood	Minimum 12” (300mm)
		Spacing :	At maximum 16’’ (400mm) OC	
		Fasteners:	ASSY CSK 8mm x 140mm (min.), Countersunk Fully Threaded Self-Tapping Wood Scrfew Screws spaced maximum 400mm to studs	
		Certification :	Wood furring	NLGA
			Plywood	Certified per CSA O151
	Horizontal Strapping (Optional)	Product:	Wood furring	
		Size :	1’’x4’’ (19 x 89mm)	
		Spacing :	At maximum 16’’ (400mm) OC	
		Fasteners :	2 screws per vertical strapping : #8 x 1-1/2’’	
		Certification :	Wood furring	NLGA

WINDOWS, DOORS AND SKYLIGHTS INSTALLATIONS:

Structural panels included in this Listing may have windows, doors and skylights conform to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS and CSA A440S1, “Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440.

The energy performance of windows, doors and skylights is determined in accordance with CSA A440.2.

Structural wood frames are sealed with SIGA Rissan tape and SIGA Wigluv. Airtightness between walls structure and window/doors is performed with SIGA Fentrim IS 20 on the inside and SIGA Frentrim 230 on the Outside.

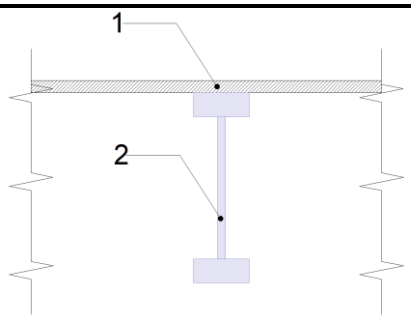
EXCLUSIONS:

Fire resistive assemblies and acoustical performance is not covered under this listing.

All wall components, interior partitions, electrical installations, plumbing and gas/propane systems, other than those described above are outside of the scope of this listing. For floor and roof panels refer to dedicated section.
This listing does not include wall panels intended to be used in multi-residential buildings such as hotels and motels, requiring shared egress facilities. It does not address panelized products for use in industrial, commercial, and office buildings, stores, hospitals, classrooms, and daycares and/or any buildings designed with multiple major occupancies.
CONDITIONS OF VALIDITY
This listing is based on the assumption that no fundamental changes are made to the product described in this listing and engineering designs.
The performance of the panels could be affected by excessive humidity. Like other wood products, these panels must be protected from exposure to moisture/rain.
The field erection sequencing must be in strict accordance with the manufacturer's installation instructions and the applicable building code. In the event of a conflict between the manufacturer's installation instructions and code requirements, code stipulations shall govern. Approved construction documents shall be available at all times on the jobsite during installation.

QAI LISTING REC799-1
Fab Structures Inc.
FLOOR PANELS evaluated under CSA A277, Part 9 of Ontario Building Code and Part 9 of Quebec Construction Code, Chapter I – Building.

Floor Assembly

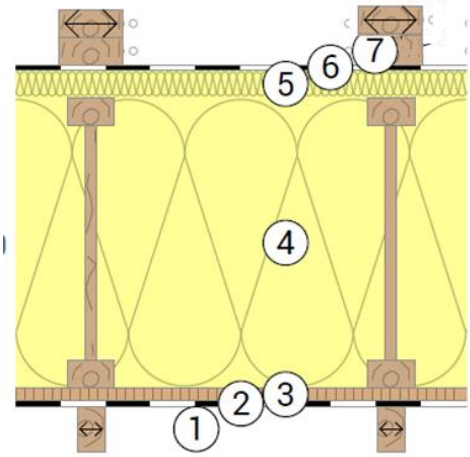


No.	COMPONENT	DESCRIPTION			
1.	Subfloor	Product:	Plywood Panel; OSB Panel		
		Thickness:	Minimum 5/8” (15.9 mm)		
		Certification:	Plywood Panel certified per CSA O151		
			OSB Panel certified per CSA O325		
		Fasteners:	Floor screws #8×1-1/2” (89mm) min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists		
2.	Wood Frame	Framing:	Floor Joists	Dimensional Lumber (SPF)	Minimum 2x8
				I-Joists	Minimum 9.25” (235mm)
				Open-web Joists	Minimum 11.875” (300mm)
				Structural Composite Lumber (SCL)	Minimum 9.5” (241mm)
			Rim Joist	SPF	Minimum 2x8 / to suite floor joist height
				Glulam	1.75” (45mm) x min. 9.25” / to suite floor joist height
				SCL	Minimum 9.5” (241mm) / to suite floor joist height
		Limitation:	Design outside of NBC, part. 9.23.1.1 is done by registered professionals under Part 9 and/or Part 4		
		Certification:	SPF	Grade Stamp: Grade 2 or better as required by design	
			I-Joists	CCMC report or equivalent	
			SCL	CCMC report or equivalent	
		Live load:	Minimum 40 psf (1.9 KPa)		
		Joist spacing:	Maximum 24” (600 mm) OC		
		Joist Fasteners:	4-5 nails, 0.120" x 3-1/4” per joist end for all dimensions		
			Suitable Joist Hangers for unsupported joists		

EXCLUSIONS:
Fire resistive assemblies and acoustical performance is not covered under this listing.
All gas systems components, plumbing and electrical equipment other than those described above are outside of the scope of this listing. For wall and roof panels refer to dedicated section.
This listing does not include panels intended to be used in multi-family dwellings requiring fire and sound separation or shared egress facilities, hotels and motels. It does not address panelized products for use in commercial, and office buildings, stores, hospitals, classrooms, and daycares and/or any buildings designed with multiple major occupancies.
CONDITIONS OF VALIDITY
This listing is based on the assumption that no fundamental changes are made to the product described in this listing and engineering designs.
The performance of the panels could be affected by excessive humidity. Like other wood products, these panels must be protected from exposure to moisture/rain.
The field erection sequencing must be in strict accordance with the manufacturer's installation instructions and the applicable building code. In the event of a conflict between the manufacturer's installation instructions and code requirements, code stipulations shall govern. Approved construction documents shall be available at all times on the jobsite during installation.

QAI LISTING REC799-1
Fab Structures Inc.
ROOF PANELS evaluated under CSA A277, Parts 4 & 9 of Ontario Building Code and Parts 4, 9 & 11 of Quebec Construction Code, Chapter I – Building.

Roof Structure



No.	COMPONENT	DESCRIPTION			
1.	Interior Wood Furring / Service Cavity	Product:	Dimensional Lumber		
		Size:	2”x3” (38 x 64 mm), 2”x4” (38 x 89 mm) or 2” x 6” (38 x 140 mm)		
		Spacing:	Maximum 16” (400mm) OC		
		Certification	NLGA		
		Fasteners:	ASSY Ecofast 6mm x 140mm (min.), Countersunk Partially Threaded Structural Wood Screws 1 screw on each intermediate roof rafters		
2.	Air & Vapour Barrier	Product:	Monolithic MembraneTranspir Rothoblaas		
			SIGA Majrex 200		
		Certification:	Certified to CAN2-51.32-M77 ; CAN/ULC-S741		
			UL Labatory Canada / RDH building science		
3.	Sheathing	Product:	OSB Panel		
		Thickness:	7/16" (11mm)		
		Certification:	CSA O437.0		
		Fasteners:	0.131” (3.3mm) shank diameter x 2.5” (63mm) shank length Nails 4” (100mm) on perimeter & 6” (150mm) on center		
4.	Wood Frame	Framing:	Roof Rafters	I-Joists	Minimum 9.25” (235mm)
				Dimensional lumber	Minimum 2”x8” (38 x 184 mm)
			Bottom Edge Framing	Plywood Panel	Minimum 3/4” (19mm)

			Top Edge Framing	Glulam	Minimum 1.75” x 16” (44mm x 406mm) / to suit rafter height
			Blocking	Dimensional Lumber	2”x4” (38 x 89 mm) maximum 1859mm from top/bottom edge
			Ridge Board	Structural Composite Lumber (SCL)	The dimension, support and attachments of SCL, done under Part 4 of NBC, is approved by a registered professional engineer
		Limitation:	The use of SCL, Design and Installations of roof panels outside of OBC / QCC Section 9.23 is done by registered professionals under Part 4		
		Certification	I-Joists	CCMC report or equivalent	
			Plywood	Certified per CSA O151	
			Glulam	CCMC report or equivalent	
			SCL	CCMC report or equivalent	
		Rafter spacing:	Maximum 24” (600 mm) OC		
		Rafter Fasteners:	Suitable Hangers or Connectors		
	Insulation	Product	Mineral Wool Insulation or Hemp Fiber Insulation		
		R Value	As indicated on QAI’s Specification Nameplate		
		Certification	CAN/ULC-S702, or Equivalent CCMC report		
5.	**Rigid Insulation**	Product	Wood Fiber Insulating Boards		
		R value	Minimum R4		
		Certification	CAN/ULC-S706, or Equivalent CCMC report		
6.	**Roofing Substrate**	Product:	Pro Clima Solitex Mento Plus		
		Certification:	Certified to CAN/CGSB-51.32-M77		
7.	**Parallel strapping (Air space)**	Product:	Wood furring		
		Size :	Wood furring	2’’x4’’ (38 x 89mm)	
		Spacing :	At maximum 24’’ (400mm) OC		
		Fasteners:	ASSY Ecofast 8mm x 10mm, Countersunk Partially Threaded Self-Tapping Wood Screw Screws spaced maximum 400mm to rafters		
		Certification :	Wood furring	NLGA	
	Perpendicular Strapping	Product:	Wood furring		
		Size :	2’’x4’’ (38 x 89mm)		
		Spacing :	At maximum 16’’ (400mm) OC		
		Fasteners :	2 nails per vertical strapping : 3.25” (82mm) Nails		
		Certification :	Wood furring	NLGA	

SKYLIGHTS INSTALLATIONS:

Structural panels included in this Listing may have skylights conform to AAMA/WDMA/CSA 101/I.S.2/A440, NAFS and CSA A440S1, “Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440.

The energy performance of skylights is determined in accordance with CSA A440.2.

Structural wood frame are sealed with SIGA Rissan tape and Wigluv. Airtightness between walls structure and window is performed with SIGA Fentrim IS 20 on the inside and SIGA Frentrim 230 on the Outside.

EXCLUSIONS:

Fire resistive assemblies and acoustical performance is not covered under this listing.

All electrical installations, plumbing and gas/propane systems, other than those described above are outside of the scope of this listing. For wall and floor panels refer to dedicated section.
This listing does not include wall panels intended to be used in multi-residential buildings such as hotels and motels, requiring shared egress facilities. It does not address panelized products for use in industrial, commercial, and office buildings, stores, hospitals, classrooms, and daycares and/or any buildings designed with multiple major occupancies.
CONDITIONS OF VALIDITY:
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The field erection sequencing must be in strict accordance with the manufacturer's installation instructions and the applicable building code. In the event of a conflict between the manufacturer's installation instructions and code requirements, code stipulations shall govern. Approved construction documents shall be available at all times on the jobsite during installation.