QAI LABORATORIES
U.S.A: 888.540.4024
CANADA: 877.461.8378
LOCATIONS: WWW.QAI.ORG/LOCATIONS

QAI LISTING REC782-2, Edition 1
MAD Building Technologies Inc.
WALL PANELS evaluated under CSA A277 & Part 9 of Ontario Building Code

For evaluation of wall panels: W1; W2; W2a; W2b; W3; W3a; W3b; W4; W4a; W4b refer to attached Appendix A for construction details

No.	COMPONENT	DESCRIPTION			
1.	Cladding (Optional)	Product:	Vinyl, Metal Cladding, Fiber Cement Cladding		
		Certification:	Vinyl Siding certified per CAN/CGSB-41.24		
			Sheet steel cladding (minimum thickness of 0.3mm) certified per CAN/CGSB-93.3-M		
			Aluminum sheet cladding certified per CAN/CGSB-93.1-M		
			Fiber Cement Cladding certified per CCMC TG, ASTM C1186 or equivalent		
2.	Wood Frame	Framing:	Dimensional Lumber (SPF)	Minimum 2x4	(W1; W2; W3; W4) (1) (W2a; W3a; W4a) (2) (W2b; W3b; W4b) (3)
			Structural Composite Lumber (SCL)	Use of SCL, done under Part 4 of NBC, is approved by a registered professional engineer and is equivalent to the above SPF framing.	
		Certification:	SPF	Grade Stamp: Stud or better as required by design	
			SCL	CCMC report or equivalent	
		Stud spacing:	Maximum 24” (600 mm) OC		
		Stud Fasteners:	Based on SPF: 2 nails, Ø 0.131" x 3-1/4” per stud end for all dimensions, 3 nails, Ø 0.120" x 3-1/4” per stud end for all dimensions, or 2 construction screws, #8 x 3”		
3.	Insulation (Optional for W1)	Product:	Mineral Wool Batts, Glass Wool Batts, Spray Polyurethane Foam		
		R Value:	As indicated on QAI’s Specification Nameplate		
		Certification:	Mineral and Glass Wool Batts certified per CAN/ULC-S702		
			Spray Polyurethane Foam certified per CAN/ULC-S705		
4.	Sheathing	Product:	Plywood Panel, OSB Panel, ZIP System Sheathing, Fiberboard Panel, Gypsum Board (1 or 2 layers)		
		Thickness:	Minimum 7/16” (11.11 mm)		
		Certification:	Plywood Panel certified per CSA O151		
			OSB Panel certified per CSA O325		
			ZIP System Sheathing certified per ESR-1474		
			Fiberboard certified per CAN/ULC-S706		
			Gypsum Board certified per ASTM C1178/ C1178M or ASTM C1396/ C1396M		
		Fasteners:	Nails 2” (50mm) × 0.113 min; 6” (150mm) on perimeter & 12” (300mm) on intermediate studs		
			Construction screws #8×2 in (50mm) min		
			Drywall Screws #6 – 1.625” (15.8mm) min		
5.	Rigid Insulation (Optional)	Product:	Extruded Polystyrene (XPS) or Expanded Polystyrene (EPS) Boards, ZIP System R-Sheathing		
		R value:	Minimum R5		
		Certification:	XPS & EPS certified per CAN/ULC-S701		
			ZIP System R-Sheathing certified per ESR-3373		

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.

6.	Weather Resisting Barrier (Building Wrap)	Product:	Spun-Bonded Polyolefin (SBPO); Self-Adhesive Membrane; Liquid-Applied Air Barrier Material; ZIP System Sheathing and ZIP System R-sheathing	
		Certification:	SBPO, Self-Adhesive Membrane & Liquid-Applied Air Barrier Material certified to CAN/CGSB-51.32-M or CCMC report or equivalent	
			ZIP System Sheathing certified per ESR-1474	
			ZIP System R-Sheathing certified per ESR-3373	
7.	Furring (Optional)	Product:	Wood Furring or Metal Resilient Channel	
		Location:	Interior face	all walls
			Exterior face	W1, W4, W4a, W4b
		Type:	Wood furring:	1” x 3” (19 x 64 mm)
			Metal Resilient Channel:	Bailey Metal Products RC Plus and D-10001
		Spacing:	At maximum 24” (600 mm) OC	
		Certification:	Metal resilient Chanel per CSA S136	
		Fasteners:	2 nails per stud: 0.113 x 2” min; Minimum penetration 1-1/2” (38mm)	
8.	Vapour Barrier	Product:	Minimum 0.15mm (6-Mil) Polyethylene Sheet	
		Certification:	Certified pet CAN/CGSB-51.34-M	

ELECTRICAL INSTALLATIONS

Structural panels included in this Listing may have electrical wiring and junction/outlet boxes installed for typical household applications. The Listing does not include the installation of appliances or equipment.

PLUMBING INSTALLATIONS

Structural panels included in this Listing may have plumbing pipes and connections installed. The Listing does not include the installation of appliances or equipment.

EXCLUSIONS

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

All windows, doors, gas systems components, plumbing and electrical equipment other than those described above are outside of the scope of this listing. For roof and floor 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.

Notes:

(1) Any design outside of Section 9.23 of OBC is done by a registered professional engineer under Part 4.

(2) Under Part 9 of OBC, it is acceptable only for gable ends (i.e. no load on wall and no finishing on inside) or non-load bearing interior partitions. For any other uses, approval by a registered professional engineer is required.

(3) This design is done under Part 4 of OBC and is approved by a registered professional engineer.

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.

WWW.QAI.ORG
info@qai.org

QAI LISTING REC782-2, Edition 1
MAD Building Technologies Inc.
FLOOR PANELS evaluated under CSA A277 & Part 9 of Ontario Building Code

For evaluation of floor panels: H1; H2; H3 refer to attached Appendix A for construction details					
No.	**COMPONENT**	**DESCRIPTION**			
1.	**Finishing** (Optional)	Product	Flooring finish : Hardwood, Laminate, Luxury Vinyl Plank/Tiles		
			Certification: n/a		
2.	**Subfloor**	Product:	Plywood Panel T&G; OSB Panel T&G; ZIP System Sheathing		
		Thickness:	Minimum 19/32” (15 mm)		
		Certification:	Plywood Panel certified per CSA O151		
			OSB Panel certified per CSA O325		
			ZIP System Sheathing certified per ESR-1474		
		Fasteners:	Nails: 2” (50mm) × 0.113 min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists		
			Floor screws #8×1-1/2” (89mm) min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists		
3.	**Wood Frame**	Framing:	Floor Joists	Dimensional Lumber (SPF)	Minimum 2x8 Spans as per OBC Tables A-1 & A-2
				I-Joists	Minimum 9.25” (235mm)
				Structural Composite Lumber (SCL)	Minimum 9.5” (241mm)
			Rim Joist	SPF	Minimum 2x8 / to suite floor joist height
				SCL	Minimum 9.5” (241mm) / to suite floor joist height
		Limitation:	Design outside of NBC, art. 9.23.1.1 is done by registered professionals under Part 9 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		
4.	**Insulation** (Optional)	Product:	Mineral Wool Batts, Glass Wool Batts, Spray Polyurethane Foam		
		R Value:	As indicated on QAI’s Specification Nameplate		
		Certification:	Mineral Wool certified per CAN/ULC-S702		
			Spray Polyurethane Foam certified per CAN/ULC-S705		
5.	**Bottom Sheathing** (Optional for H2 &H3)	Product:	Plywood Panel; OSB Panel; Fiberboard Panel; Gypsum Board		
		Thickness:	Plywood / OSB/ Fiberboard Panel:	Minimum 7/16” (11.11 mm)	
			Gypsum Board (1 or 2 layers) :	Minimum 1/2” (12.7 mm)	
		Certification:	Plywood Panel certified per CSA O151		
			OSB Panel certified per CSA O325		
			Fiberboard Panel certified per CAN/ULC-S706		
			Gypsum Board certified per ASTM C1178/ C1178M or ASTM C1396/ C1396M		

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.

WWW.QAI.ORG
info@qai.org

		Fasteners:	Plywood / OSB/ Fiberboard Panel:	Nails: 2” (50mm) × 0.113 min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists
			Gypsum Board:	Screws: 2” (50mm) #6 screws min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists
6.	**Rigid Insulation** (Optional for H3)	Product:	Extruded Polystyrene (XPS) or Expanded Polystyrene (EPS) Boards, ZIP System R-Sheathing	
		R value:	Minimum R5	
		Certification:	XPS & EPS certified per CAN/ULC-S701	
			ZIP System R-Sheathing certified per ESR-3373	
7.	**Furring** (Optional for H2)	Product	Wood Furring or Metal Resilient Channel	
		Location:	Bottom of H2	
		Size:	Wood furring:	1” x 3” (19 x 64 mm)
			Metal Resilient Channel:	Bailey Metal Products RC Plus and D-10001
		Spacing:	At maximum 24” (600 mm) OC	
		Certification:	Metal resilient Chanel per CSA S136	
		Fasteners:	2 nails per stud: 0.113 x 2” min; Minimum penetration 1-1/2” (38mm) min	
8.	**Vapour Barrier** (Optional for H2[(1)] & H3)	Product:	0.15mm (6-Mil) Polyethylene Sheet	
		Standard:	Certified to CAN/CGSB-51.34-M	
9.	**Sheathing Membrane / Building Wrap** (Optional for H3)	Product:	Spun-Bonded Polyolefin (SBPO); Self-Adhesive Membrane Liquid-Applied Air Barrier Material	
		Standard:	SBPO, Self-Adhesive Membrane & Liquid-Applied Air Barrier Material certified to CAN/CGSB-51.32-M or CCMC report or equivalent	

ELECTRICAL INSTALLATIONS

Structural panels included in this Listing may have electrical wiring and junction/outlet boxes installed for typical household applications. The Listing does not include the installation of appliances or equipment.

PLUMBING INSTALLATIONS

Structural panels included in this Listing may have plumbing pipes and connections installed. The Listing does not include the installation of appliances or equipment.

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.

Note:

(1) Vapour Barrier is acceptable in this location only for panels that do not separate the conditioned space from the unconditioned space, the exterior air or the ground.

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.

WWW.QAI.ORG
info@qai.org

QAI LISTING REC782-2, Edition 1
MAD Building Technologies Inc.
ROOF PANELS evaluated under CSA A277 & Part 9 of Ontario Building Code

For evaluation of roof panels: R1; R2 refer to attached Appendix A for construction details					
No.	**COMPONENT**	**DESCRIPTION**			
1.	**Finishing** (Optional)	Product	Roofing finish : Metal or Asphalt Roofing and/or roofing underlayment		
			Certification: Asphalt Singles certified per CSA A123.1/A123.5		
2.	**Roof Sheathing**	Product:	Plywood Panel; OSB Panel; ZIP System Sheathing		
		Thickness:	Minimum 7/16” (11.1 mm)		
		Certification:	Plywood Panel certified per CSA O151		
			OSB Panel certified per CSA O325		
			ZIP System Sheathing certified per ESR-1474		
		Fasteners:	Nails: 2” (50mm) × 0.113 min 6” (150mm) on perimeter & 12” (300mm) on intermediate joists		
			Floor screws #8×1-1/2” (89mm) min 6” (150mm) on perimeter & 12” (300mm) on intermediate joists		
3.	**Rigid Insulation** (Optional for R2)	Product:	Extruded Polystyrene (XPS) or Expanded Polystyrene (EPS) Boards, ZIP System R-Sheathing		
		R value:	Minimum R5		
		Certification:	XPS & EPS certified per CAN/ULC-S701		
			ZIP System R-Sheathing certified per ESR-3373		
4.	**Wood Frame**	Framing:	Roof Joists	Dimensional Lumber (SPF)	Minimum 2x8 Spans as per OBC Tables A-4 & A-5
				Structural Composite Lumber (SCL)	Minimum 9.5” (241mm)
				I-Joists	Minimum 9.25” (235mm)
		Limitation:	Design outside of NBC, art. 9.23.1.1 is done by registered professionals under Part 9 or Part 4		
		Certification:	SPF	Grade Stamp: Grade 2 or better as required by design	
			SCL	CCMC report or equivalent	
			I-Joists	CCMC report or equivalent	
		Live load:	Specified roof snow load as indicated on QAI’s Specification Nameplate		
		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		
5.	**Insulation** (Optional)	Product:	Mineral Wool Batts, Glass Wool Batts, Spray Polyurethane Foam		
		R Value:	As indicated on QAI’s Specification Nameplate		
		Certification:	Mineral Wool certified per CAN/ULC-S702		
			Spray Polyurethane Foam certified per CAN/ULC-S705		
6.	**Furring** (Optional for R2)	Product	Wood Furring or Metal Resilient Channel		
		Location:	Bottom of R2		
		Size:	Wood furring:	1” x 3” (19 x 64 mm)	
			Metal Resilient Channel:	Bailey Metal Products RC Plus and D-10001	
		Spacing:	At maximum 24” (600 mm) OC		

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.

WWW.QAI.ORG
info@qai.org

		Certification:	Metal resilient Chanel per CSA S136	
		Fasteners:	2 nails per stud: 0.113 x 2” min; Minimum penetration 1-1/2” (38mm)	
7.	**Vapour Barrier** (Optional for R2)	Product:	0.15mm (6-Mil) Polyethylene Sheet	
		Standard:	Certified to CAN/CGSB-51.34-M	
8.	**Bottom Sheathing** (Optional for R2)	Product:	Plywood Panel; OSB Panel; Fiberboard Panel; Gypsum Board	
		Thickness:	Plywood / OSB/ Fiberboard Panel:	Minimum 7/16” (11.11 mm)
			Gypsum Board (1 or 2 layers) :	Minimum 1/2” (12.7 mm)
		Certification:	Plywood Panel certified per CSA O151	
			OSB Panel certified per CSA O325	
			Fiberboard certified per CAN/ULC-S706	
			Gypsum Board certified per ASTM C1178/ C1178M or ASTM C1396/ C1396M	
		Fasteners:	Plywood / OSB/ Fiberboard Panel:	Nails: 2” (50mm) × 0.113 min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists
			Gypsum Board:	Screws: 2” (50mm) #6 screws min; 6” (150mm) on perimeter & 12” (300mm) on intermediate joists

ELECTRICAL INSTALLATIONS

Structural panels included in this Listing may have electrical wiring and junction/outlet boxes installed for typical household applications. The Listing does not include the installation of appliances or equipment.

PLUMBING INSTALLATIONS

Structural panels included in this Listing may have plumbing pipes and connections installed. The Listing does not include the installation of appliances or equipment.

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 floor 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

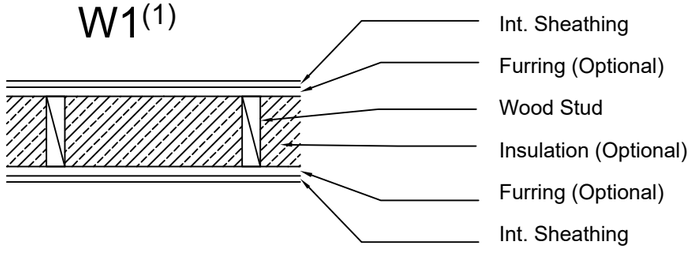
This listing is based on the assumption that no fundamental changes are made to the product described in this listing and engineering designs.

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.

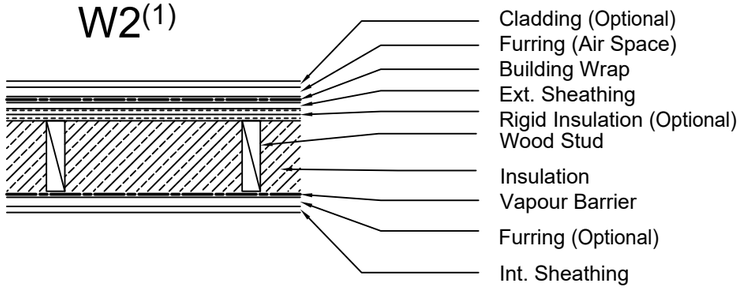
The field erection sequencing must be in strict accordance with the manufacturer’s installation instructions and the applicable building code. In the event of a conflict between the manufacturer’s installation instructions and code requirements, code stipulations shall govern. Approved construction documents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

Appendix A Types of Wall Panels

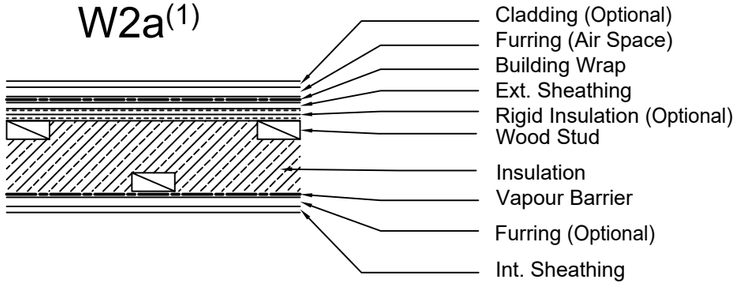
W1(1)



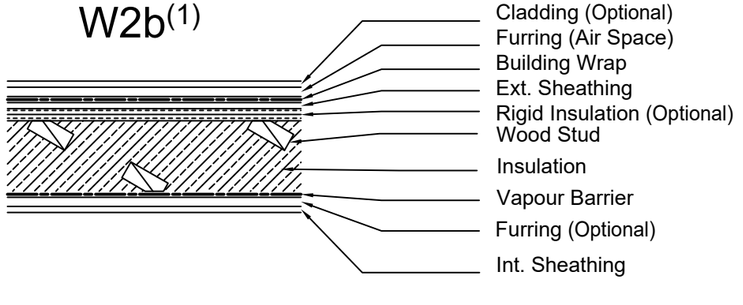
W2(1)



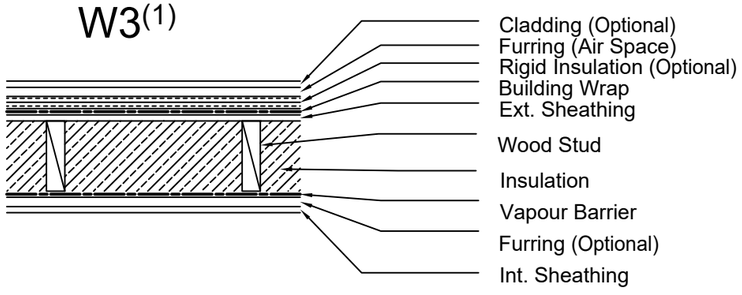
W2a(1)



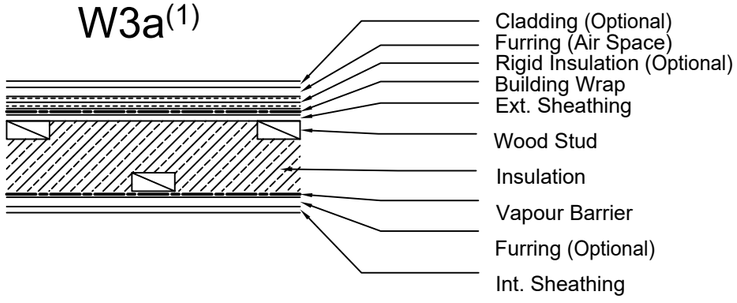
W2b(1)



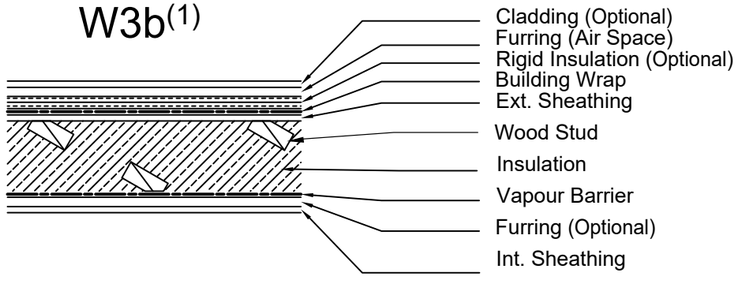
W3(1)



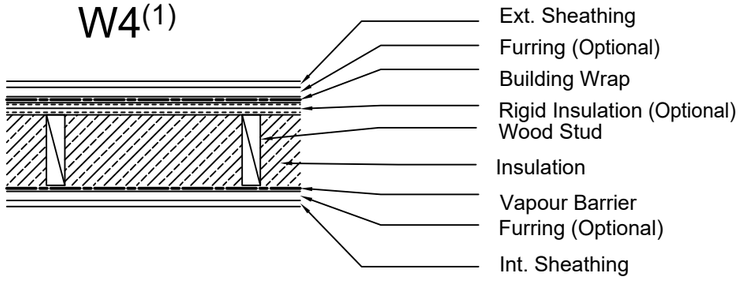
W3a(1)



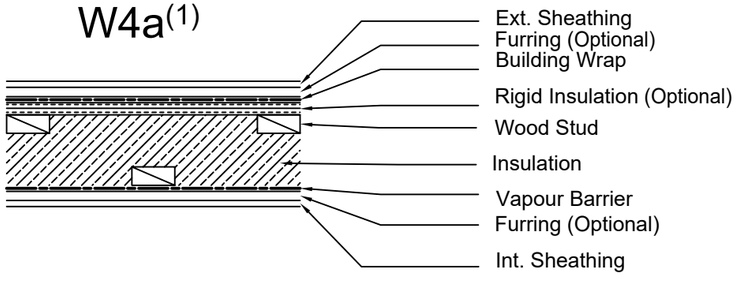
W3b(1)



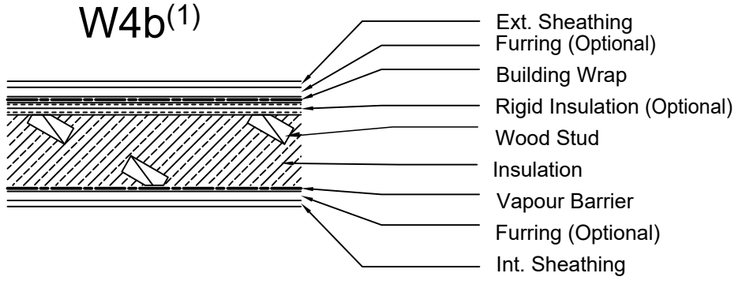
W4(1)



W4a(1)



W4b(1)

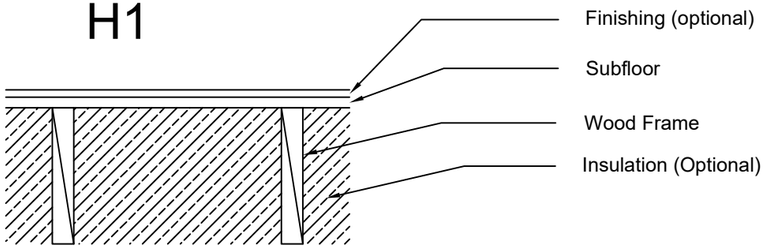


Note:

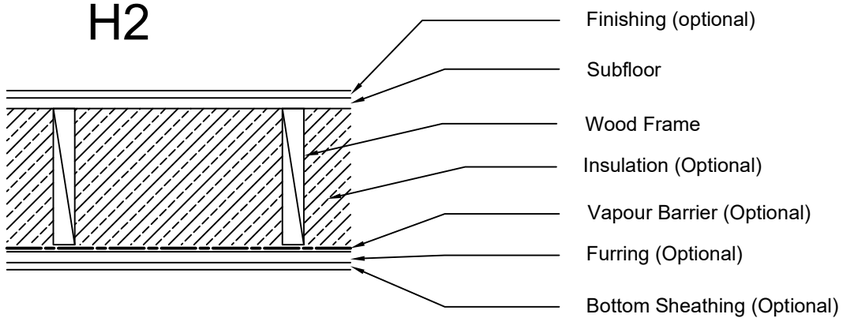
(1) For more details about the type of panels, please refere to manufacturer drawings.

Types of floor and roof panles

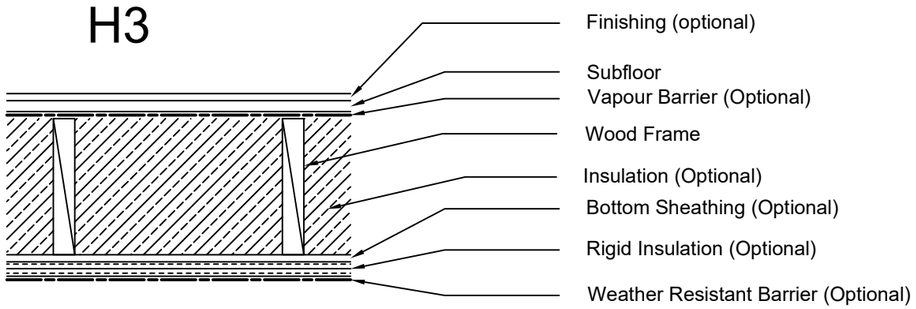
H1



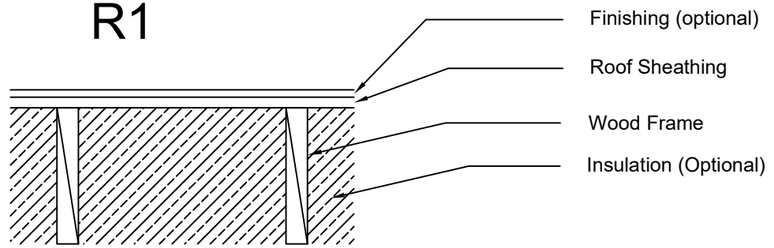
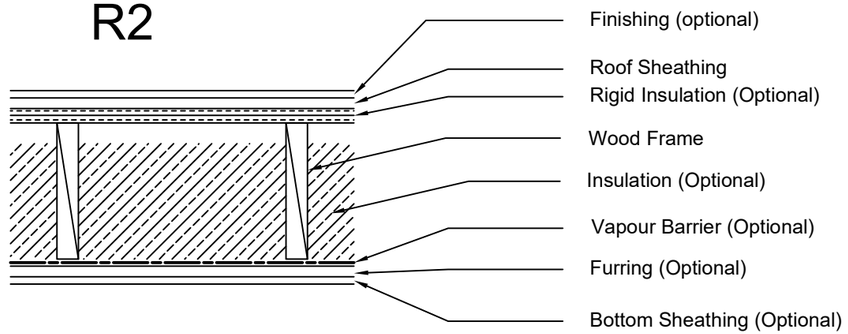
H2



H3



R1



R2