VANCOUVER, BC: 877.461.8378 ph. | 604.527.8368 fx.
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WASHINGTON, DC: 540.636.9445 ph. | 540.636.9414 fx.
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TORONTO, ON 416.550.9280
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BUILDING PRODUCTS LISTING PROGRAM

Customer: Intelligent City, Inc.
Class: Cross-Laminated Timber (CLT) Wood Roof Panels
Location: Delta, British Columbia
Website: www.intelligent-city.com

Listing No. B1139-1
Project No. B1139-1, Edition 1
Effective Date: October 25, 2022
Last Revised Date: October 25, 2022
Expires: N/A

Standards:

CAN/ULC S101	*Standard Methods of Fire Endurance Tests of Building Construction Materials*.
ASTM E119	*Standard Test Methods for Fire tests of Building Construction and Materials*.
CAN/ULC S115	*Standard Method of Fire Tests of Firestop Systems*.
ASTM E814	*Standard Test Method of Fire Tests of Penetration Firestop Systems*.

Product: Intelligent City Floor Cassette Prefabricated Mass Timber Panels

Markings: Product is marked with labels that include the following information:

a) Manufacturer's name.
b) Product name.
c) Traceability code.
d) QAI File Number

Labels are applied to finished products to ensure visibility on the jobsite.

Ratings: **The following outlines Intelligent City Mass Timber Floor Cassette results determined through testing to the noted standards.**

QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

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Intelligent City Floor Cassette Fire-Resistance Rated Assembly:

QAI DESIGN #	FIRE-RESISTANCE RATING	ASSEMBLY
B1139-1a	2 hours – Unrestrained Load-Bearing[1]	**Interior Finish**: 5-Ply Cross-Laminated Timber (CLT) of minimum 120 mm (4.75 inches) thickness complying with PRG-320. **Framing Members:** Minimum 200 mm (8 inches) depth, 51 mm (2 inches) width mass timber framing members complying with PRG-320. Framing members are factory assembled into floor cassette in accordance with Intelligent City's approved quality system. Framing members positioning is in accordance with Engineering design for site. **Insulation:** Minimum 51 mm (2 inches) depth mineral wool batt insulation complying as non-combustible, in accordance with local jurisdictions. Insulation is friction fit between framing members over the CLT mass timber ceiling panel. **Subfloor:** 51 mm (2 inches) depth, mass timber subfloor complying with PRG-320. The subfloor is installed to the underlying mass timber framing members in accordance with Intelligent City's approved quality system. **Floor Covering (Optional):** Floor finishes approved for use over Intelligent City floor cassettes include concrete topping, gypcrete, and encapsulation materials complying for use with the appropriate model code approved for use as floor coverings.

Note 1: Intelligent City Floor Cassettes are approved for use at 100% load-bearing capacity determined in accordance with CSA 086 principles of limit states design. Where Load-Resistance Factor Design (LRFD) or Allowable Stress Design (ASD) are used, applicable load carrying capacity adjustments are required.

Intelligent City Floor Cassette Firestop Penetration Systems Fire-Resistance Ratings determined in accordance with CAN/ULC S115 and ASTM E814:

QAI DESIGN #	FIRE-RESISTANCE RATING[1]			ASSEMBLY
	F	T	H	
B1139-1b	120	120	120	Maximum 76 mm (3 inch) cast iron or copper pipe through penetration, centered in maximum 126 mm (5 inch) diameter opening in bottom CLT membrane and centered in a top 101 mm (4 inch) diameter opening in the upper mass timber layer. Bottom CLT layer 25 mm (1 inch) annular space is required firestopped with tightly packed mineral wool and 25 mm (1 inch) depth PFP Partners Firestop 3600 EX listed fire caulking. Upper mass timber 13 mm (1/2 inch) annular space is required firestopped with tightly packed mineral wool.
B1139-1c	120	120	120	Maximum 76 mm (3 inch) cast iron or copper pipe through penetration, centered in maximum 126 mm (5 inch) diameter opening in bottom CLT membrane and centered in a top 101 mm (4 inch) diameter opening in the upper mass timber layer. Bottom CLT layer annular space of 25 mm (1 inch) is required firestopped with tightly packed mineral wool and 25 mm (1 inch) depth PFP Partners Firestop 3600 EX listed fire caulking. Upper mass timber annular space of 13 mm (1/2 inch) is required firestopped with tightly packed mineral wool.

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B1139-1d	120	120	120	Maximum 102 mm x 152 mm (4 inch x 6 inch) sheet metal duct membrane penetration through upper mass timber layer, centered in 127 mm x 178 mm (5 inch x 7 inch) rectangular hole leaving 13 mm (1/2 inch) annular space.
B1139-1e	120	120	120	125 mm x 95 mm x 87 mm (5 inch x 3.75 inch x 3.5 inch) wiremold floor box penetration through upper mass timber layer, centered in 130 mm x 100 mm (5.25 inch x 4 inch) rectangular hole leaving maximum 5 mm (0.25 inch) annular space. Circular floor box penetration (Combustible or non-combustible) with a diameter up to 6", with an annular space of 0.25 inches or less. The annular space is fully sealed with non-fire rated silicone sealant.
B1139-1f	120	120	120	Maximum 51 mm (2 inch) shower drain membrane penetration through upper mass timber layer, centered in 76 mm (3 mm) opening with 13 mm (1/2 inch) annular space. Annular space contains minimum 52mm (2 Inch) mineral wool.
B1139-1g	120	120	120	Maximum 25 mm (1 inch) diameter metal electrical conduit membrane penetrations through lower CLT layer, centered in 51 mm (1 inch) opening with 13 mm (1/2 inch) annular space. Annular space is required firestopped with tightly packed minimum 100 mm (4 inches) depth ceramic fiber, with 13 mm (1/2 inch) depth 3M fire barrier listed fire caulking installed flush with bottom CLT layer face, and minimum 51mm (2 Inch) Mineral Wool in the Cavity.

Notes: Final acceptance of the product in the intended application is to be determined by the authority having jurisdiction.

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