BUILDING PRODUCTS LISTING PROGRAM

Class:	Insulated Concrete Forms (ICF)
Customer:	LOGIX Insulated Concrete Forms, Ltd.
Location:	9242 Pinetree Place, Whistler, BC, Canada, V0N 1B9
Website:	www.LOGIXicf.com
Listing No.	B1031-1
Effective Date:	September 27, 2010
Last Revised:	May 27, 2014
Expires:	N/A
Product:	LOGIX Insulated Concrete Forms (ICF)
Standard(s):	ASTM E2634 "Standard Specification for Flat Wall Insulating Concrete Form (ICF) Systems". CAN/ULC S717.1 "Standard for Flat Wall Insulating Concrete Form (ICF) Systems". CAN/ULC S701 "Thermal Insulation, Polystyrene, Boards and Pipe Covering". CAN/ULC S102.2 "Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies". ASTM C578 "Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation". ASTM E84 - "Standard Test Method for Surface Burning Characteristics of Building Materials". UBC 26-3 "Room Fire Test Standard For Interior of Foam Plastic Systems". CAN/ULC-S101 "Standard Methods of Fire Endurance Tests of Building Construction and Materials". ASTM E119 / ANSI / UL 263 "Standard Test Methods for Fire Tests of Building Construction and Materials".
Label:	**Product is marked with labels supplied by LOGIX Insulated Concrete Forms, Ltd. The label includes the manufacturer's name, trademark, or other recognized symbol of identification, the product model designation, month and year of manufacture or equivalent, QAI logo with the 'US' and "C" identifier, and CAN/ULC S701 Type 2, ASTM C578 Type II, ASTM E84 FSI and SDI Rating, and CAN/ULC S102.2 FSI and SDI Rating. Labels are applied to palletized finished products to ensure visibility on the jobsite.**
Ratings:	The following outlines LOGIX ICF test results determined in accordance with the noted standards.

LOGIX ICF Fastener Resistance Ratings

FASTENER	ALLOWABLE WITHDRAWAL		ALLOWABLE LATERAL SHEAR	
	lbs	kg	lbs	kg
#6 1 ¼ inch Length Coarse Thread Drywall Screw	23	10	59	26

LOGIX ICF Type 2 Specifications per CAN/ULC S701

PROPERTY	LOGIX SPECIFICATION
Thermal Resistance m^2*^oC/W at 25 mm Thickness	Minimum 0.70
Water Vapour Permeance $Ng/Pa*s*m^2$ at 25 mm Thickness	Maximum 200
Dimensional Stability % Linear Change	Maximum 1.5
Flexural Strength kPa	Minimum 240
Water Absorption % Volume	Maximum 4.0
Compressive Strength kPa at 10% Deformation	Minimum 110
Limiting Oxygen Index %	Minimum 24

LOGIX ICF Type II Specifications per ASTM C578

PROPERTY	LOGIX SPECIFICATION
Compressive Resistance psi at Yield or 10% Deformation	Minimum 15.0
Thermal Resistance $F*ft^2*h/Btu$ at 1.00 Inch Thickness	Minimum 4.0
Flexural Strength psi	Minimum 35.0
Water Vapor Permeance Perms at 1.00 Inch Thickness	Maximum 3.5
Water Absorption % Volume	Maximum 3.0
Dimensional Stability % Change Dimensions	Maximum 2.0
Oxygen Index % Volume	Minimum 24.0
Density lbs/ft^3	Minimum 1.35

LOGIX ICF Surface Burning Characteristics per CAN/ULC S102.2

LOGIX COMPONENT	DENSITY	MAXIMUM THICKNESS	FLAME SPREAD INDEX (FSI)	SMOKE DEVELOPED INDEX (SDI)
Expanded Polystyrene (EPS Panel)	22 – 29 kg/m3	100 mm Maximum	≤ 210	≥ 500

LOGIX ICF Surface Burning Characteristics per ASTM E84[1]

LOGIX	DENSITY	MAXIMUM	FLAME	SMOKE

COMPONENT		THICKNESS	SPREAD INDEX (FSI)	DEVELOPED INDEX (SDI)
Expanded Polystyrene (EPS Panel)	1.35 – 1.80 lbs/ft^3	4.0 Inches Maximum	≤ 75	≤ 450

[1]Ceiling Measurement Only. This measurement is conducted through determination of flame spread index and smoke developed index with the removal of any contribution of molten materials ignited on the floor of the tunnel assembly.

LOGIX UBC 26-3 Configuration

Meets requirements with ½ inch thickness gypsum fastened with 2 ¼ inch length standard drywall screws at 12 inch on center. Fasteners must be anchored into LOGIX ICF web ties.

QAI Design Listing B1031-1 LOGIX Insulated Concrete Form (ICF) – CAN/ULC S101 / ASTM E119
Load Bearing Fire-Resistance-Rated Wall Assembly[1]

ASSEMLY RATING (Hours)	MINIMUM CONCRETE CORE THICKNESS (MM)	MINIMUM CONCRETE CORE THICKNESS (INCHES)
2	102	4
3	159	6.25
4	204	8

(See pdf Attachment)

NO.	COMPONENT	DESCRIPTION
1	Interior Sheathing	Minimum ½ inch (12 mm) thickness ASTM C1396 listed gypsum wall board, installed with 51 mm (2 inch) length drywall screws spaced at 406 mm (16 inches) on center horizontally and vertically. For 6 ¼ inch concrete LOGIX ICF product used in load bearing fire-resistance-rated wall assemblies, listed 16 mm (5/8 inch) thickness Type X gypsum wall board complying with ASTM C1396 is required fastened as noted above. Gypsum is required to be taped and mudded per industry standard and the applicable model code.
2	Expanded Polystyrene (EPS) Insulation	LOGIX ICF component 70 mm (2 ¾) inch thickness Type 2 (CAN/ULC S701) / Type II (ASTM C578) QAI certified expanded polystyrene thermal insulation. LOGIX ICF EPS panels have interlocking teeth to allow stacking onsite to create the forming wall.
3	Web Ties	LOGIX polypropylene web tie component, spaced at 203 mm (8 inches) on center spacing through LOGIX ICF. Web ties can be stacked or staggered vertically during installation (staggered web tie system shown).
4	Concrete Core	Minimum core as noted in Table above of 20 MPa (2,900 psi) compressive strength concrete. Steel reinforcing, while not shown, is approved for use. Rebar addition is to be designed and approved by a registered design professional, or authority having jurisdiction in accordance with the applicable code

		requirements.
5	Exterior Cladding (Not Shown)	Exterior claddings are approved for use with the LOGIX ICF load bearing fire-resistance-rated wall assemblies without negatively impacting the fire rating. These exterior claddings include: brick veneer, stucco, fire rated exterior insulating finish systems where no additional EPS is added, cultured stone, aluminum and steel products. All exterior claddings are to be installed with the applicable building code, and the manufacturer's approved installation instructions.

Note 1: The allowable load for LOGIX ICF Load Bearing Fire-Resistance-Rated Construction is to be determined by a registered design professional, or authority having jurisdiction in accordance with the applicable codes.

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

Product is to be installed in accordance with the manufacturer's published installation instructions by qualified installing personnel.

The materials, products or systems listed herein have been qualified to bear the QAI Listing Mark under the conditions stated with each Listing. Only those products bearing the QAI Listing Mark are considered to be listed by QAI.

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FORM History

History Date	Version	Change Description	Reviewed By	Approved By
04/17/2014	3.0	Added disclaimer to form.	J. Johnson	K. Adamson