

BUILDING PRODUCTS LISTING PROGRAM

Customer: Logix Brands, Ltd.
Class: Insulated Concrete Forms (ICF)
Location: Whistler, BC Canada
Website: www.logixbrands.com
Listing No. B1031-1
Project B1031-1, Edition 4
No.
Effective Date: September 27, 2010
Date:
Last Revised: March 12, 2024

Standards: CAN/ULC S717.1 *Standard for Flat Wall Insulating Concrete Form (ICF) Systems.*
ASTM E2634 *Standard Specification for Flat Wall Insulating Concrete Form (ICF) Systems.*
ASTM D1761 *Standard Test Methods for Mechanical Fasteners in Wood and Wood-Based Materials.*
CAN/ULC S701.1 *Thermal Insulation, Polystyrene, Boards and Pipe Covering.*
ASTM C578 *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.*
CAN/ULC S102.2 *Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings, and Miscellaneous Materials and Assemblies.*
ASTM E84 *Standard Test Method for Surface Burning Characteristics of Building Materials.*
ASTM D2843 *Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics*
UL 1715 *Fire Test of Interior Finish Material*
ASTM D635 *Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.*
ASTM D1929 *Standard Test Method for Determining Ignition Temperature of Plastics.*
ASTM E119 *Standard Test Methods for Fire Tests of Building Construction and Materials.*
CAN/ULC S101 *Standard Methods of Fire Endurance Tests of Building Construction and Materials.*
UL 263 *Standard for Fire Tests of Building Construction and Materials.*

Product: Insulated Concrete Forms (ICF) are available in the following Models:

- Logix ICF
- Element™ ICF

Markings: Product is marked with labels supplied by Logix Brands Ltd. Products are marked in a permanent manner where it is readily visible after installation with the following:

- a) Manufacturer’s name or trademark
- b) Product model designation
- c) Month and year of manufacture
- d) QAI file Number: B1031-1
- e) CAN/ULC S701.1 Type 2, ASTM C578 Type II,
- f) ASTM E84 FSI and SDI Rating (FSI ≤ 25 / SDI ≤ 450) and
- g) CAN/ULC S102.2 FSI and SDI ratings (FSI ≤ 230 / SDI ≥ 500).
- h) QAI logo shown here:



Models / **Logix and Element™ ICF complies with specifications for flat-walled ICF in**
 Ratings: **accordance with CAN/ULC S717.1.**

Logix and Element™ ICF complies with specifications for flat-walled insulated concrete forms in accordance with ASTM E2634.

Logix and Element™ ICF cross ties have a spontaneous ignition temperature ≥ 650°F when evaluated in accordance with ASTM D1929.

Logix ICF cross ties have a rate of burning of CC2 and Element™ ICF cross ties have a rate of burning of CC1 when evaluated in accordance with ASTM D635.

Logix and Element™ ICF cross ties have smoke density index < 75 when evaluated in accordance with ASTM D2843.

Logix ICF has the following allowable fastener load capacities determined in accordance with CAN/ULC S717.1 / ASTM E2634 following ASTM D1761:

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

Element™ ICF has the following allowable fastener load capacities determined in accordance with CAN/ULC S717.1 / ASTM E2634 following ASTM D1761:

FASTENER	ALLOWABLE WITHDRAWAL		ALLOWABLE LATERAL SHEAR	
	lbs	kg	lbs	kg
#6 1-5/8inch Length Coarse Thread Drywall Screw.	37	16.8	40	18.2
#6 1-5/8inch Length Fine Thread Drywall Screw.	33.9	15.4	21	9.6
#8 x 2" Wood Screw	40	18.2	46	20.8
#10 x 2" Wood Screw	42.1	19.1	30	13.5
#8 x 2" Exterior Deck Screw	42.3	19.2	56	25.2

Fasteners are to penetrate through flange of cross-tie at minimum 19 mm (3/4-inch).

Logix and Element™ ICF Expanded Polystyrene (EPS) Thermal Insulation Type 2 Specifications per CAN/ULC S701.1

PROPERTY	LOGIX ICF EPS SPECIFICATIONS
Thermal Resistance m ² *°C/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 and Element™ ICF EPS Thermal Insulation Type II Specifications per ASTM C578

PROPERTY	LOGIX ICF EPS SPECIFICATIONS
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 and Element™ 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/m ³	100 mm Maximum	≤ 250	≥ 500

Logix and Element™ ICF Surface Burning Characteristics per ASTM E84¹

LOGIX COMPONENT	DENSITY	MAXIMUM THICKNESS	FLAME SPREAD INDEX (FSI)	SMOKE DEVELOPED INDEX (SDI)
Expanded Polystyrene (EPS Panel)	1.35 – 1.65 lbs/ft ³	4.0 Inches Maximum	≤ 25	≤ 450

¹Ceiling 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 ICF / Element™ ICF UL 1715 Configuration

Meets requirements with ½ inch thickness gypsum fastened with 2-¼ inch length standard drywall screws at 12 inches on center spacing in the field and around the perimeter. Fasteners must be anchored into Logix and Element™ ICF web ties.

Logix and Element™ ICF CAN/ULC S101, UL 263, ASTM E119 Fire-Resistance Rated Load-Bearing Wall Assemblies¹

QAI Design #	Wall Type	Wall Thickness Inches (mm)	Rating
B1031-1	Logix ICF with interior ½-inch (13 mm) gypsum board complying with ASTM C1396.	4 (102)	2
		6.25 (159)	3
		6.25 ² (159)	4
		8 (203)	4
	Element™ ICF with interior 1/2-inch (13 mm) gypsum board complying with ASTM C1396.	4 (102)	2
		6 (152)	3
		8 (203)	4

Note 1: The above Logix and Element™ ICF fire-resistance rated wall assemblies allowable load are to be determined by a registered design professional, or authority having jurisdiction in accordance with the applicable codes.

Note 2: 5/8-inch (16 mm) Type X gypsum board replacing noted ½" (13 mm) gypsum is required to meet the 4-hour fire-resistance rating as outlined in QAI design listing B1031-1.

Notes: 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 and the applicable code. Also see QAI CER_{US}-1005

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