QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

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BUILDING PRODUCTS LISTING PROGRAM

Customer:	Superform Products, Ltd.
Class:	Insulated Concrete Forms (ICF)
Location(s):	Pincher Creek, Alberta Cincinnati, OH
Website:	www.superformicf.ca
Listing No.	B1051-1
Project No.	B1051-1, Edition 5
Effective Date:	July 25, 2012
Last Revised:	January 30, 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*
	UBC-26-3	*Room Fire Test Standard for Interior of Foam Plastic Systems.*
	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.*

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Product: Superform Insulated Concrete Forms (ICF)

Markings: Product is marked with labels supplied by Superform. 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: B1051-1
e) CAN/ULC S701.1 Type 2, ASTM C578 Type II
f) ASTM E84 FSI and SDI Rating (FSI < 25, SDI < 450)
g) CAN/ULC S102.2 FSI and SDI ratings (FSI < 210, SDI < 450).
h) QAI logo shown here:

Models / Ratings: The following outlines Superform ICF test results determined in accordance with the noted standards.

Superform ICF complies with specifications for flat-walled ICF in accordance with CAN/ULC S717.1.

Superform ICF complies with specifications for flat-walled insulated concrete forms in accordance with ASTM E2634.

Superform ICF EPS and cross ties have spontaneous ignition temperature ≥ 650°F when evaluated in accordance with ASTM D1929.

Superform ICF cross ties have a rate of burning of CC2 when evaluated in accordance with ASTM D635.

Superform ICF cross ties have smoke density index < 75 when evaluated in accordance with ASTM D2843.

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

FASTENER	ALLOWABLE WITHDRAWAL		ALLOWABLE LATERAL SHEAR	
	lbs	kg	lbs	kg
#6 Coarse Thread Drywall Screw, minimum penetration ¾ inch (19 mm) into Superform ICF Crossties.	52	24	115	52
#10 Coarse Thread Wood Screw, minimum penetration ¾ inch (19 mm) into Superform ICF Crossties.	48	22	126	57
#14 Coarse Thread Wood Screw, minimum penetration ¾ inch (19 mm) into Superform ICF Crossties.	57	26	135	61
16 Gauge ½ inch Crown Staple, minimum penetration 1 inch (25 mm) into Superform ICF Crossties.	9	4	12	6

Superform ICF Type 2 Specifications per CAN/ULC S701.1:

PROPERTY	SUPERFORM 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

Superform ICF Type II Specifications per ASTM C578:

PROPERTY	SUPERFORM 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

Superform ICF Surface Burning Characteristics per CAN/ULC S102.2:

SUPERFORM COMPONENT	DENSITY	MAXIMUM THICKNESS	FLAME SPREAD INDEX (FSI)	SMOKE DEVELOPED INDEX (SDI)
Expanded Polystyrene (EPS Panel)	22 – 29 kg/m^3	100 mm Maximum	≤ 210	≥ 500

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Superform ICF Surface Burning Characteristics per ASTM E84[1]:

SUPERFORM COMPONENT	DENSITY	MAXIMUM THICKNESS	FLAME SPREAD INDEX (FSI)	SMOKE DEVELOPED INDEX (SDI)
Expanded Polystyrene (EPS Panel)	1.35 – 1.80 lbs/ft^3	4.0 Inches Maximum	≤ 25	≤ 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.

Superform ICF Thermal Barrier Stay-in-Place (UBC 26-3) Configuration:

Meets requirements with ½ inch thickness gypsum fastened with 1-¼ inch (31 mm) length standard drywall screws at 12 inches (305 mm) on center spacing in the field, and 6 inches (152 mm) on center spacing around the perimeter. Fasteners must be anchored into Superform ICF web ties.

Superform ICF Fire-Resistance Rated Assemblies per CAN/ULC S101, UL 263, ASTM E119 – Wall Assemblies:

QAI Design #	Description:	Type:	Fire-Resistance Rating
B1051-1	Insulated Concrete Wall of minimum 6 inches (152 mm) concrete thickness	Load Bearing[1]	3-hours
	Insulated Concrete Wall of minimum 6.5 inches (159 mm) concrete thickness	Load Bearing[1]	4-hours

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 by qualified installing personnel. Also see QAI CER_{US}-1001

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