



LISTING INFORMATION OF Quad-Lock Insulating Concrete Forms (ICFs)

SPEC ID: 35720

Quad-Lock Building Systems Ltd.
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Canada

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Quad-Lock ICFs are insulated concrete form (ICF) systems that are formed from expandable polystyrene (EPS) beads with polyethylene cross-ties and/or ABS fastening strips. The EPS panels are available in the following thicknesses:

- 2-1/4" Regular
- 3-1/8" Ultra
- 4-1/4" Plus

The ICF systems core nominal thicknesses are available in the following dimensions:

- 3-3/4"
- 5-3/4"
- 7-3/4"
- 9-3/4"
- 11-3/4"
- 13-3/4"

RATINGS

Product/Assembly	Standard	Rating (if applicable)
Quad-Lock Insulating Concrete Form Systems	ASTM E119 (2-1/4" EPS)	2, 3 and 4 hours Design Listing No. QBS/ICF 240-01
	CAN/ULC S101	2, 3 and 4 hours Design Listing No. QBS/ICF 240-01
	ASTM E2634, including:	
	ASTM C578 (EPS)	Type II, Type IX EPS
	ASTM E84 (EPS)	Flame Spread: 25 Smoke Developed: 250
	ASTM D635 (cross-ties)	Meets CC2 requirement
	ASTM D1929 (cross-ties)	827.3 °F
	ASTM D1761 (cross-ties)	Meets calculated requirements
	ASTM D638 (cross-ties)	Exceeded the requirements of 675 lb/ft ²
ASTM D732 (cross-ties)		
ASTM D1929 (fastening strips)	Exceeded the requirements of 163 psi	

ASTM D635 (fastening strips)	831.7 °F
ASTM D1761 (fastening strips)	Meets CC2 requirement Meets calculated requirements
UL 723	Ceiling burning only: FSI: 10 SDI: 5 Floor burning only: FSI: 35 SDI: 1150
ASTM C177 (2-1/4" EPS)	0.12 F.ft ² .h/BTU
NFPA 286 (4-1/4" EPS, 6" core, 1/2" gypsum board)	Meets the conditions of acceptance of ASTM E2634

<u>Attribute</u>	<u>Value</u>
Criteria	CAN / ULC S101 (2007)
Criteria	NFPA 286 (2011)
Criteria	ASTM E2634 (2011)
Criteria	ASTM C578 (2012a)
Criteria	ASTM E119 (2014)
Criteria	UL 723 (2010)
CSI Code	03 10 00 Concrete Forming and Accessories
Intertek Services	Certification
Listed or Inspected	LISTED
Listing Section	CONCRETE FORMS
Report Number	G101554142; G101872319; G102089016; 484-2063; 3028544; 3105717; 6802; G101314808; 3105457
Spec ID	35720
Verification Testing	No

DRAWING INDEX

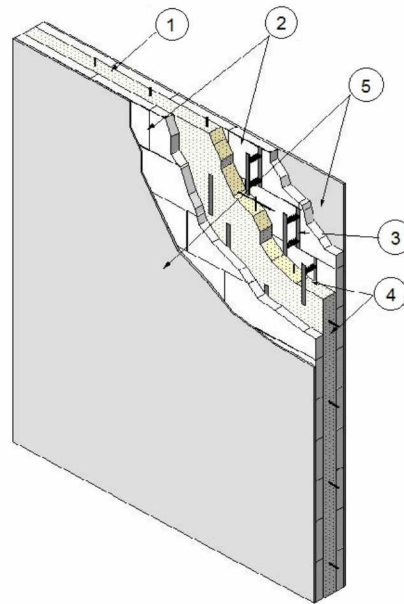
QBS-ICF 240-01

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Quad-Lock Building Systems Ltd.
 Design No. QBS/ICF 240-01
 Insulating Concrete Forming
 Quad-Lock Insulating Concrete Forms
 ASTM E119-07
 CAN/ULC S101-04
 Fire Resistance Rating: 2, 3, and 4 Hour



MIN. CORE THICKNESS	MAX. FIRE RATING
3-3/4 in. (96mm)	2 Hour
5-3/4 in. (146mm)	3 Hour
7-3/4 in. (197mm)	4 Hour

1. **CONCRETE:** Pour concrete with density of 150 lb/ft³ (2400 kg/m³) into the ICF system. The concrete shall have a min. 3000.0 psi (20.7 MPa) normal compressive strength after 28 days curing time, a max. slump of 6 in., max. aggregate size of 3/4 in. for core thicknesses greater or equal to 7-3/4 in., and 3/8 in. for core thicknesses less than 7-3/4 in. Place the steel reinforcement (not shown) before filling the ICF system with concrete. The rebar used is to be designed and placed per the applicable Code requirements and approved by a registered

design professional with the appropriate license for the Authority Having Jurisdiction.

2. **CERTIFIED MANUFACTURER:** Quad-Lock Building Systems Ltd.

CERTIFIED PRODUCT: Quad-Lock Insulating Concrete Forms (ICFs)

CERTIFIED MODEL: Regular: 2-1/4 in., Ultra: 3-1/8 in., and Plus: 4-1/4 in.

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The Quad-Lock ICF forming systems consist of Type II and IX molded expanded polystyrene (EPS) foam panels with embedded high density polyethylene cross-ties (Item 3) and/or ABS fastening strips (Item 4). The EPS panels used on Regular are manufactured from Type IX EPS beads; the Ultra and Plus panels use Type II EPS beads. The cross-ties are color coded to indicate different installation core thicknesses (cavity thicknesses). The Quad-Lock ICF core thicknesses are 3-3/4 in., 5-3/4 in., 7-3/4 in., 9-3/4 in., 11-3/4 in., and 13-3/4 in. The cross-ties are spaced by 12 in. intervals along the length of the constructed wall.

3. **HDPE CROSS-TIES:** Injection molded high density polyethylene cross-ties are 7-1/2 in., 9-1/2 in., 11-1/2 in., 13-1/2 in., 15-1/2 in., and 17-1/2 in. long; the cross-ties are color coded according to their lengths. Cross-ties are installed at the intersection of the horizontal and vertical joints of all panels and every 12 in. oc in between. The spacing is indicated by deep grooves in the EPS panels.
4. **ABS FASTENING STRIPS (Optional, Not Shown):** Fastening strips are available as an option for Regular and Plus panels. The fastening strips are 1-1/2 in. wide strips made from ABS plastic, and are molded into the EPS panels every 12 in. measured from the centre. The fastening strips provide anchoring for exterior wall cladding or siding.
5. **GYPSUM WALLBOARDS:** Non-fire-rated gypsum wallboards shall be installed on interior

walls and the interior facing sides of exterior walls. Gypsum wallboards installed must have a min. thickness of 1/2 in. and min. area density of 1.54 lb/ft². The gypsum wallboards are to be fastened to the HDPE cross-ties, with #6 x 1-5/8 in. Type S drywall screws spaced 12 in. oc. Gaps between adjacent gypsum wallboards and screw head cavities shall be taped and filled with joint compound. The fire rating on exterior walls with gypsum wallboards installed on the interior facing side only applies from the inside.

6. **INTERIOR AND EXTERIOR FINISHES (Optional, Not Shown):** Interior and exterior finishes may be added to Quad-Lock ICF systems without affecting the fire-resistance rating.

Exterior finishes may be applied to the exterior side of the forming system wall assembly without diminishing the assembly rating when desired. Exterior Insulation Finishing System (EIFS), any exterior stucco, brick or brick veneer, stone or stone veneer, cultured stone and siding made from vinyl, aluminum, wood, or steel may be used. Apply exterior finishes in accordance with the manufacturer's instructions.

7. **WALL ASSEMBLY:** The Quad-Lock ICF system may be used as either an interior or exterior wall. ICFs exposed to the interior of a building shall have a thermal barrier attached. Exterior walls are only required to have a thermal barrier on the side facing the interior of the building. The fire resistance is applicable to the Quad-Lock ICF systems from either side.

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