



Technical Performance Data - Fox Block ICF Wall System

Concrete Wall Construction: (4", 6", 8", 10" & 12" reinforced structural concrete core)

* Design criteria for the structural concrete wall system	ACI 318 design standards for straight wall concrete construction
* Recommended concrete consolidation	Reference the Fox Block Installation Manual, ACI 309
* Fox Blocks Installation Manual	Second Edition (2012)
* Prescriptive Design of Exterior Concrete Walls	PCA 100-2007
* Average weight of the reinforced structural concrete	150 lbs. / cu. ft. (including steel reinforcement)
* Thermal Mass (form & 4" reinforced concrete core).....	50 lbs. / sq. ft.
* Thermal Mass (form & 6" reinforced concrete core).....	75 lbs. / sq. ft.
* Thermal Mass (form & 8" reinforced concrete core).....	100 lbs. / sq. ft.
* Thermal Mass (form & 10" reinforced concrete core).....	125 lbs. / sq. ft.
* Thermal Mass (form & 12" reinforced concrete core).....	150 lbs. / sq. ft.
* Recommended concrete core compressive strength.....	Minimum 3000 psi for the walls (minimum 2500 psi for footings)
* Recommended concrete core slump flow for pump mix design.....	4" ICF - 6" to 7"; 6" ICF - 5.5" to 6.5"; 8", 10" or 12" ICFs - 5" to 6"
* Recommended aggregate size for the concrete mix design	4" ICF - 3/8" max.; 6" ICF 3/8" to 1/2" max.; 8", 10" & 12" ICFs - 1/2" to 3/4" max.

Product Performance & Third Party Testing Expanded Polystyrene (EPS) Testing:

* EPS Foam Resin.....	Modified low pentane, B/C bead size (resin is self-extinguishing, but when burning, emits less than half the toxins of burning wood)
* EPS Average Manufacturing Density / Type	1.5 lbs. / cu. ft. (Type II, Rigid Cellular EPS Foam Plastic)
* ASTM C578, EPS Thermal Insulation Properties	
* CAN / ULC S701, EPS Thermal Insulation Properties	

Plastic Tie Strength Testing:

- * Fastener Withdrawal, ASTM D1761
- * Fastener Lateral (Shear), ASTM D1761
- * Fastener Tensile, ASTM D638

Performance Testing:

- * Sound Transmission Class (STC), ASTM E90, STC 45-50+

Environmental, Safety & Energy Performance:

- * No HCFC's or CFC's emitted during the manufacturing process
- * No toxins or formaldehydes produced
- * Plastic ties are recycled and the EPS Foam forms are recyclable

Products & Energy Efficient Accessories:

- * Silver Fox ICF Wall System R-26 / Block
- * Energy Stick R-9 / Stick

Energy Efficiency Data & Performance:

* Thickness of the EPS	2.625" / wall panel (5.25" total EPS thickness)
* EPS Steady State R-Value (thermal resistance of the material)	R - 4.55 / inch @ 40 degrees Fahrenheit
* CTL Group Thermal Resistance R-Value Calculation Report	R - 23+ / Block (calculated in accordance with ASHRAE 90.1)
* EPS K-Factor (thermal conductivity of the material)	K - 0.22 / inch (@ 40 degrees Fahrenheit)
* Air Leakage (infiltration rate) ASRM E283	0.002 cfm / ft ²
* ORNL Thermal Mass Calculator Dynamic R-Value Equivalent	Greater than R - 32 / Block

Storm Safety:

- * Wind Capacity Fox Blocks ICF Walls can be designed to meet code requirements
- * Seismic Zones Fox Blocks ICF Walls can be designed to meet code requirements

Fire Safety & Testing:

- * Surface Burning Characteristics of Foam Plastics, ASTM E84 & ANSI / UL 723
 - Flame spread from the EPS Foam..... less than 25
 - Smoke Development of the EPS Foam..... less than 450
 - Toxicity of the EPS Foam resin..... 24

- * Surface Burning Characteristics of Foam Plastics, CAN / ULC S102

- * Fire Burning Characteristics of Plastic Ties

-ASTM D1929, Flash Ignition Temp	350 (C) 662 (F)
-ASTM D1929, Spontaneous Ignition Temp.....	400 (C) 752 (F)
-ASTM D635, Burn Rating Average Time.....	17.7 mm / min
-ASTM D2843, Smoke Density Rating	7.3

- * Fire Resistance Rating, ASTM E119 (equivalent Standard Test Methods)

-4" Concrete Core	2 hrs.+
-6" Concrete Core	3 hrs.+
-8", 10" or 12" Concrete Core	4 hrs.+
-Fire Endurance Test of Building Construction Materials, CAN / ULC S101	

- * Room Fire Test, UL 1715
(with 1/2" gypsum board)

Building Code References:

- * ICC ES ESR-2270
- * CCMC - 13472-R
- * Miami-Dade County Product Division NOA # 11-0114-01
- * Florida Product Approval - FL7497-R1
- * City of New York - MEA 201-08-M
- * City of Los Angeles - RR25689
- * State of Wisconsin - 200718-I