Be Clever...Build Green
FOX BLOCKS
Industrial Strength Insulated Concrete Forms (ICF)

TECHNICAL PERFORMANCE DATA

Fox Block ICF Wall System

6110 Abbott Drive
Omaha, NE 68110
1-877-369-2562
www.foxblocks.com

00695 Flyer-Tech Perf Data-F.pdf

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 100-2012, IRC R404.1, R611, ACI 332
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" ICF - 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" ICF - 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)
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
Tie Tensile and Shear, ASTM D638 and D732

Performance Testing:

Sound Transmission Class (STC), ASTM E90, STC: 4"= 46, 6" & 8"= 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:

Energy Stick	R-8 / Stick

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
Surface Burning Characteristics of Foam Plastics, CAN / ULC S102	
Fire Burning Characteristics of Plastic Ties	
ASTM D1929, Flash Ignition Temp	400 (C) 752 (F)
ASTM D1929, Spontaneous Ignition Temp	380 (C) 716 (F)
ASTM D635, Burn Rate	Meets Class CC1
Fire Resistance Rating, ASTM E119 (equivalent Standard Test Methods)	
4" Concrete Core	2 hrs.
6" Concrete Core	4 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)	

MSDS sheets available at www.foxblocks.com

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 - 4.17 (@ 70 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 - 0.24 / inch (@ 70 degrees Fahrenheit)
Air Leakage (infiltration rate) ASTM E283	0.002 cfm / ft^2
ORNL Thermal Mass Calculator Dynamic R-Value Equivalent	Greater than R - 32

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

BUILDING CODE REFERENCES

IRR-1010	Miami-Dade County Product Division NOA # 13-0124.01
CCMC - 13472-R	Florida Product Approval - FL7497-R3 City of New York - MEA 201-08-M City of Los Angeles - RR25689 State of Wisconsin - 201403-I
ASTM E2634	
CAN/ULC S717.1	

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