TECHNICAL BULLETIN . SPECIFICATIONS & STANDARDS

1.04.02

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Technical Performance Data

CONCRETE WALL CONSTRUCTION (4”, 6”, 8”, 10” & 12” Reinforced Concrete Core):

Design Criteria For Structural Concrete Wall System: ACI 318 and CSA A23.2 concrete design for slender walls

Recommended Concrete Consolidation: ACI 309 and Tech Bulletin 1.06.05

Prescriptive Engineering for Exterior Concrete Walls: PCA100-2012, IRC R404, R611, ACI 332

Average weight of 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 Compressive Strength: Minimum 2500 recommended 3000 psi for walls

Recommended Concrete Slump for ICFs: 4” ICF - 6” to 7”; 6” ICF - 5.5” to 6.5”; 8”, 10” or 12” ICF - 5” to 6”

Recommended Aggregate Size for 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.

Recommended Steel Reinforcing Compressive Strength: Minimum yield strength 60,000 psi

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: 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 (Web) Strength Testing:

Fasterner Withdrawal and Lateral Shear - ASTM D1761

Tie Tensile and Shear – ASTM D638 and D732

Performance Testing:

Sound Transmission Classification (STC) - ASTM E90

4”=STC 46, 6” & 8” = STC 50+

Environmental, Safety & Energy Performance:

No HCFCs or CFCs emitted in the manufacturing process

No toxins, formaldehydes are produced, no off-gassing.

Plastic ties are made from 100% recycled material.

EPS forms, concrete and rebar are recyclable products.

MSDS sheets are available on website.

Energy Efficiency and Performance:

Thickness of EPS insulation: 2.625” per panels (total 5.25” EPS insulation)

EPS, Type II, Thermal Resistance R-Value: R-4.17 per inch (@ 70˚F)

Engineered Thermal Resistance Calculations: R-23+, U-factor 0.0425

whole wall assembly per ASHRAE 90.1

Air Leakage (infiltration rate) ASTM E283: 0.002 cfm / sq. ft.

No Thermal Bridging, Continuous Insulation

Energy Enhancement with Energy Stick: 2” EPS insert for additional R-8

Fox Buck Insulated Opening Buck

Resiliency Design:

High Wind Capacity: Fox Blocks reinforced concrete walls can be designed to exceed building code wind requirements.

Seismic Zones: Fox Blocks reinforced concrete walls can be designed for all seismic zones and used for FEMA approved safe rooms.

FIRE TESTING

Surface Burning Characteristics of Foam Plastic:

ASTM E84, ANSI/UL723, CAN / ULC S102

Flame Spread – less than 25

Smoke Development – less than 450

Fire Burning Characteristics of Plastic Ties:

ASTM D1929 Flash Ignition Temp:

752˚ F (400˚C)

ASTM D1929 Spontaneous Ignition Temp:

716˚ F (380˚C)

ASTM D635 Burn Rate – Meets Class CC1

Fire Resistance Rating – ASTM E119

(Equivalent Standard Test Methods)

4” Fox Blocks 2 hours

6” Fox blocks 4 hours

BUILDING CODES AND STANDARDS

ICC Code Compliance: Intertek CCR-1010

AC 353: Acceptance Criteria for Flat Wall ICFs

ASTM E2634: Standard for Flat Wall ICFs

CAN/ULC S717.1: Standards for Flat Wall ICFs

Fox Blocks is code compliance for foundations and Building Types I, II, III and IV (noncombustible) any height.