

2.4 PHYSICAL & TECHNICAL CHARACTERISTICS

Greenblock Physical & Technical Characteristics

1. EPS Material: Type 2 Flame Retardant Expanded Polystyrene (EPS)
Shape Molded at 1.5 pcf.

2. EPS Thickness: 2-4-2 Panel System: 2 inches
Gblox Panel System: 2 $\frac{5}{8}$ inches
Fixed-Web System: 2 $\frac{5}{8}$ inches

3. Unit Weight: 2-4-2 System: Approximately 4 lbs.
Gblox Panel System: Approximately 5 lbs.
Fixed-Web System: Approximately 5 lbs.

4. Unit Sizes:	L	W	H
4" Core	4'	8"	12"
6" Core	4'	11 $\frac{1}{4}$ "	12"
8" Core	4'	13 $\frac{1}{4}$ "	12"
10" Core	4'	15 $\frac{1}{4}$ "	12"
12"Core	4'	17 $\frac{1}{4}$ "	12"

5. Sound Transmission (STC) 55+

6. Capillarity of EPS: None

7. Minimum Pouring Temperatures: to minus 4 $^{\circ}$ F or minus 20 $^{\circ}$ C

8. Production Method: Shape molding of Flame Retardant Expandable Polystyrene (EPS) by heat and steam with no additives using only raw EPS bead bearing National Evaluation Report (NER # 236.238.384 or 479) Certifications as required by all North American building code authorities.

9. Fire Resistant:

- A fire retardant is added to Greenblock EPS during manufacturing
- Green block 6, 8, 10, & 12 inch concrete core provides a fire resistance of four (4) hours in accordance with ASTM E 119 and CAN/ULCS 101.
- Greenblock 4 inch concrete core provides a fire resistance of two (2) hours in accordance with ASTM E 119 and CAN/ULCS 101.
- Meets flame spread (10), max acceptance 75 and smoke development (less than 300), max. acceptance 450, as required by UL723, UBC8-11, ASTM E84. (UL Report R 4775)

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Expanded Polystyrene has a flash ignition temperature of 340° C (655° F), where pine is 224° C (400 ° F). (Data from National Research Council of Canada) Self-ignition is 425° C (797° F).

10. Building Method: Stack units as if CMU's. Secure straight and plumb with alignment hardware, fill with #5 or #6 slump, 3,000 psi concrete leaving units in place providing insulation, surface finish strapping & air/vapor barrier (resulting from EPS units filled solidly with concrete without any penetrations therein).

11. Pour Height 4'-10' monolithic pours, no seams or joints.

12. R-Value (Thermal Resistance) in accordance w/ ASHRAE 2001 Fundamentals Handbook & ASTM C177, 6" & 8" Core EPS R 22/4 inch core EPS R 17. The Thermal Performance of an assembled wall including calculations for EPS, Thermal Bridging, Thermal Mass & Air Tightness can be up to an R50 plus (+) wood frame equivalent depending upon local climatic conditions.

13. Water Vapor Test based on test result of 138.0 ng/Pa•s•m² (201ng/Pa•s•m², max.)

14. Water Absorption Test Result .35% by Volume.

15. Meets requirements for "**Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation**", as a Type II Thermal Insulating Material per ASTM C578.

16. Code Compliance – Code Compliance: Greenblock ICF's are designed to provide monolithic steel reinforced concrete walls meeting all applicable US Building Codes (2006 IBC, 2006 IRC, 1999 NBC, 1997 UBC, 1997 SBC, 2007 FBC-Building, and 2007 FBC-Residential). Installation of Greenblock ICF's shall be in accordance with the 2006 IRC (Section R611), 2006 IBC (Applicable Sections 1704, 1805.5, and Chapter 19), other Code Agencies Having Jurisdiction, ICC-ES Legacy Report ER5872* and Greenblock's published installation instructions.

*Engineered Design: Greenblock Worldwide is currently converting their ICC-ES Legacy Report ER5872, to an ICC-ES ESR (File 04-05-08 pending).

17. Polypropylene Reinforcing webs meet requirements for plastic materials when tested in accordance with ASTM D 1929, UBC 26, ASTM D635, ASTM D2843.

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18. Fastener withdrawal resistance in accordance with ASTM D 1761 and fastener lateral resistance testing.

Finish Requirements:

- EPS Compatible, Damp proofing/waterproofing as required by local code.
- Exterior surface shall be covered with approved finish materials. (i.e., Brick, Stucco, Siding, Etc.)

19. Concrete Usage:

2-4-2 system:	1	yd.	per	81	wall sq. ft.
Fixed-Web 6"	1	yd.	per	54	wall sq. ft.
Fixed-Web 8"	1	yd.	per	40	wall sq. ft.
Gblox 6"	1	yd.	per	54	wall sq. ft.
Gblox 8"	1	yd.	per	40	wall sq. ft.
Gblox 10"	1	yd.	per	32½	wall sq. ft.
Gblox 12"	1	yd.	per	27	wall sq. ft.

20. Wind Speed rating: by P.E. design per ACI 318 and as required for specified use and as required by local code.

21. Seismic Rating: by P.E. design per ACI 318 and as required for specified use and as required by local code.



NOTE: Construction of a GREENBLOCK built structure may require P.E. stamp structural drawings & determination of air exchange requirements/equipment. It is recommended consulting your local building official.

Some testing and evaluations performed by Intertek Testing Services.