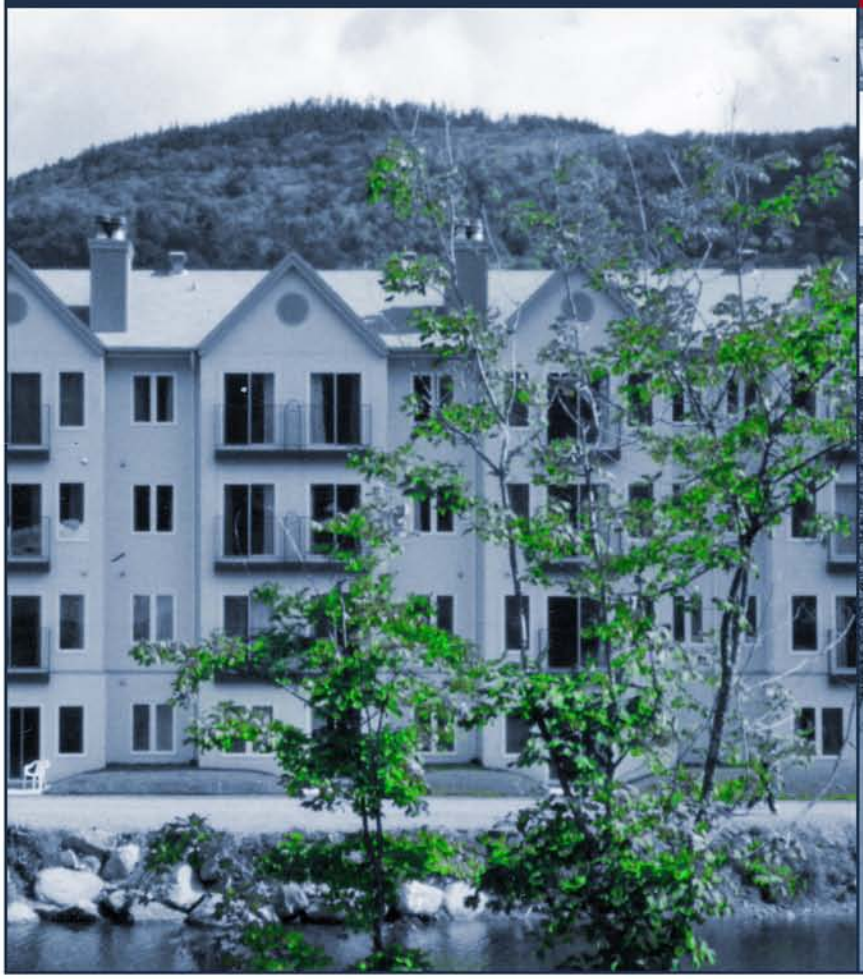
Polycrete®

Building Smart

BIG BLOCK 1600



INSULATED FORMWORK FOR CONCRETE CONSTRUCTION

POLYCRETE® BIG BLOCK 1600
NEW UNBREAKABLE AND GREEN SYSTEM

Features & Benefits

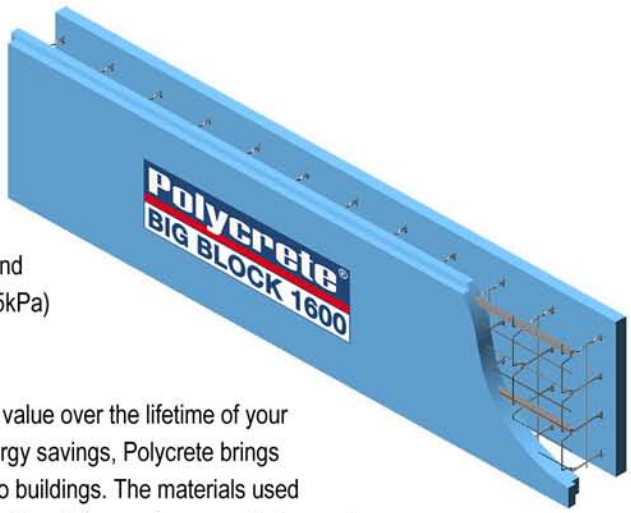
- PERMANENT INSULATING FORMWORK
- ENVIRONMENTALLY FRIENDLY
- ENERGY SAVINGS
- EMBEDDED WIRE MESH REINFORCEMENT
- METAL FASTENING STRIPS
- EASY TO INSTALL
- HIGH INSULATING VALUE
- FOLDABLE
- NO LIMIT IN DESIGN, HEIGHT OR THICKNESS OF WALL
- ACCEPTS ALL EXTERIOR SIDING TYPES
- PROVIDES SECURITY, DURABILITY, QUIET AND COMFORT
- RESISTS LATERAL PRESSURE OF UP TO 1,600 POUNDS PER SQ. FT. DURING CONCRETE POUR

With a presence in more than 15 countries since 1988, Polycrete® is a leading manufacturer of insulated formwork for the concrete construction market. ICF Construction is a well proven method, and its benefits are recognized worldwide as a more efficient solution than conventional construction.

Insulating Concrete Form (ICF) systems for concrete wall construction have evolved over the last two decades. The new Polycrete® Big Block ICF system introduces a revolutionary solution with its sturdiness, performance and fast installation.

The Polycrete® Big Block ICF System is manufactured with a reinforcing steel mesh embedded within the expanded polystyrene (EPS). This steel wire mesh incorporated within the EPS panel results in extreme strength and unmatched wall stability.

The Polycrete® Big Block ICF is the largest on the market. At 16 square feet of wall, its large size and simple design result in a fast and economical installation process.



Polycrete® Big Block is the only ICF system on the market that can withstand a lateral pressure of 1,600 lbs/sq ft (75kPa) during the concrete pour.

Polycrete® Big Block continues to add value over the lifetime of your structure. In addition to significant energy savings, Polycrete brings security, durability, quiet and comfort to buildings. The materials used in a Polycrete® ICF wall provide thermal insulation performance far beyond all required standards.

RESIDENTIAL / COMMERCIAL / INDUSTRIAL

PEACE OF MIND

Resistance to Fire
Today, concrete is recognized throughout the world as an excellent material to protect against fire. Polycrete® concrete walls help prevent fatalities and property loss.

Resistance to Natural Disasters
Polycrete® concrete buildings withstand winds far in excess of 200 mph. They are virtually hurricane and tornado proof. Reinforced concrete is also resistant to earthquakes and seismic activity.

An Investment that Endures
Safe within a sandwich of expanded polystyrene, the concrete cures under ideal conditions. This prevents cracks and fissures caused by cold temperatures in winter and dehydration in summer. The concrete is also shielded against acid rain, ground freeze and thaw and other potentially destructive forces.

A MORE COMFORTABLE STRUCTURE

Controlled Temperature
With no gaps for air leakage and no thermal bridges, a Polycrete® wall ensures uniform and comfortable ambient temperatures with no undesired drafts.

Excellent Air Quality
The expanded polystyrene envelope prevents the concrete from acting as a transfer point for humidity. In addition, the structure is so well sealed that pollen and dust infiltrations are kept to a minimum.

Soundproof Building
Thanks to its high density, a Polycrete concrete wall is also an excellent sound barrier. Fully sealed walls eliminate sound infiltration and EPS insulation absorbs rather than reflects sound waves.

SIMPLE PERFORMANCE
ENDURING VERSATILITY

SAVINGS

Energy Savings
High effective "R" Values allow reductions of up to 50% or more in HVAC Costs.

Maintenance Savings
A reinforced concrete building does not deteriorate. It provides substantially better durability and requires much less maintenance and repair than stick framed structures. Polycrete® buildings are built to last.

Construction Costs Savings
The Big Block formwork is delivered fully assembled to the jobsite which increases handling efficiency. At 16 square feet per block, installation is fast and time required to erect the building envelope can be reduced by up to 50%.

ECO-FRIENDLY

An Environmentally Friendly Solution

Polycrete® Big Block contains no chlorofluorocarbons (CFCs) and does not emit any toxic gasses. Its efficient design minimizes jobsite waste, and the waste that does occur can be entirely recycled. Minimal use of wood helps protect our forests.

By uniting a stable man-made material with a time-honored natural material, the Polycrete® construction system displays a commendable degree of environmental respect.

INSTALLATION OVERVIEW

Concrete Footing
Continuous concrete footing with vertical rebar or as specified by an engineer.

Starting Bases
Install the starting bases on the footing by using concrete nails or screws.

First Course Installation
The first formwork row is installed on the starting bases.

Corner Guides
Corner guides are installed after the first ICF course to ensure that walls remain perfectly stable and plumb.

Scaffolding
Ensure vertical wall alignment, wall bracing, and stabilization before and during the pour. Also serves as a work platform for installing upper courses and performing the pour.

Window and Door Openings
Make a wood buck and insert it into walls. This 'false buck' serves as formwork for the concrete pouring and as support for the final buck. Lintel reinforcement might be required.

Concrete Pour
Concrete is poured into walls using a concrete pump. The Big Block is designed such as the assembly ties system doesn't obstruct the flow of concrete during pouring.

Floor and Roof Connections
Many different floor systems can be used, from traditional wood floors to monolithic concrete systems. Typical roof connections are similar to a traditional wood frame structure.

Interior and Exterior Finishing
Accepts all exterior siding types such as stucco, acrylic systems, brick, vinyl, aluminum and more. Interior finishing can be traditional gypsum board or many types of spray-on or trowel-on materials.

POLYCRETE® BIG BLOCK 1600

SPECIFICATIONS

The specifications are for 5 ⅝" concrete walls with interior and exterior sidings.

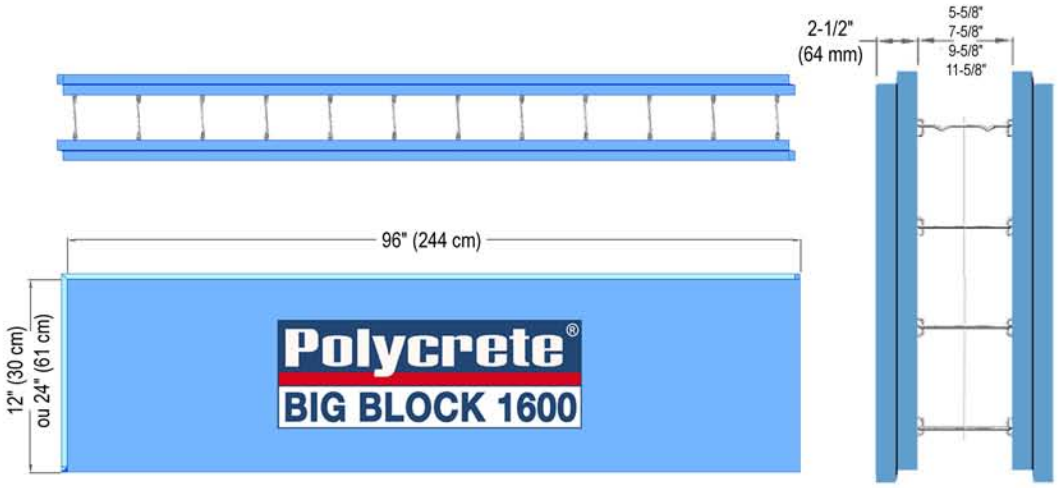
- **Thermal efficiency**: R-28
- **Soundproofing**: STC 60
- **Fire resistance**: 3 hours

- **Durability**:
  - Reinforced concrete construction
  - Resists earthquakes and tornados
  - Environmentally friendly
  - Energy savings
- **Type II expanded polystyrene**
- **Metal fastening strips**
- **Coverage per block**: 16 sq. ft. (1,49 m²)
- **Packaging :** 16 per bundle
- **Polycrete® scaffolding and corners for installation**

AVAILABLE SIZES

- **Block height**: 12" (30 cm) or 24" (61 cm)
- **Block length**: 96" (244 cm)
- **EPS thickness**:
  - 2 ½" or 1 ¾" (6,4 cm or 4,45 cm)
- **Concrete thickness**:
  - 5 ⅝" (143 mm)
  - 7 ⅝" (194 mm)
  - 9 ⅝" (245 mm)
  - 11 ⅝" (295 mm)
  - Custom request

an **UNMATCHED strength**



Each Polycrete® Big Block ICF is composed of the following components::

- 2 panels of expanded Polystyrene (EPS type II)
- 1 steel wire mesh molded inside each EPS panel.
- 2 steel fastening strips welded to the wire mesh and molded inside the EPS panel.
- 48 foldable steel ties for the 2 EPS panels assembly.

Each expanded Polystyrene panel measures 24'' high (61 cm) and 96'' in length (244 cm). Standard EPS panel thickness is 2 ½'' (64 mm). A 1 ¾'' EPS thickness is also available upon request.

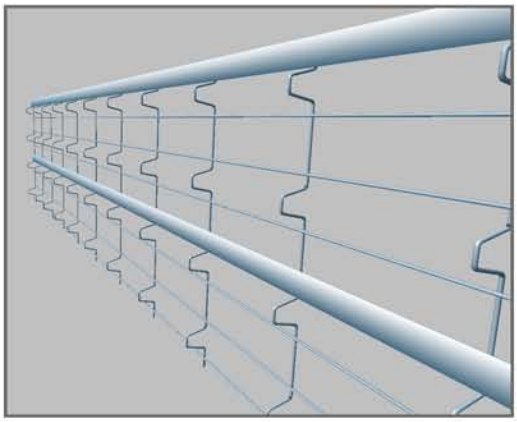
Assembly ties are available in four (4) standard dimensions to provide concrete walls with 5 ⅝" (143 mm), 7 ⅝" (194 mm), 9 ⅝" (245 mm) or 11 ⅝" (295 mm) thickness. These standard dimensions are adjusted to fit with North American building material standards.

Assembly tie length can be adjusted during the manufacturing cycle upon request to provide any range of concrete wall thickness.

Two steel fastening strips are welded to the steel wire mesh and molded inside each EPS Big Block panel.

Each fastening strip is galvanized steel strip of 1 ½'' (38 mm) wide, and a 22 gage thickness (0,83mm). The spacing between the 2 fastening strips is 12 inches (30 cm), center to center.

These fastening strips are used to attach the interior and exterior wall finishing. They are also used to attach the corner guides, the scaffoldings and optional form molds during the installation of the Big Block ICF walls.



Technical data: Typical physical properties of EPS insulation

Physical properties	Imperial S.	SI System	ASTM Test	EPS Type II
Thermal resistance: R value at 75°F (24°C) for 1 inch thickness (25 mm)	sq.ft. °F hre BTU	m² °C W	C-518 C-177	4,0 min. (0,70)min.
Compressive strength (min) at 10% distortion	lb/sq.in. or psi	(kPa)	D-1621	16 110
Bending strength (min)	lb/sq.in. or psi	(kPa)	C-203	35 240
Dimensional stability: % of linear change (max)	%	%	D-2126	1,5
Coefficient of thermal expansion (max)	in./in./°F	(mm/mm/°C)	D-696	$3,5 \times 10^{-5}$ $(6 \times 10^{-5}C^{-1})$
Water vapor permeability (max)	Perm	(ng/Pa.s.m²)	E-96	3,5 2000
Water absorption (max)	%	%	D-2842	4
Effective temperature range: Continuous Intermittent	°F °F	(°C) (°C)	- -	167 (75) 180 (82)
Flame spread rating	-	-	(CAN/ULC S102,2 M)	<140
Smoke developed	-	-	(CAN/ULC S102,2 M)	<380
Capillarity	-	-	-	Nil

BIG BLOCK 1600

Polycrete®

TO FIND THE NEAREST DISTRIBUTOR

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www.polycrete.com