

## **FLEX 850**

**EXCELLING FOR MORE THAN 20 YEARS** 





**POLYCRETE® FLEX 850** 

EASY INSTALLATION • ENERGY SAVINGS • SUPERIOR STRENGTH • ECO-FRIENDLY

With a presence in more than 15 countries since 1988, Polycrete® is a leader in the insulated formwork for the concrete construction market. It is a well-proven solution. ICF constructions benefits and qualities are now worldwide recognized and is by far a better approach than conventional ones.

The Polycrete® insulating form is composed of type 3 expanded polystyrene panels, held together by T-shaped polymer fixtures that are inserted into end grooves on adjoining panels. Once poured, the concrete adheres perfectly to the surface of the forms creating a concrete and expanded polystyrene sandwich completely free of air pockets. The result: a load-bearing wall with far greater strength than conventional structures.

- PERMANENT INSULATING FORMWORK
- HIGH INSULATING VALUE
- NO LIMIT IN DESIGN
- SECURITY, DURABILITY, QUIETNESS AND COMFORT
- A LASTING INVESTMENT

The Polycrete® FLEX 850 is perfect for any type of building design, and can be easily adapted to suite the construction of columns, beams or polygonal curves. In addition to more common types of facing materials, Polycrete® also lends itself to the application of highly resistant exterior finishes that can be fixed directly to the expanded polystyrene.



#### A MORE COMFORTABLE HOME

#### 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.

#### 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 FLEX 850 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%.



#### A PEACE OF MIND

#### Resistance to Fire

Today, concrete is recognized throughout the world as an excellent Minimal use of wood helps protect our material to protect against fire. Polycrete® concrete walls help forests. 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.



# PERFORMANCE, SIMPLE, LASTING, VERSATILE

#### **ECO-FRIENDLY**

## An Environmentally Friendly Solution

Polycrete® FLEX 850 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. Polycrete® ICF product properties and performances allow using these products for LEED projects.





### **INSTALLATION STEPS OVERVIEW**



Rigid expanded polystyrene panels are ultralight, allowing easy moving and on-site handling. The 2 parallel panels that make up the insulating form are held together by tie rods to which the reinforcing steel bars are attached.

Door and window frameworks are installed between the panels before the concrete is poured. The insulating Polycrete® forms require no exterior support, reducing both handling time and material costs.

Concrete is poured into the permanent insulating form using a concrete pump. In winter, heat generated by the setting concrete in the forms is sufficient to prevent freezing, even at temperatures as low as -22°F (-30°C)

The poured concrete adheres perfectly to the panels, creating a "sandwich" wall. The strength of this load-bearing wall is far superior to that of conventional structures. Inlaid polymer "Ts" facilitate fitting of the panels, electrical installation and interior/exterior finishing.

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## **POLYCRETE® FLEX 850**

INSULATED FORMWORK FOR CONCRETE CONSTRUCTION

#### **Specifications**

The specifications are for 6" concrete walls with interior and exterior sidings.

Thermal efficiency : R-28Soundproofing : STC-60

• Fire resistance : 3 hours

Durability: Reinforced concrete construction

Type III Polystyrene

2 pounds density

 Plastic T profile on top edge for attachment

• Coverage per panel: 8 sq. ft. (0,74 sq. m.)

Packaging : 6 per bundle

 Polycrete® scaffolding and corners for installation

#### **Available Sizes**

Panel height: 12" (30 cm)

• Panel length: 96" (244 cm)

. Concrete thickness:

■ 5 %" (14,3cm)

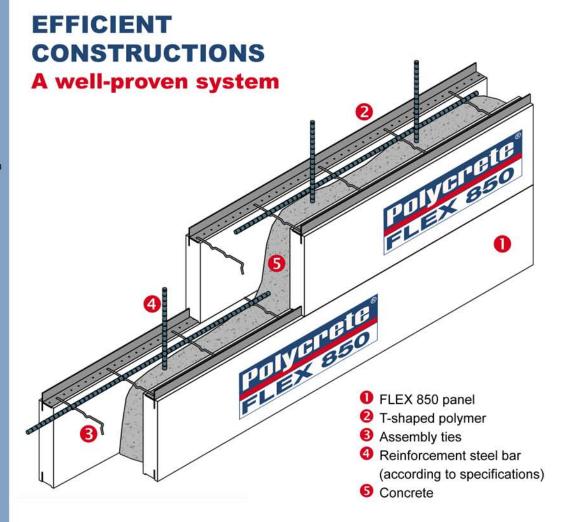
• 7 %" (19,4cm)

■ 9 5/8" (24,5cm)

Custom thickness based on assembly

ues

• EPS thickness: 2 1/2" (6,4cm)





#### Technical data: Typical physical properties of EPS insulation

Physical properties	Imperial S.	SI System	ASTM Test	EPS Type III
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	4,2 min. (0,74)min.
Compressive strength (min) at 10% distortion	lb/sq.in. or psi	(kPa)	D-1621	20,4 140
Bending strength (min)	lb/sq.in. or psi	(kPa)	C-203	43,6 300
Dimensional stability: % of linear change (max)	%	%	D-2126	1,5
Coefficient of thermal expansion (max)	in./in./ºF	(mm/mm/°C)	D-696	3,5 x 10 <sup>-5</sup> (6 x 10 <sup>-5</sup> C <sup>-1</sup> )
Water vapor permeability (max)	Perm	(ng/Pa.s.m²)	E-96	2,25 130
Water absorption (max)	%	%	D-2842	2
Effective temperature range: Continuous Intermittent	°F °F	(°C)	•	167 (75) 180 (82)
Flame spread rating	ē.	*:	(CAN/ULC S102,2 M)	<140
Smoke developed	-	25	(CAN/ULC S102,2 M)	<325
Capillarity	-	-	-	Nil

#### TO FIND THE NEAREST DISTRIBUTOR

email: contact@polycrete.com telephone: +1.450.670.7624

www.polycrete.com

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