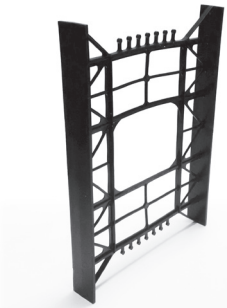
Experience the Advantage ICF System®

Plasti·Fab® EPS PRODUCT SOLUTIONS
Better building ideas from PFB™

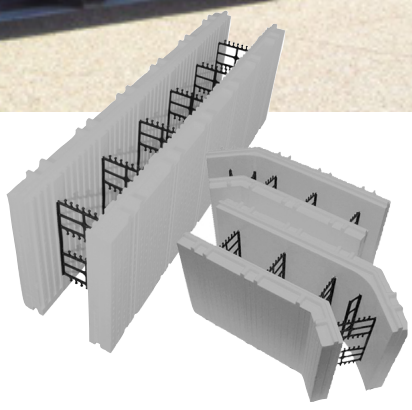
Ideal for new construction or renovation providing:



Insulating concrete form (ICF) for concrete walls
- Stay-in place insulation for energy efficiency
- Internal webs with 1 ½" wide attachment surfaces for interior and exterior finishes
- Air and vapour barrier requirements for wall area
- R-value of molded expanded polystyrene (EPS) insulation used for stay-in place panels does not change with time

Use the Advantage ICF System to construct walls below and above grade. Providing superior overall thermal resistance (R-value) and reduced air leakage on all types of residential, commercial and institutional projects.

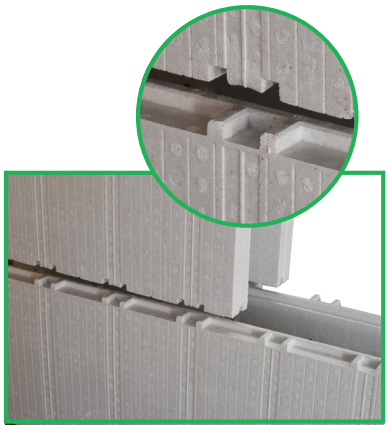
The Advantage ICF System provides an insulated concrete wall assembly creating a safe, quiet and comfortable living environment:



- Monolithic concrete wall reduces sound transmission
- Reinforced concrete wall resists damage from the most severe weather
- Superior thermal resistance reduces energy used for heating and cooling, saving you money while helping the environment

www.AdvantageICF.com **1-888-446-5377** **1-88-THINK EPS®**

1. Patented Interlock Design



The Advantage ICF Systems patented tongue and groove interlock design on the horizontal joints allows tight nesting of the blocks. The groove on the bottom edge of EPS panels interlocks with the tongue on the top edge of EPS panels making it easier to apply a consistent even bead of foam adhesive in critical areas to interlock the blocks tightly. This eliminates the need for internal metal hooks that interrupt concrete flow during placement or interfere with internal mechanical vibration essential for proper concrete consolidation as recommended by the Portland Cement Association to avoid voids in ICF walls (see PCA Bulletin RD134 "Concrete Consolidation and Potential for Voids in ICF Wall").

The Advantage ICF System tongue and groove interlock design provides an additional barrier for moisture migration through the horizontal seams.

2. Tabs to keep attachment surfaces aligned

Advantage ICF System is the only ICF product that features tabs within the horizontal interlock design. Advantage ICF block internal webs tie the monolithic EPS insulation panels in place and provide 1 ½" wide attachment surfaces for your interior and exterior finishes. Tabs incorporated into the tongue on the top edge of the EPS panels slip into grooves on the bottom edge of the row above to keep the webs aligned making attachment of finishes easier and faster.

There are some areas where the tabs may have to be removed due to project specific installation issues. This is done with little effort with the horizontal tongue and groove interlock between blocks maintained. This interlock feature means less waste than reversible ICF Blocks.

3. Easy to find Markings

An embossed line on the exterior surface of EPS pan¬els marks the middle of the 1 ½" wide vertical attachment surfaces on internal webs making it easy to find the surfaces for fastening interior and exterior finishes. All Advantage ICF System blocks are also marked with a vertical recessed cut line every inch to facilitate cutting blocks to length when required.

4. Brick Ledge Block

The Advantage ICF System Brick Ledge Block features a continuous uninterrupted concrete ledge. When brick ledge blocks are included in any ICF system horizontal steel reinforcement and stirrups are required in the concrete ledge portion to support loads. The Advantage ICF Brick Ledge Block features a web unique to the ICF industry that is molded into the EPS panel that forms the brick ledge. Attachment surfaces on internal webs within the EPS panel are consistent to the top of the ledge for easier fastening of required exterior finish materials to, a benefit only provided by the Advantage ICF Brick Ledge Block.

This superior design of the Advantage ICF Brick Ledge Block allows it to be used to provide uniform support for cladding such as brick or stone and can also be used for support of interior or exterior concrete slabs. All concrete reinforcement is totally encapsulated within the concrete so it is not exposed to moisture which can lead to long term deterioration through corrosion. This is a significant improvement over other ICF designs that use EPS haunches molded into one face of the EPS panel. These haunches are considered structural voids and do not allow the steel reinforcement to be protected from moisture.

Energy Efficiency

A poorly insulated wall above or below grade can account for more than 50% greater energy use to heat or cool a building. The 2012 International Energy Efficiency Code (IECC) provides minimum thermal resistance (R-value) for the thermal insulation component and maximum thermal transmittance (U-factor) for building assemblies in various climate zones throughout the United States as per 2012 IECC Figure C301.1 or Table C301.1.

2012 IECC Section R402.2.5 defines mass walls as above-grade walls of any wall construction having a heat capacity greater than or equal to 6 Btu/ft^2 × °F (123 kJ/m^2 × K). The heat capacity for a 6" or 8" concrete wall constructed with the Advantage ICF system would exceed this requirement.

The table below provides minimum R-value in units of (ft^2•hr•°F)/BTU and maximum U-factor in units of Btu/(ft^2•h•°F) for above-grade mass walls and basement or below-grade walls in residential and commercial buildings.

Minimum R-value & Maximum U-factor Residential Buildings				
Climate Zone	Mass Walls		Basement Wall	
	Insulation R-value	Equivalent U-factor	Insulation R-value	Equivalent U-factor
1	3	0.197	0	0.360
2	4	0.165	0	0.360
3	8	0.098	5/13	0.091
4 except Marine	8	0.098	10/13	0.059
5 and Marine 4	13	0.082	15/19	0.050
6	15	0.060	15/19	0.050
7 and 8	19	0.057	15/19	0.050

Minimum R-value & Maximum U-factor for Commercial Buildings								
Climate Zone	Mass Walls				Below-Grade Wall			
	Insulation R-value		Equivalent U-factor		Insulation R-value		Equivalent U-factor	
	All other	Group R	All other	Group R	All other	Group R	All other	Group R
1	5.7ci	5.7ci	0.151	0.151	NR	NR	1.140	1.140
2	5.7ci	7.6ci	0.151	0.123	NR	NR	1.140	1.140
3	7.6ci	9.5ci	0.123	0.104	NR	NR	1.140	1.140
4 except Marine	9.5ci	11.4ci	0.104	0.090	7.5ci	7.5ci	0.119	0.119
5 and Marine 4	11.4ci	13.3ci	0.090	0.080	7.5ci	7.5ci	0.119	0.119
6	13.3ci	15.2ci	0.080	0.071	7.5ci	7.5ci	0.119	0.119
7	15.2ci	15.2ci	0.071	0.061	10ci	10ci	0.092	0.092
8	25ci	25ci	0.061	0.061	10ci	12.5ci	0.092	0.092

Note: Continuous insulation (ci) is continuous across all structural members without thermal bridges other than fasteners and service openings.

As noted in the table above, the 2012 IECC provides two methods of establishing prescriptive building envelope component compliance.

1. Minimum R-values of insulation component.
2. Maximum U-factor for the entire assembly.

Maximum U-factor is the inverse of the overall R-value of a building assembly calculated as per ASHRAE Handbook - Fundamentals. The table below provides calculations for Advantage ICF System walls with a continuous layer of expanded polystyrene (EPS) insulation over the interior and exterior face of a solid concrete core.

Component	Above-Grade Mass Wall	Below-Grade Wall
	R	R
Outside Air Film	0.17	NA
Metal Siding	0.62	NA
Type ASTM C578, Type II Insulation	10.50	10.50
6" Concrete Wall	0.35	0.35
Type ASTM C578, Type II Insulation	10.50	10.50
½" Gypsum Board	0.44	0.44
Inside Air Film	0.68	0.68
Total R-value	***23.3***	***22.5***
U-factor	***0.043***	***0.044***

Note: The overall R-value of a wall assembly built with the Advantage ICF System is calculated using the isothermal planes method since there is a continuous layer of expanded polystyrene (EPS) insulation over the interior and exterior face of a solid concrete core with no thermal bridges.

Advantage ICF System Specifications

EPS Insulation:	Complies with ASTM C578, Type II
Concrete:	Nominal thickness 6" or 8"
Sound Transmission:	STC Rating >50
Fire Resistant Rating:	Minimum 3-hour rating for 6" concrete wall
Air & Vapour Barrier:	Provided by combination of monolithic concrete thickness and EPS insulation
Code Evaluation Reports:	Intertek Code Compliance Report CCRR-1006 See Advantage ICF System PIB 220 for details
Sustainability Certification:	GREENGUARD Gold - See PIB 213 for details

Advantage ICF System Product Information Bulletins can be found at www.advantageicf.com in the Technical Library

Code Compliance

CCRR-1006 for the Advantage ICF System Product addresses compliance with the following Codes:
- 2015, 2012, 2009 and 2006 International Building Code® (IBC)
- 2015, 2012, 2009 and 2006 International Residential Code® (IRC)

The Advantage ICF system has been evaluated for the following properties:
- Physical properties
- Surface-burning characteristics
- Attic and crawl space fire evaluation
- Fire-resistance-rated construction