

## ICF Therm: Insulated Concrete Formwork wall system

ICF-Therm is an NSAI certified Insulating Concrete Formwork (ICF) system that allows for the fast construction of creative, flexible buildings with low running costs and a long sustainable life.

### How does ICF -Therm work?

ICF-Therm polystyrene blocks are assembled on-site to create a formwork wall into which horizontal and vertical steel reinforcement are fixed for strength. Once braced, the formwork is filled with ready mix concrete.

ICF-Therm blocks remain in place to create a super-insulated monolithic concrete structure.



## u-values

The ICF-Therm system offers the following wall u-values:

ICF Block Description	Colour	Overall ICF Wall Thickness	Concrete Core Thickness	U Value W/m <sup>2</sup> K
310/150	White	312 mm	150 mm	. 22 *
310/150	Grey	312 mm	150 mm	. 19 *
335/150	White	337 mm	150 mm	. 19 *
335/150	Grey	337 mm	150 mm	. 17 *
360/150	White	362 mm	150 mm	. 17 *
360/150	Grey	362 mm	150 mm	. 15 *
360/200	White	362mm	200 mm	. 22 *
360/200	Grey	362 mm	200 mm	. 19 *
385/200	Grey	387 mm	200 mm	. 17 *
410/200	Grey	412 mm	200 mm	. 15 *

\* u-values based on the following wall build up:

12.5mm plasterboard + inner ICF panel + concrete core + outer ICF panel + 7mm external render finish.



## The benefits of ICF Therm

### Choice of widths for different strengths and u-values

3 block widths: 310, 335 & 360 mm  
2 concrete core widths: 150 & 200mm

### Designer-friendly

Allows for freeform shapes, ideal for innovative or unusual design features.

### Multiple exterior options

ICF-Therm is well suited to external render or mechanical fixing of a wide range of cladding materials including timber, composite, metal, brick and stone

### Low waste

ICF-Therm corner and straight blocks can be flipped (i.e. no up or down) for versatile usage.  
Off-cut blocks are easily incorporated into the courses of follow-on walls

### Simple to install

Assembly requires some training and skill, but this is minimal compared to other construction methods. Our experienced installation partners can provide training and support as required.  
Clearly marked cut lines enable fast and accurate window and door construction.

### Quick to install

Experienced installation crews can achieve 150m<sup>2</sup> - 200m<sup>2</sup> of wall area / week, with minimal mechanical equipment and power tools required.

### Improved Build Programmes

ICF builds require less skilled labour than traditional build methods, enabling better budget and programme control.  
Fast assembly enables supporting trades to get on-site quicker to improve construction programmes.

### Pre-assembled

Factory inserted webs for faster wall assembly.

### Robust

ICF-Therm blocks are designed to withstand the pressures of wet concrete with pours up to 3 meters in height.

### Lightweight

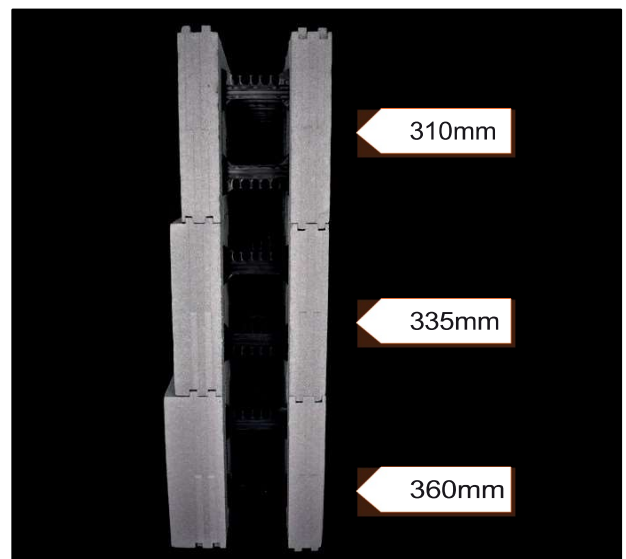
Lightweight and easy to handle.

### Energy efficient

The insulation properties of the polystyrene and unique design of ICF-Therm cavity closers for window and door openings, eliminate thermal bridging and create a comfortable living environment all year round, keeping energy bills low.

### Fast UK delivery

ICF-Therm is produced in a modern manufacturing facility in Ireland, which enables a fast turnaround time from initial order to delivery around the UK.





## Where can ICF Therm be used?

ICF Therm can be used in a wide variety of different building projects, such as:

- Self-build homes
- Extensions
- Residential developments
- Nursing/Care homes
- Commercial buildings
- Hotels
- Schools
- Stables
- Swimming pools
- Basements





## Thermal performance

The thermal performance of a wall structure depends on two key measures - 'thermal mass' (the ability of the exterior envelope to store heat and release it over a 24-hour period) and 'thermal storage' (the ability of the building material to minimise temperature fluctuations and stabilise internal conditions).

With an ICF-Therm wall, the thermal mass of the concrete combined with expanded polystyrene insulation inside and outside, help keep the building warm in winter and cool in summer, conserving energy and reducing temperature fluctuations.

## Air tightness

ICF-Therm walls eliminate air leaks due to the sealing effect of concrete and the low permeability of the formwork. This highly effective system provides a simple, robust and air-tight structure that will perform over the long life of a building, increasing energy efficiency and enabling controlled ventilation.

