



CASTLE FORMS
INSULATED CONSTRUCTION SYSTEMS

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ICF THERM
ADVANCED ICF STRUCTURES

WHAT IS ICF – THERM?

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 extra strength. Once braced, the formwork is then filled with readymix concrete. The ICF-Therm blocks remain in place permanently to create a super-insulated monolithic concrete structure.



NSAI Certified - Irish Agreement Board Certificate Number 22/0431



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U-values

The ICF-Therm system offers the following optional wall U values:

ICF Block Description	Colour	Overall ICF Wall Thickness (not including finishes)	Concrete Core Thickness	U Value W/m ² 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.





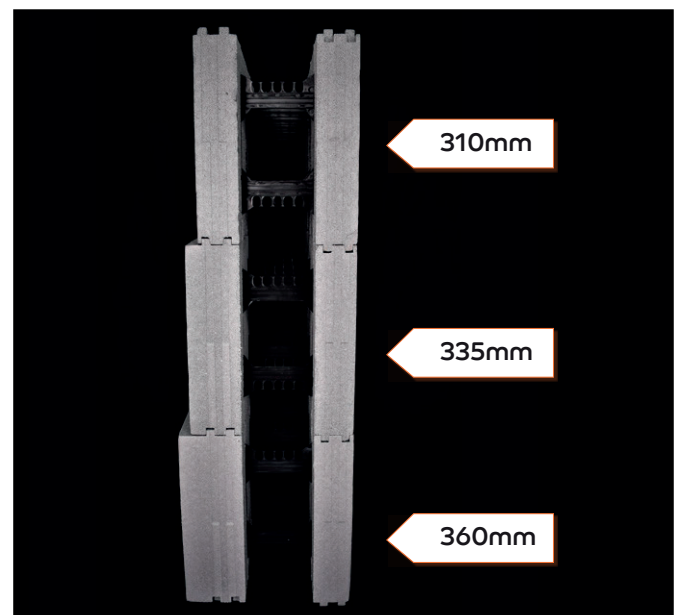
What are the key benefits of ICF Therm?

- **Choice** - Available in the following three different block widths 310mm, 335mm and 360mm.
- **Versatile** - Straight & corner panels are flippable, with no top or bottom edge.
- **Fast** - Experienced installation crews can achieve 150m² - 200m² of wall area / week, with minimal mechanical equipment and power tools required.
- **Improved programme** - ICF-Therm walls are assembled in less time allowing supporting trades to get on site faster improving construction programmes.
- **Pre-assembled** - ICF-Therm blocks are delivered pre-assembled, leading to faster wall assembly.
- **Robust** - ICF-Therm blocks are designed to withstand the pressures of wet concrete with pours up to 3 meters in height.
- **Simple Installation** - Assembly of the ICF-Therm system requires training and skill, but this is minimal compared to other forms of modern construction methods. Clearly marked cut lines allow for fast and accurate window and door construction.
- **Reduced Labour** - Requires less labour than a traditional building project. This allows for a more cost-effective workforce with better budget and programme control.
- **Designer-friendly** - Ideal for innovative or unusual design features, which allows for freeform shapes.
- **Less waste** - Off cut ICF-Therm blocks are easily incorporated into the courses of follow on walls.
- **Lightweight** - ICF-Therm components are lightweight and easy to handle.
- **Easy to clad** - Inserts moulded into each panel allow for easy mechanical fixing of a wide range of exterior cladding, including timber, stone or brick, ICF-Therm blocks also are perfectly suitable for external render systems.
- **Energy efficient** - The insulation properties of polystyrene and the unique design of the cavity closers around windows and doors openings create a comfortable living environment all year round, keeping energy bills low.
- **It's made in Ireland!** - ICF-Therm is produced in a modern manufacturing facility in Portlaoise, which ensures a fast turnaround time from initial order to delivery on site.

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 homes
- commercial projects
- hotels
- schools
- stables
- swimming pools
- basements





What's the thermal performance of ICF-Therm?

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 the expanded polystyrene insulation inside and outside the concrete core help keep the building warm in winter and cool in summer, conserving energy and reducing temperature fluctuations.

Air tightness

ICF-Therm walls eliminate air leakage 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 allowing for controlled ventilation.

