

## ICF-Crete™



Aggregate Industries businesses, have developed a number of sustainable ready-mixed concrete mixes for ICF applications.

Widely used in the USA, Canada and Continental Europe, ICF (Insulating Concrete Formwork) is a relatively new UK building technique which involves a series of hollow expanded polystyrene blocks into which ICF-Crete is poured. The system combines the inherent strength of concrete with the excellent thermal insulation properties of polystyrene to produce cost-effective and durable structures. In addition ICF systems provide some of the inherent benefits of concrete construction, namely, sound insulation, air tightness, fire resistance, long-term performance and robustness.

- ICF formwork with ICF-Crete provides a sustainable walling element with green guide ratings of A+ and A dependent on walling thickness and internal and external finishes
- Recycled or secondary aggregates can be introduced to the ICF-Crete mixes specific to client requirements and local availability
- Enables quick build of watertight shells
- ICF systems are highly air tight which improves comfort and less heat loss compared with leaky walls thermally bridged
- Wall U-values down to 0.10W/m<sup>2</sup> °K and below are achievable
- Acoustic performance easily exceeds the requirements of building regulations offering peace and quiet in multi dwelling construction
- Structural integrity for better resistance to forces of nature, compared with framed walls
- Reduces HVAC operating costs by 30%-70%
- No vertical heat loss through ICF party walls
- Construction methods are easy to learn with manufacturers offering installation training courses and/or site supervision
- ICF structures offer a more comfortable, quiet, and energy-efficient environment than those built with traditional construction methods.
- Designing and building with ICF's can help your construction project attain Ecohomes excellent, and high levels in the Code For Sustainable Homes and other BREEAM schemes
- Insulating Concrete Formwork creates a monolithic concrete wall that is many times stronger than timber framing
- National availability.



## Applications

Interior and exterior walls using an ICF (Insulating Concrete Formwork) systems in residential, commercial and institutional applications. ICF systems are eminently suitable for basement construction.

## Finishes

The insulated structure may be clad internally and externally with a range of finishes, including plaster, plasterboard masonry, brick slips and renders.

## Manufacturing standard

ICF-Crete conforms with the requirement of European standard BS EN 206-1:2001 concrete Part 1: Specification, performance, production and conformity and with the requirements of BS8500-1 and BS 8500-2 2006.

As with all Aggregate Industries' products ICF-Crete is manufactured under independently monitored third party assurance schemes in accordance with ISO 9001 and with factory environmental compliance to ISO 14001. It is certified "Responsibly Sourced" under BES6001 by the BRE.

## Performance

Walls up to 3m high can be poured usually by concrete pump into the empty core of the formwork.

It is good practice to fill the complete wall in lifts of approximately 1m and vibrate the concrete unless the ICF-Crete is self compacting.

Density of ICF-Crete can be from 2300kg/m<sup>3</sup> down to 1800kg/m<sup>3</sup> with strengths from 60N to 15N depending on structural requirements.

Aggregate Industries are associate members of the ICFA [www.icfinfo.org.uk](http://www.icfinfo.org.uk)

## Sustainability and local sourcing

Responsible Sourcing: Aggregate Industries is the first company in the world to achieve a BES 6001:2008 Responsible Sourcing Certificate from BRE Global. Products are based on:

- quality management
- environmental management
- health & safety management
- greenhouse gas emissions
- minimising raw material usage
- labour practice
- biodiversity
- community engagement.

**Energy use:** Aggregate Industries is at the forefront of sustainability and has committed to reduce carbon emissions by 20% by 2016 based on a 2012 base line.

**Manufacturing location:** produced in the UK, with locally sourced materials under strict environmental and social legislation, for local supply.

**Recyclable:** the product can be designed for a use in excess of 120 years and is fully recyclable.

## Non primary aggregate content

This product may be supplied containing a recycled or secondary aggregate to achieve a reduced environmental impact and increased green guide rating, as well as Portland cement replacement by PFA.

Expected Green Guide Rating of rendered ICF walls, with a plasterboard internal finish

100mm concrete thickness = A+

150mm concrete thickness = A

## Policies

Aggregate Industries' policies on the environment and community, health and safety and sustainable solutions for different product applications can be viewed on our website [www.aggregate.com](http://www.aggregate.com).

## COSHH data

Full COSHH data on our concrete range of products is available on request.

## Technical support

Detailed guidance and assistance with the preparation of specifications and use of our concrete range of products is available through the sales offices. A free technical service is also available.

**Call our concrete Technical Services at the nearest sales location to your contract.**

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## Scottish region

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## Midlands and North region

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## South region

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## London Concrete

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[www.aggregate.com/strike](http://www.aggregate.com/strike)



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