

# The Kore of the matter

**A**IRPACKS Ltd. was established in 1997 by Thomas Brady in Kilmaleck Co. Cavan, to manufacture Expanded Polystyrene Products for the construction industry. Products include, wall, floor and roof insulation and Void Formers for precast concrete and civil engineering applications. One of their most popular products is the KORE range of Insulated concrete formwork (ICF).

ICF systems have become very popular in Ireland over the past few years. The system essentially uses permanent insulating forms, erected vertically to make the walls. The forms are held the pre-requisite distance apart by plastic ties, which are hinged for ease of transportation to site. Concrete is poured between insulation panels. The panels interlock during installation and reinforcing steel is sometimes placed between the forms in advance of the concrete pour. The panels remain in place after the concrete is poured and cured and act as high performance permanent insulation, creating a solid insulated concrete wall. The ICF system is quick to set up, and offers excellent thermal performance.

Mervin Davidson is currently building a 2,800 sq. ft. two-storey house at Templepatrick, just north of Belfast.

"I wanted to get away from traditional building methods," Mervin says. "I wanted to take advantage of the latest way of doing things. I looked at several options. For me, insulated concrete formwork is ideal, because you end up with a continuous solid structure, fully insulated and built in one go. If you go for timber frame you have to put up the kit and then build blocks around it later. With ICF you get your insulation, your structural wall and your airtightness all in one go. It's a great system."

Mervyn first came into contact with the KORE system at the 2007 Self Build



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Show in Belfast. He was impressed with their product. The house is currently constructed to first floor level. Mervin says that the house he will be moving out of is very cold and draughty and he can't wait to move into the insulated concrete house.

Caroline Ashe, Marketing Manager with KORE ICF, says that their standard system delivers a U-value of 0.20W/m<sup>2</sup>K.

"The wall make-up is: External Render, 75mm Extra Heavy Density Expanded Polystyrene (EPS) on the outside, 150mm of 25Newton strength concrete

made from 13mm aggregate, in the middle, 75mm Extra Heavy Density EPS, again on the inside and with a 12.5mm plasterboard finish internally." Caroline adds that even better U-values can be achieved by the additional installation of the Airpacks Thermal Board. This is basically 75mm of EPS attached to the back of a plasterboard slab which is fixed internally to the KORE ICF wall. This will achieve a U-value of 0.15W/m<sup>2</sup>K, she says. KORE has a supply and fit policy for the self build market. That way, the install quality is guaranteed first class.

The 150mm concrete core of the KORE wall provides a perfect bearing for fitting of precast concrete floors and stairs.

"At KORE we actively promote the use of concrete products throughout the entire building. The fire, sound and thermal mass properties of all the concrete products working together is so obviously compelling," Caroline says.

KORE Insulated Concrete Formwork System is the first Irish designed and manufactured ICF product to receive Irish Agrément Board Certification. The Certificate was issued in March of this year.

The value of IAB Certification is underlined by Steven Burns, of Burns Design and Build Ltd. Steven builds houses with ICF and he is also a qualified Architect.

"We specialise in ICF construction," says Steven. "We offer a design and build service - we do everything from design to planning application to handover. It's very important to have Irish Agrément certification. Because we design and build, the IAB certificate is very important when we are signing off on a building."

Steven's company covers the north-eastern part of Ireland, specialising in the construction of buildings using eco friendly technology like heat recovery ventilation, air-to water heat pumps solar panels.

"Insulated formwork is a very user friendly product and you are guaranteed good u-values when you use it," Steven says. "With traditional build, a lot of monitoring is required to ensure that the insulation values are what they should be. There's a lot that can go wrong and it can be very difficult to put right. ICF is poured in one go and is much easier to deliver the claimed U-values, than with other methods of construction."

Airpacks Ltd. currently employs 25 people in Kilmaleck.