

Brooklyn-on-sea

Sandbanks Peninsula in Dorset, the fourth most valuable land on the planet, is the location of an Art Deco-style apartment scheme constructed using Insulating Concrete Forms (ICFs) from ICF Tech.

Brooklyn House comprises 10 luxury apartments and a penthouse with views of the south coast. The four-storey development includes an underground car park incorporating up to 400-mm thick in situ concrete floors; a structural challenge that was “easily met” by the ICF Tech system, according to the firm. The house’s curved walls and expanse of glazing demonstrates the design and structural performance capabilities of the system.

ICF Tech, part of the Litchfield Group of Companies, produces a high-performance walling system consisting of strong, yet lightweight, interlocking forms made from flame retardant Expanded Polystyrene (EPS), filled with a purpose-designed ICF concrete mix.

The self-compacting air-entrained mix uses a 10 mm aggregate and replaces much of the cement with more environmentally-friendly alternatives. Additives create tiny air bubbles in the matrix to improve the flow and compaction of the concrete whilst improving insulation.

The system comprises all the components required to complete the structure, such as a bracing and alignment system to keep walls plumb, floor supports and cavity closers. The range of profiles and systems has been developed for the support of a variety of different floor types and external finishing treatments.

Cutting, shaping and connecting the components is straightforward, and being lightweight, cost of their delivery to site and lifting into place is minimised.

ICFs have been used in the construction industry for more than 50 years, mainly in the self-build markets and particularly in the USA. However building with ICFs is a method that dramatically reduces the time and cost of house building and offers huge advantages in energy saving, fire safety, thermal and acoustic performance.

The thermal mass of the concrete stabilises the interior temperature making the building warm in winter and cool in summer therefore reducing fuel bills and



Established in other countries, ICF build methods are still emerging in the UK, but a new project offers Art Deco inspiration.

producing a smaller carbon footprint. It also delivers exceptional sound insulation from airborne sources, far more effectively than conventional forms of construction, according to ICF Tech, ideal in apartments such as this.

Guy Dolby, managing director at consulting engineer Peter Dann said: “The building required open basement car parking areas with load-bearing walls above that did not line up. This, together with the need to minimise floor-zone depth due to planning restrictions on height, necessitated the use of an in-situ concrete structural solution.” He adds: “ICFs offered an effective way of forming the walls and at the same time provided high levels of sound and thermal insulation”.

He says traditional in-situ concrete would have required “significantly more reinforcement, whereas with ICFs many of the walls could be designed as concrete masonry structures as opposed to reinforced concrete structures.”

Graeme Howorth said: “A key issue was the need to make use of internal walls as ‘trusses’ from which the floors over the car park are hung. The use of the ICF Tech system made this relatively easy to achieve. Another key issue was the formation of the curves that characterise the Art Deco style of this building. The range of Form shapes and the manner in which they interlock made it easy”.

LONDON FESTIVAL OF ARCHITECTURE
FOSTER + PARTNERS
LONDON IMAX CINEMA UNDERPASS
MOCHEL FERRARI ARCHITECTS
NUMBER ONE CROYDON
RICHARD SUPER ARCHITECT
GREATER LONDON HOUSE
MUNKERBECK WASHALL FITCH FORMAN
THE EGYPTIAN HOUSE SPRING HILL
JOHN OUTRAM ASSOCIATES
ROSOLIS PRIMARY SCHOOL
KEPPEL DESIGN

THE CHOICE
OF PROFESSIONALS
FOR COLOUR

KEIM MINERAL PAINTS 01952 231250
LONG LIFE MINERAL PAINT SYSTEMS WWW.KEIMPAINTS.CO.UK

10008