

Residential

Bingham Avenue, Poole, Dorset

Peter Dann were involved in the design of a thirteen unit apartment block over three storeys with basement car parking and two, four-storey town houses also with basement car parking at Sandbanks, Dorset.

The wall construction in both instances incorporated the only Insulating Concrete Form (ICF) system developed specifically for the UK market by ICF Tech Limited.

The system comprises of modular units with two layers of 75mm thick EPS, which act as permanent formwork for the main structural core, this is then filled with self-compacting concrete. This can be reinforced with vertical and horizontal reinforcement as dictated by the loads to be supported. The use of the EPS modular units combines speed and efficiency of construction with outstanding thermal and acoustic performance.

The spans of the insitu concrete floor slabs for the apartment block were reduced by using the internal partitions as load-bearing. This meant the full weight of the building was effectively applied to the transfer slab at ground floor level. The car parking layout resulted in minimal internal support being available for the transfer slab.

As part of the design process the slabs were analysed using STAAD Pro finite element software which was an iterative process to maximise the efficiency of the design whilst taking care to minimise the amount of concrete and reinforcement required.

