

CUBE RE:treat

Structural Insulated Panels

Block 5

2 x 2 Bedroom Amenity Cottages



CUBE RE:treat is delighted to become involved as a partner with Housing Innovation Showcase 2012. The company, a collaboration between CUBE architecture and John Heaney Joiners, will be delivering 2 amenity cottages to the showcase, utilising a component system involving SIPs (Structural Insulated Panels).

Recent changes in building regulations have dictated that new structures are now required to adhere to stringent heat loss, acoustic and air tight requirements. Coupled with more financially, as well as ecologically aware client base, CUBE RE:treat provide buildings that have been proven by third party accreditation to outperform the standards required by statutory authorities.

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The benefit of incorporating SIPs into any building is that the majority of the material is insulation, therefore providing accommodation that is not only comfortable to live, but is economical to heat. All the SIPs used in CUBE RE:treat projects are manufactured to a quality management system and brought to site pre-assembled to the project specific dimensions. Off-site manufacture reduces construction waste, and on-site labour. Renewables can easily be incorporated into designs thus potentially decreasing the carbon footprint even further.

All CUBE RE:treat homes can be designed to suit any spatial requirement and budget and deliver for both the affordable and private markets.

Robert Collin, Director of CUBE RE:treat advises that "clients are enthusiastic and appreciate the unique advantage of having a one stop shop providing continuity from site specific architectural design through to supply, installation and hand over."

The unique and important aspect from CUBE RE:treat's perspective is that they can deliver to the client one complete package – in-house services commencing with Architect led design, liaising with the client during the design period to ensure that their brief is being fulfilled, to then supplying and installing a building that is worthy of being categorised a Modern Method of Construction.

- Involving CUBE RE:treat with a project adds value by ensuring the following:
- Complete turnkey service from design inception to handover of keys.
- Ingenious component building system reducing labour on site.
- Outstanding thermal performance.
- Increased air tightness standards.
- Reduced wastage of materials.
- Economical to heat.
- System is versatile and lends itself for all design requirements and budget ranges

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DESIGN OUTPUTS	PLOT 15	PLOT 16
CONSTRUCTION	Structural Insulated Panels	
GROSS INDICATIVE FLOOR AREA M ²	94.40	94.40
AVERAGE SUPERSTRUCTURE COSTS PER UNIT (INCLUDING RENEWABLES / EXCLUDING PRELIMS)	£77,731	£77,731
AVERAGE M ² SUPERSTRUCTURE COSTS PER UNIT (SEE NOTE 1)	£823	£823
CONSTRUCTION PERIOD (SUPERSTRUCTURE)	NUMBER OF WORKING DAYS OFF / PRE SITE : 3	
	NUMBER OF WORKING DAYS ON SITE : 58	
<p>Note 1: If the roofspaces were converted at the outset at a cost of £15,000 per unit, this would create an additional 47.75m² and provide an additional 2 bedrooms (total area 142.15 m²). This results in a superstructure cost of £649.81 m² per unit.</p> <p>Note 2: These units incorporate within the cost, non slip safety flooring to kitchen, utility rooms and bathrooms due to being amenity units</p>		



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DESIGN OUTPUTS	PLOT 15	PLOT 16
SAP RATING (BASED ON 2009 SAP)	85 B	85 B
CO2 RATING (BASED ON 2009 SAP)	88B	88B
U VALUES		
WINDOWS	0.8	0.8
DOORS	1.4	1.4
EXTERNAL WALLS	0.14	0.14
FLOORS	0.15	0.15
ROOF	0.09	0.09
RENEWABLES	Photovoltaic Panels	
ELECTRICITY GENERATED	£31.32	£31.32
AIR PERMEABILITY (at Design Stage)	3.0	3.0
AIR PERMEABILITY (Actual)	2.5	2.5
VENTILATION SYSTEM	Mechanical Ventilation Heat Recovery (91%)	
BOILER EFFICIENCY	89.9%	89.9%
ENERGY USE		
SPACE HEATING (KWH/YEAR)	2021.80	1947.06
WATER HEATING (KWH/YEAR)	1737.42	1737.47
LIGHTING (KWH/YEAR)	376.23	376.23
ANCILLARY (KWH/YEAR)	412.64	412.64
TOTAL (KWH/YEAR)	4548.09	4473.40
ENERGY COST		
SPACE HEATING (£/YEAR)	£62.68	£60.36
WATER HEATING (£/YEAR)	£53.86	£53.86
LIGHTING (£/YEAR)	£43.12	£43.12
ANCILLARY (£/YEAR)	£153.29	£153.29
TOTAL ENERGY COST (£/YEAR) EXCLUDING SAVING FROM ENERGY GENERATED	£312.95	£310.63

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