

Case Study: 95A Robinson Road



The project

A single storey, luxury 3-bedroom eco home, with a wildflower meadow roof, built with Sips Eco Panels to create a truly carbon neutral, sustainable modern home, featuring an 'Excellent' BREEAM sustainability certification, and energy bills of just £150 a year.

Location: South London, UK

Materials: 169mm thick SIP walls, 94mm thick SIP roof panels, 254mm deep metal web joist deck & 89mm x 38mm CLS internal stud walls

Area: 104.7m²

BREEAM rating: Excellent

Introduction



95A Robinson Road, London

With energy prices rising out of control, and households everywhere expecting bills to increase even further, any new build must tackle the challenge of keeping those costs down.

SIP panels are often considered the construction material of choice for a carbon neutral, sustainable build for their incredible insulation properties, for their responsibly sourced timbers and 100% recyclable EPS insulation.

Below we've highlighted how our self build client used SIPs Eco panels to build a sustainable eco home that not only keeps those spiralling energy costs down, but actually produces more carbon neutral energy than it uses each year.

The Challenge



The client wanted to build a completely carbon neutral home that was eco friendly, energy efficient and completely self sustaining, also featuring a wildflower meadow roof to offset any ecological impact the house might have on the surrounding environment.

It needed to be airtight, so that there would be very little thermal energy lost through the walls, but needed to be light and airy, so it

could avoid problems like damp and condensation, whilst also feeling like a comfortable family home.

As well as the challenges usually presented by a regular house build, there was also the structural integrity of the roof to consider. Most roofs are able to bear a load of 40kg per m². This roof was required to bear 140kg per m² for the wildflower meadow.



The area of the build also presented a challenge, with the land being off a main road and behind some existing residential structures. The build would have to be minimally invasive to the neighbours in terms of noise and access.

The emergence of the Covid 19 pandemic, and a scarcity of both materials and labour added additional challenges to this self-sustained eco build.

SIPs panels offer a solution in the form of a build method that not only fits in perfectly with sustainability and energy efficient values, and is also ideal for tight sites.

The Solution



Our SIPs panel kit included 169mm panels for the outer walls, 254mm deep metal web joists for strength and stability, and 89mm x 38mm CLS internal stud walls to make the house's internal structure.

To create an airtight, incredibly well-insulated and energy-efficient home, the client was sold on using our SIPs Eco Panels, and sent the blueprints over to our team. Then it was just a matter of waiting whilst their panels were delivered, ready to be assembled.

For the superstructure of the house, the client used a SIPs Eco panel kit. To deal with the challenge of the roof needing to take loads of

up to 140kg per m², the client used 94mm thick SIP roof panels. These were strong enough to accommodate both the 2ft wildflower roof garden, and the 3.2 kW PV solar panels.



Our lightweight SIPs panels were fabricated offsite, and installed by our self-build client and their team.

Extra care and attention to detail was put into making the house airtight. This ensured minimal heat loss through the walls and solar heat gain through the triple glazed and insulated windows.

Because the house was a closed, airtight system, a mechanical ventilation heat recovery system provided filtered air throughout the house, combating both condensation and damp, and it also stopped the house from feeling stuffy.

Heating and hot water are provided by a 4kW

air source heat pump. This operates at 300% efficiency, and in comparison, a typical 30kW boiler in a similar sized three-bedroom property operates at about 89%.

Due to the build being situated on a small area of land away from the main road and behind some residential structures, there was potential for a disruptive presence like cranes and other machinery, noise, and tradesmen going back and forth.

The Solution



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The Results



Quality, energy efficiency, and minimal ecological impact; this build demonstrated what can be achieved in these areas, all thanks to the inherent nature of our fully-insulated SIPs panels.

Making the house airtight ensured a closed system with very little thermal loss.

The wildflower meadow and 3.2 kW PV solar panels served the twin purpose of being minimally disruptive to local wildlife, and provided the house with 20% more energy than the family used on an annual basis.

The client was delighted, and felt we had

achieved every aspect of the brief, including being a luxury family home:

It's like when you get in a Bentley. You can just feel the solidity of it and the quality, and it feels different living there.

In fact, the project was so successful that it cut the client's energy bills by 94%, and received a full write up in The Times.

Because of the results of the build, the client has now gone on to form a sustainable building company based on all of the principles achieved during the building of 95A.

The UK's largest independent SIPs manufacturer



About us

We're a family-run business with over 35 years' experience in the construction industry. Our dedicated team of highly-experienced professionals will guide you through every stage of the process, from design right through to completion, via your own dedicated production manager.

Sustainability

We're very proud of our carbon-neutral facility based just north of Edinburgh (making it easy to deliver nationwide). All of our timber is responsibly sourced, and all of our materials can be tracked and traced back to source from sustainable forestry. Why not come and visit us?

**Looking to discuss your next project with a SIPs expert?
Get in touch and request your free consultation today**

YES! BOOK NOW