

Insulshell – Specialist Applications

Tesco Croydon – Express

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Tesco Croydon Express

Generating Sustainable Specialist Solutions

A commitment by major retailers to significantly reduce the carbon footprint of a new store build by 2050 has resulted in the need to examine every aspect of the construction process and store operation. Having set the stall out to achieve zero carbon by the 2050 deadline, Tesco is at the forefront of this sustainable construction, pioneering innovative solutions and developing new techniques.

One recent example of this is a new Tesco Express in Croydon, where the mains power supply could not be connected in time for the scheduled store opening date. Standard practice in these circumstances is to use a temporary diesel generator, which to minimise disturbance to residents is enclosed in a specialist acoustic enclosure. However, as these enclosures are traditionally constructed of steel frame, the client challenged Box Clever Engineering, a specialist provider of quality acoustic and attenuation systems, to find a solution which offered the required 25dB acoustic performance – but with reduced environmental impact.

Insulshell – The Eco Enclosure

Responding to the brief, Box Clever Engineering specified Insulshell – a fire rated engineered structural cassette panel system. Incorporating robust insulation technology, Insulshell delivers high levels of acoustic performance, including a sound reduction in this instance of 35dB.

To address the specific enclosure needs of the generator at the Croydon store, Box Clever Engineering collaborated with the Insulshell technical team to develop a bespoke system design that could accommodate the sound attenuation and ventilation path requirements.

Manufactured from managed sustainable timber sources, Insulshell offers an environmentally friendly alternative to traditional steel enclosure methods. For Tesco Croydon, the specification comprised the core Insulshell system with Insul-sheathing board mounted as internal and external wall linings. The 5.5m x 2.1m x 2.4m enclosure was then delivered to site fully prefabricated, enabling the efficient installation of the attenuation system at the store.

Kevin Broughton, Managing Director, Box Clever Engineering, comments: “Timber has not historically been a material we would consider for generator enclosures, mainly due to the high level of sound reduction required and the risk of ignition from the generator itself. As a fire-rated and robustly insulated system, Insulshell easily addressed these criteria and equally importantly, facilitated a flexible design to meet the generator manufacturer specification.”

Building Sustainable Communities

To reduce the impact of the temporary generator, Tesco engaged the local community with a children's art project – subsequently displaying the artwork on the Insulshell Eco Enclosure. Whilst this has helped make the enclosure more of a feature at the store, it is the performance of the Insulshell system that will really ensure minimal disruption while the generator is operational. For example, following an on-site noise assessment, the acoustician was unable to record any sound reading – even when stood immediately adjacent to the enclosure. Based on manufacturer data, this represented a sound reduction of 10dB over the targeted 25dB.

Whilst sustainability of materials, efficiency of installation and acoustic/fire performance were the main drivers behind the specification of Insulshell, the defining factor was the ability to deliver the system against very tight timescales. The time period from initial enquiry through to manufacture and installation was just two weeks, which ensured the store could open on time and without negatively impacting on its neighbouring residents.

Kevin concludes: "This was the first Eco Enclosure we have designed using the Insulshell system, but I can safely say it is as flexible as it is robust. We were extremely impressed with the service, response and expertise of the Insulshell team and expect demand for these Eco Enclosures to quickly rise."

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