

SIPs construction delivers 'green' benefits

There can be little doubt that issues surrounding 'environmental sustainability' will become major considerations for the construction industry as the 21st century progresses.

The role of architects in ensuring that environmental issues are addressed cannot be over-estimated. Not only should the essence of the recommendations in the Egan Report, 'Rethinking Construction', be embraced in all its root-and-branch pragmatism. Practitioners should also ensure that the progressive spirit implicit in the Report's findings has a champion in so-called Modern Methods of Construction (MMC).

Structural Insulated Panels (SIPs) in particular are already widely recognised as the potential way forward, especially in Britain where housing shortages could be alleviated by this cost-effective method of timber-based construction.

Off-site manufactured SIPs panels enable architects to create buildings that address environmental concerns without sacrificing any of the design flexibility which has made new-generation SIPs the building material of choice for a growing number of construction industry professionals.

At the forefront of the SIPs revolution is Sales Manager of HEMSEC-SIPs, Brian Hxxxxx, who has witnessed an enormous surge of interest in this new way of building:

"Thanks to technological advances in both the quality and performance of SIPs panels," says Brian, "the door is wide open to create exciting new buildings that just happen to incorporate an impressive array of environmentally-favourable features.

“Most people in the industry are familiar with the advantages of using SIPs panels... the structural strength, design flexibility, speed of erection and so on.

“What they may not appreciate – and this is an important point – is just how ‘green’ SIPs actually are! Nowadays, that doesn’t mean we’re pandering to some mad hippy fringe. Environmentally-friendly SIPs go one step further by delivering energy-efficient buildings that make real cash savings!”

When a respected independent body like The Carbon Trust points out that buildings are responsible for 45 per cent of carbon emissions in the UK, it puts the scale of the challenge into perspective. Most people think that cars are the big demon in the greenhouse gas equation. This lack of awareness of the energy-diffusing nature of our buildings is a strong case for switching to Modern Methods of Construction like SIPs.

Buildings constructed from inter-locking SIPs panels are much more air-tight than those which use conventional materials. They therefore require less heating which in turn leads to a reduction in the potential outflow of CO² gases.

Related to this are the high insulation levels of SIPs panels. Made from timber OSB 3 facings (using timber from renewable sources) with a core material of fire-retardant polyurethane foam, the insulation performance levels of HEMSEC-SIPs were tested by Dow Chemicals. ‘U’ values were shown to be between 0.08 and 0.28 depending on panel thickness – impressive figures which fall well within Building Regulations standards.

Also reassuring is the off-site manufacture of SIPs. Not only does this ensure consistency of product (and therefore nothing is rejected); it also means much less waste is produced on-site. What’s more, the amount of energy used in the manufacture of SIPs panels is much less than the amount used to make bricks and blocks.

NOTES FOR EDITORS

- Timber OSB 3 (Orientated Strand Board) provides high structural strength.
- Panels are available in thicknesses from 75mm to 245mm, with optional finishes of OSB 15mm and cement particle board.
- Sandwich construction of panels produces similar characteristics to I-Beam.
- The polyurethane core contains a fire retardant to inhibit accidental ignition when tested to BS4735.
- U-values for insulation of 0.08 (245mm thick) to 0.28 (100mm).
- Excellent U-value to panel thickness ratio minimises wall thickness, thus maximising internal space.
- Multiple options for external finishes.
- Air-tight structure drastically reduces energy loss.

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