

SIPs FAQs

Are you considering using SIPs on your project, but you have some questions? We've put together some frequently asked questions below:

What are SIPs?

Structural Insulated Panels (SIPs) are a Modern Method of Construction (MMC) forming a composite insulated panel manufactured offsite that can be utilised for wall and roof structures erected at speed on site as part of a panelised building system.

SIPs employ a "Fabric-First" approach to building performance and they are easily integrated with a wide range of construction materials as a load or non-load bearing structure.

SIPs provide framing, insulation, and sheathing in one pre-fabricated component.

What is the build-up of a SIPs panel?

Generally SIPs are made with Oriented Strand Board (OSB) faces; however, they can also be manufactured using other sheet materials such as Plywood and Cement Particle Board (CPB) among others.

SIPs can be manufactured with different cores including: Expanded Polystyrene (EPS), Graphite Infused Polystyrene (Neopor EPS), Polyurethane (PUR) or Polyisocyanurate (PIR).

Hemsec SIPs are manufactured for superior strength and thermal performance with an injected closed cell Polyurethane rigid foam system, sandwiched between two structurally rated skins of Orientated Strand Board (OSB/3). This provides continuous structural integrity and superior insulation within one component.

Hemsec SIPs product ranges include: Residential, Leisure (Available with 11mm or 15mm OSB) and Commercial applications (15mm OSB).

What is a U-value?

U-value is the measurement of heat flow through any given combination of materials, air layers and air spaces. The lower the U-value, the more slowly the transfer of heat in and out of a building and the better the insulating quality.

What type of build can SIPs be used for?

SIPs can be utilised in virtually any construction project (residential, leisure, commercial, education, retail), as structural envelopes or in-fill panels within a steel, concrete or timber frame systems.

Why choose SIPs over traditional methods?

The main benefits to building with SIPs are:

- Superior Insulation provides improved energy efficiency which reduces heating and cooling costs.
- Installation time can be reduced up to 60% against traditional construction therefore minimising overall onsite costs due to reduced; project management, plant hire, welfare facilities and most importantly labour.
- Factory-controlled manufacturing provides a consistent and accurate engineered product allowing for easier and precise installation.
- Offsite manufacture results in less waste on site.
- Panels can be built in to large format walls prior to site delivery therefore reducing installation time.
- Up to 7 times stronger when compared to timber frame construction.

What foundation should be used for a SIPs house?

Any foundation method can be used with SIPs; however, the tolerance level should be no more than +/- 5mm to allow for easy installation.

Would a SIPs construction be more expensive?

The initial, up-front cost of a SIP build over traditional methods i.e. timber frame or brick and block, is typically higher depending on the complexity of the design. However the savings in construction time, labour, reduction of material waste onsite and improved energy efficiency of the building can bring significant savings, making a SIPs construction a cost effective solution to achieve high performance buildings.

What are the options for external finishes?

External finishes are numerous and come down to personal preference, you can finish SIPs exteriors with traditional cavity and brick or stone wall, render, brick slips, timber cladding, slate, copper, zinc, stainless standing seam, etc.

What is the durability of SIPs

A building constructed with SIP panels will have durability comparable to other forms of construction. If the design of the structure follows best practice and the building is maintained and weather tight, a life exceeding 60 years can be expected.

What are the thermal, fire, acoustic and structural details of a SIP?

Full technical details of Hemsec's SIPs can be found on our website or by [contacting one of the team](#).

What certifications do I need to consider for SIPs?

When building with SIPs it is important to ensure they are manufactured to a high-quality. BBA Certified products are extensively tested for Structural, Acoustic and Thermal properties, including Fire Resistance, which are important factors when selecting a material for your build. Many homeowners find that they cannot secure a mortgage on a SIP that doesn't have a BBA certificate.