



Our Strength is our Experience  
with  
Ten years in SIPs Manufacturing  
on  
three continents





## **Structural Insulated Panels (SIPs) technology is the building technology of the future.**

As a strong, affordable and environmentally responsible solution, SIPs have been utilised successfully worldwide for more than 40 years.

Known particularly for its strength, versatility and outstanding insulation properties, SIPs construction is one of the fastest growing building systems globally.

### **Now available in the UK, Australia and Africa**

This new generation of strong, timber-based construction panels are available in the UK, Australia and Africa, providing a fast, simple and smart building alternative that is ideal for our conditions and lifestyles. Although SIPs were originally developed for colder climates, the excellent thermal qualities also make it relevant and beneficial to our hot climates.

Consider that it takes three times as much energy to cool a home than to heat it, and factor in rapidly rising local energy costs, and a SIPs building is a very smart choice all round.

### **Made around the World**

SIPs Industries now have state of the art manufacturing facilities in the UK, Western Australia and South Africa.

Backed by the expertise and experience of SIPs Industries UK, businesses manufacture and build everything from single residential housing through to complex multi-storey apartments and commercial buildings.

***The SIPs technology has been tried and trusted worldwide for over 40 years. SIPs continue to be used to build strong and durable homes with superior energy efficiency.***

### **What are SIPs?**

SIPs (Structural Insulated Panels) are strong, pre-manufactured, highly insulated and high performance building panels. They're specially engineered to fit tightly when assembled into a SIPs home or building is constructed by assembling the panels.

The panels are:

- Heavily insulated, so there's no need for any additional insulation.
- Very strong, so they can be used for external and internal walls, floors and roofs.
- Engineered and structural, so there's no need for a traditional steel or timber frame or brick work.



Once assembled, it's easy to apply wall and roof finishings, cladding, render finishes, natural stone, plus lightweight and traditional roofs.

### **What are they made of?**

Each panel contains two outer engineered timber boards and a central polystyrene foam insulation core. It is manufactured as a composite unit.

The outer boards are Orientated Strand Board (OSB/3) and are engineered using timber from the routine thinning of managed plantations. The polystyrene central insulation core is safe, non-toxic and manufactured in a low-energy steam process.

When the two are put together as a unit, they provide an exceptionally strong building component that is light but extremely thermally efficient.

### **How are they assembled?**

Panels have a unique cassette joint and are glued together during assembly to form an air-tight unit. The external grade glue is a stable, long-lasting, water-based compound that is safe and non-toxic.

## How are they used?

SIPs systems are used in the construction of houses, high-rise apartments, hotels and leisure facilities, schools and light industrial or commercial units. The strength of the panels reduces the structural requirements of the building.

A range of finishes can be easily applied to walls and roofs, turning each building or home into a unique structure. With their versatile design potential, the panels can add architectural lines and curves to create individual styles.

## Do they meet building standards?

Yes. SIPs has long enjoyed worldwide success and has clearly demonstrated standards. SIPs panels and the SIPs system have been through rigorous structural and engineering testing globally and they comply fully with building standards and Building Codes in the UK, Australia (BCA) and Southern Africa

## How environmentally responsible are they?

- Only timber from routine thinning of managed plantations is used in SIPs Industries Panels and a chain of custody process enables the timber to be traced to a certified, responsibly managed forest through all stages of processing and production.
- The complete scheme (panels and ancillaries) comes from one source, meaning fewer trucks and less impact on the environment from congestion, noise and traffic pollution.
- The manufacturing process for SIPs panels consumes very little energy.
- Pre-cut panels result in less site wastage and landfill, reducing the building's impact on the environment.
- Carbon footprint is reduced with excellent insulation and air-tight construction that reduces energy needs for heating and cooling.
- The more thermally efficient a building is, the lower the cost to heat or cool it. With rising energy costs, thermal efficiency becomes increasingly important.

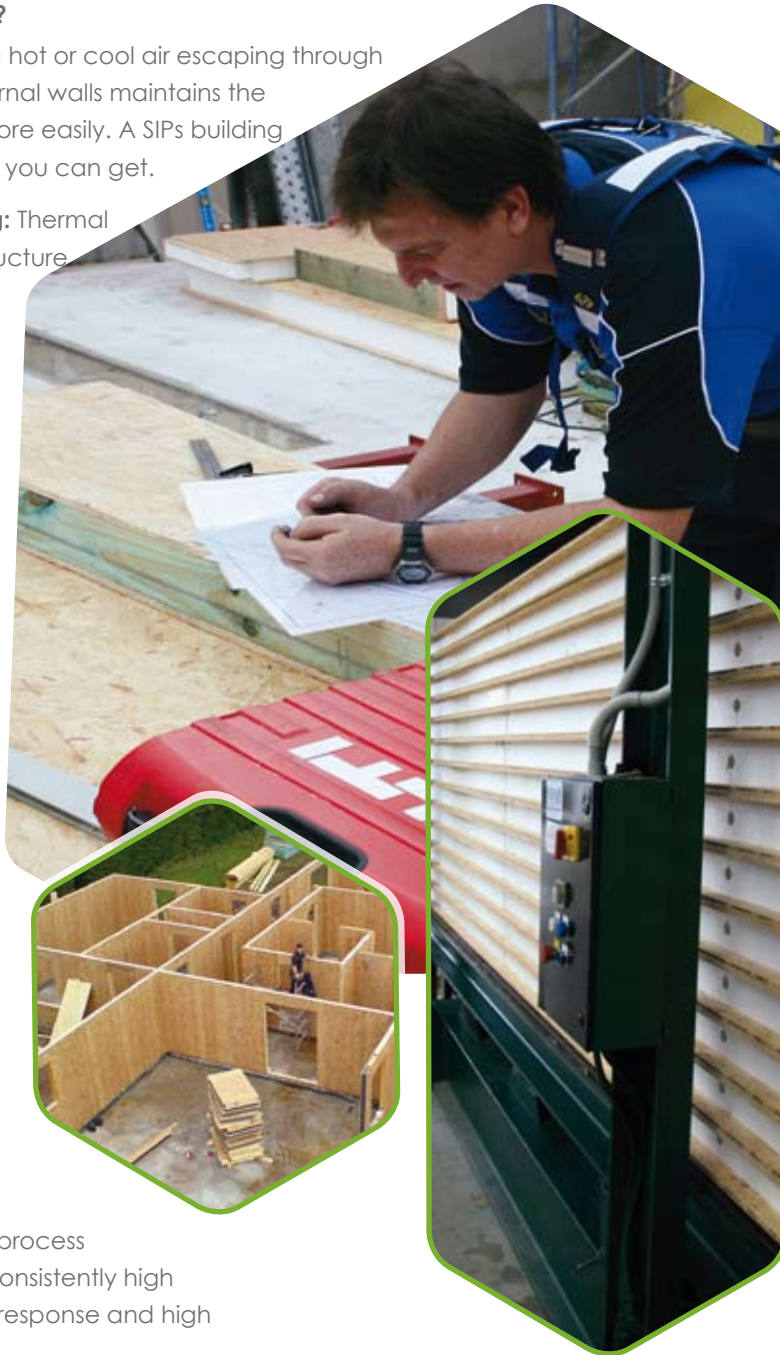
A SIPs building can achieve outstanding thermal efficiency through airtightness, insulation and reduced thermal bridging.

## What are the Advantages?

- **Air-tightness:** Preventing hot or cool air escaping through structural 'leaks' in external walls maintains the internal temperature more easily. A SIPs building is as close to air-tight as you can get.
- **Limited thermal bridging:** Thermal bridges are joins in a structure where conventional insulation may be interrupted, allowing hot or cool to transfer through stud, steel or brick work. The SIPs insulation layer is continuous to limit thermal bridging.
- **No insulation deterioration:** SIPs insulation will not sag or physically deteriorate over time. The polystyrene insulation core remains engineered to the facing. SIPs panels are expected to last beyond the life of the building.

## Manufacturing Advantages

- Factory quality control
- The SIPs manufacturing process at the factory ensures consistently high quality products, a fast response and high volume production.
- Less waste and no site rubbish with pre-made panels from the factory.



Strong. Simple. Smart.



### Exceeding U/R-values

The best way to reduce costs and carbon emissions in a building is to reduce heating/cooling requirements. Regulations require adherence to U/R-values as a rating measure for heat loss.

The better the rating, the more thermally efficient the building and the lower the cost to heat or cool it.

A SIPs construction reduces space heating and cooling demands not only by achieving a very high insulation standard but also by achieving air-tightness.



### Air-tightness

Air-tightness is achieved through the unique insulated panels which are assembled to provide an air-tight 'envelope' reducing costs of heating / cooling.

Filtered air can be brought into the house by means of a heat recovery ventilation system which gives further energy savings and an allergy-free environment.

The smart SIPs technology does away with the potential for air leakage from:

- poorly sealed sockets, switches in walls exposed to cavity
- floor zones through plastered masonry cavity walls

## Construction Advantages

- Assembly is fast and efficient with pre-cut panels.
- Walls and roof are straight from the start with precisely cut panels.
- Less labour means fewer tradespeople on site, saving time and costs.
- A fast build allows earlier site lock-up with reduced exposure to theft, vandalism and the elements.
- Speed of completion means earlier cash recovery and improved cash flow.
- Less cost in interim rent or mortgage as your home is built quickly.
- Less site waste and landfill reduces building cost and impact on environment.

## Maintenance Advantages

- The strength and technology of SIPs means no movement and cracking of the building, reducing maintenance costs.
- Extremely effective insulation with SIPs significantly reduces heating and cooling costs.
- Ventilation systems limit condensation from external sources forming in the walls or roof panels, eliminating mould and mildew and reducing maintenance costs.

## Build with Your Future in Mind

Sips allow a next generation design and technology, so you won't need to upgrade or retrofit your home to meet changed legislation in the future.

That also ensures your home is an asset that holds its value and gives you a greater return. It's ideal for property investors seeking strong rental returns and/or a profitable re-sale price. Tenants will pay more for an energy efficient home, occupancy rates are higher and owner maintenance costs are reduced.

- under skirting boards and through down lights, extraction fans, etc. in dry lined masonry cavity walls
- poorly sealed roof hatches
- Service holes through outside walls.



### **SIPs – A smart choice**

- Extremely strong
- Highly energy efficient
- Environmentally responsible
- Sustainable
- Affordable
- Quick to build
- Long-lasting
- Structurally sound
- Termite resistant
- Cyclone resistant
- Low maintenance
- Rust and corrosion free
- Exceeds fire resistance standards
- For single or multi-storey designs
- Suits even challenging landscapes
- Backed by 40 years of proven performance

**SIPs Industries** was the first UK manufacturer of Structural Insulated Panels. Established in 1998, SIPs Industries has mainly focussed on commercial and residential projects, with an extensive portfolio of completed projects comprising small garden offices, large commercial projects, extensions and new-builds of individual homes.

### **Bespoke and Designer Houses**

Bespoke and designer houses are typically non-standard in almost every aspect. The structures are normally complex and require significant engineering to be included in the SIPs kit. Complex compound cuts for the roof panels are easily achieved with the processes in place.

### **CAD**

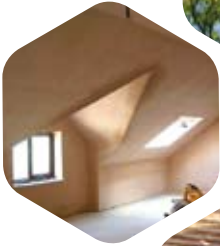
The accuracy of the finished building starts with the 3D drawings created in our CAD office. Factory drawings are automatically produced and used to cut and shape SIPs panels in the factory.

### **Manufacturing Factory**

SIPs Industries has both Polyurethane and EPS production plants. The original manufacturing design started with site requirements that are now embedded into the system. For example, the panels are marked and loaded in a specific order onto the trucks reducing installation time onsite. Our steel fabrication team is an integral part of the factory.




SIPs panels are structural panels, which means they are extremely strong and are used as the main, load bearing walls of a single or multi-storey building.



SIPs homes are designed with energy efficiency in mind. Further savings can be achieved with the use of smart appliances and lighting.

## Design Advantages

- Flexibility allowing for innovation in design.
- Custom cut panels mean you can have an individual design.
- Can be constructed on any flooring system – the choice is yours.
- SIPs are 15 times lighter than bricks giving greater architectural scope.
- A wide range of external cladding can be added to create a unique look.
- Ideal for flat roof construction in contemporary design.
- Pre-finished roof surface provides wide choice of roof options.
- Ideal for mounting solar heating/hot water and pool heating for energy efficiency and cost savings.
- More usable floor space for the same external dimensions as a home built of other materials.
- Raked ceiling can be created easily to follow a contemporary roof line.



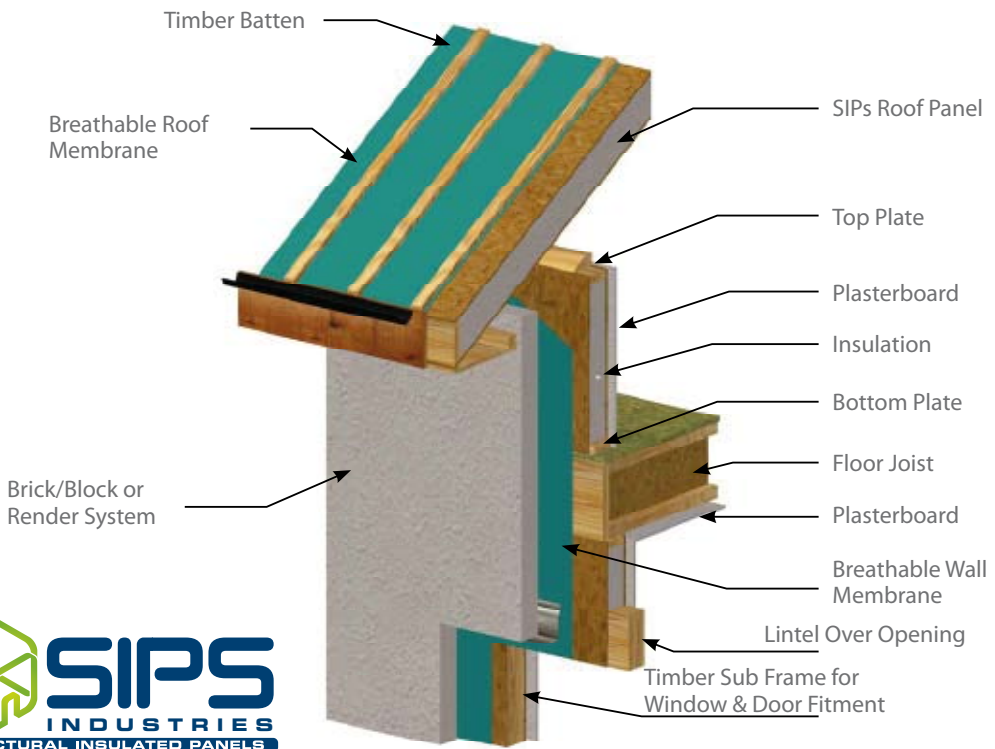
The cost of SIPs panels is comparable to other products, but internal space utilisation gives you the equivalent of a whole extra room from the same size building.

Accurate pre-cutting of SIPs panels saves time, drastically reducing build time.

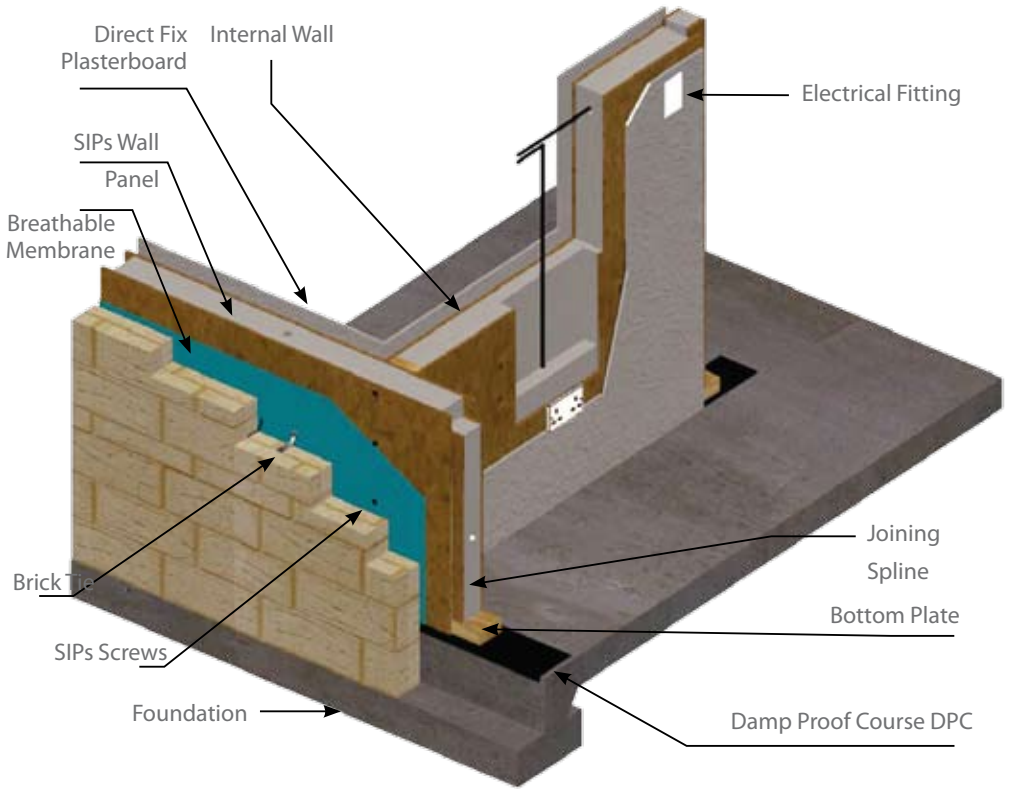
No roof trusses are needed in a SIPs home, so you gain a 'room in your roof' – more space, even on a smaller build.



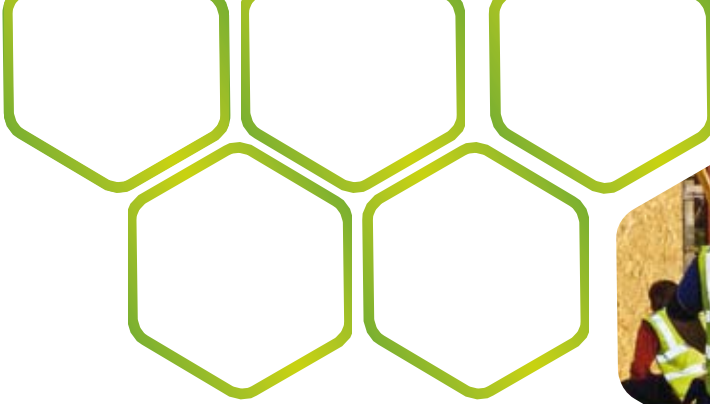
# The SIPs Difference



# Internal wall intersection



The SIPS Industries Building System meets and exceeds current building regulations for insulation.



## Supply and Construct

- Typically, the complete system is delivered to site ready for assembly by fully qualified construction teams.
- In addition to the teams, SIPS Industries Off-Site has a network of registered SIPS Industries Building System Contractors.

## Foundations and Floors

- SIPS homes can be built on just about any foundation and floor system that is used today, including our own SIPS floor.
- SIPS contractors can supply your floor system,

## Joining the Panels

- The panels have deep routed channels along their long edges, which accommodate a unique cassette joint.
- These are nail fixed through the panel's OSB/3 facings.

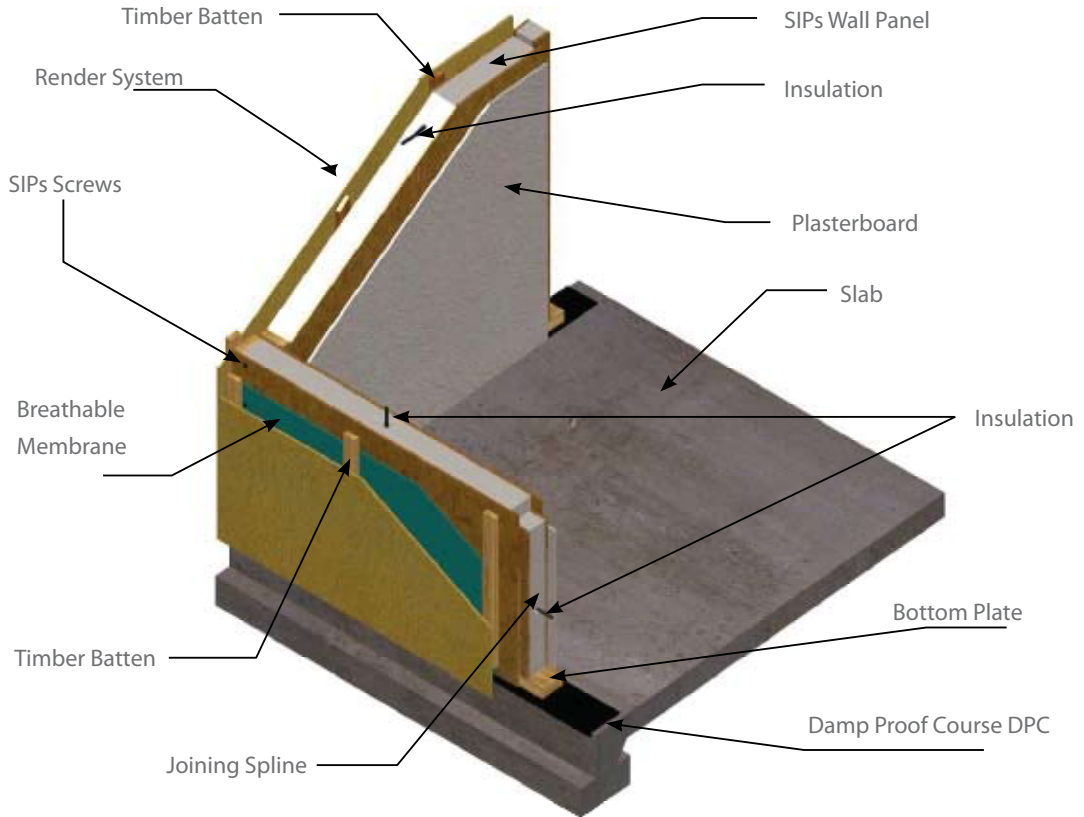
- Expanding sealant or glue is applied between the insulation core of the cassette and the panel, creating an air-tight seal
- Sealing this jointing system with the expanding sealant enables the system to be air-tight.

## Adding the Roof

- No roof trusses - vaulted ceiling
- Additional Head room for room in the roof
- The roof panels can be pre-assembled on the ground and lifted into place
- The panels are screwed down and fixed to the walls and ridge line. These are then covered with our breathable membrane.
- Large roof spans are achievable with no additional support.
- Your roof is then ready to cover with your choice of material.



## Corner Intersection





### **SIPs Industries Australia**

30a Renewable Chase,  
Bibra Lake, WA 6163,  
Australia

PO Box 643 Applecross  
WA 6953, Australia

Phone: +61 8 9494 2211  
Fax: +61 8 9494 2202

[www.sipsindustries.com](http://www.sipsindustries.com)  
[info@sipsindustries.com.au](mailto:info@sipsindustries.com.au)

### **SIPs Industries UK**

Crossway  
Donibristle Industrial Estate  
Dalgety Bay  
Fife  
KY11 9JE  
United Kingdom

Phone: +44 1383 823995  
Fax: +44 1383 823518

[www.sipsindustries.com](http://www.sipsindustries.com)  
[info@sipsindustries.com](mailto:info@sipsindustries.com)

### **SIPs Industries Africa**

Cnr Lantern and Bream Rd  
Wadeville  
1428  
Germiston  
South Africa

Phone: +27 (0) 833773196  
Phone: +27 (0) 828249560  
Fax : +27 (0) 865116633

[www.sipsindustries.com](http://www.sipsindustries.com)  
[africa@sipsindustries.com](mailto:africa@sipsindustries.com)

