



CASE STUDY

HAWTHORN STUDIO

Updating of a 1920's brick to a modern family home, this renovation and extension project in the Melbourne suburb of Hawthorn is designed to maximise northern light into flexible new living areas.

On a site with a south facing back garden, our clients' brief was resolved into the creation of a separate Studio building form, connected to the existing house by a decking walkway. With rear lane access, the new building form allows the extension to perform a range of functions over time for our clients. Carefully considered to provide acoustic separation and a degree of autonomous use at different stages, the new

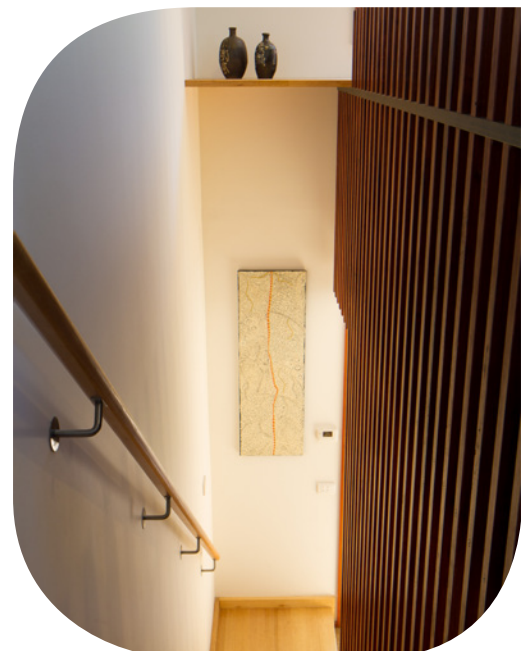
Studio building provides:

- Ground Level – laundry + bathroom + flexible living room, studio, office
- First Floor Level – flexible bedroom, study, office



The other design driver leading to this siting approach was, not surprisingly, solar passive performance and access to winter sun in Melbourne's climate. The new living area has a full northern aspect into a courtyard garden, maximising solar passive heating performance with an insulated slab capturing the heat of the winter sun.

Designer:	Habitech Systems
Builder:	Henry Netherway
Project type:	Extension
Project location:	Hawthorn, Melbourne
Cost: (include professional fees):	\$290,000
House size and land size (in sqm):	61.5m ² +deck 4m ² +carport
Building star rating:	8 Stars





BUILDING MATERIALS

- Polished concrete waffle slab with insulated slab edge
- Habitech Structural Insulated Wall Panels – delivering both external cladding and feature interior hoop pine faces
- Kingspan Insulated Panel Roofing
- Plasterboard ceilings
- Australian Hardwood timber benchtop to living
- Australian Hardwood timber battens to stair

HOT WATER

Combined gas hydronic /hot water unit

WATER SAVING

3,000 litre rainwater tank supplying toilet flushing

PASSIVE DESIGN/ HEATING & COOLING

Separated building form to maximise northern solar gains in winter

ACTIVE HEATING AND COOLING

Hydronic panel heating run from combined gas hydronic /hot water unit

No cooling

CLIENT'S Q&A:

Could you explain why Habitech's modular system and MgO board SIPs were chosen for this project?

- A super insulated fabric was desired by our clients to minimise energy demands and lower environmental impacts
- The speed of our fabric construction significantly reduced disruption from the building process
- The quality of thermal performance our modular system delivers

What extra considerations had to be taken into account due to the two-storey design?

- Nothing special for our system. Our walls are 8 times as strong as conventional stud framing and we can build up to three stories
- The design features a cantilever to the south to allow for a carspace at the rear of the site and give protection to the door opening to the laneway side

What were the main challenges that had to be overcome to complete this project?

- Tight town planning constraints
- Working around a sewer easement
- How long did the main structure take to erect once the SIPs were delivered to site?
- Ground floor walls went up in 2 days
- Then first floor sub-floor built – approx. one week with cantilevered beams
- Upper floor walls went up in 1.5 days
- Roof fitted in less than a day
- With fitting of doors and windows, approx. 3.5 weeks to lock-up





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