Stramit Condeck HP® Composite Decking

Economical Slabs • Fast Floor Cycles • Quick Construction • Earlier Occupancy

Stramit®

Stramit Condeck HP® composite decking is the fast, efficient metal formwork solution for suspended concrete floors. No other formwork system offers all these time and cost benefits:

- Optimised composite slab design
- Simplified reinforcement
- Reduced formwork propping
- Flexible design and construction
- Access for follow-on trades
- Software program for quick design

Major savings on suspended con

We've improved the performance of ***Stramit Condeck HP***® composite decking to deliver major savings on composite slabs.

SAVE on fire reinforcement with new fire design procedure

SAVE by increasing performance with *Stramit Condeck HP PLUS*™ accessory

SAVE from efficiencies during installation and construction

We've also created a comprehensive software program to

SAVE days on design time

Stramit Condeck HP® composite decking is available throughout Australia

crete floors

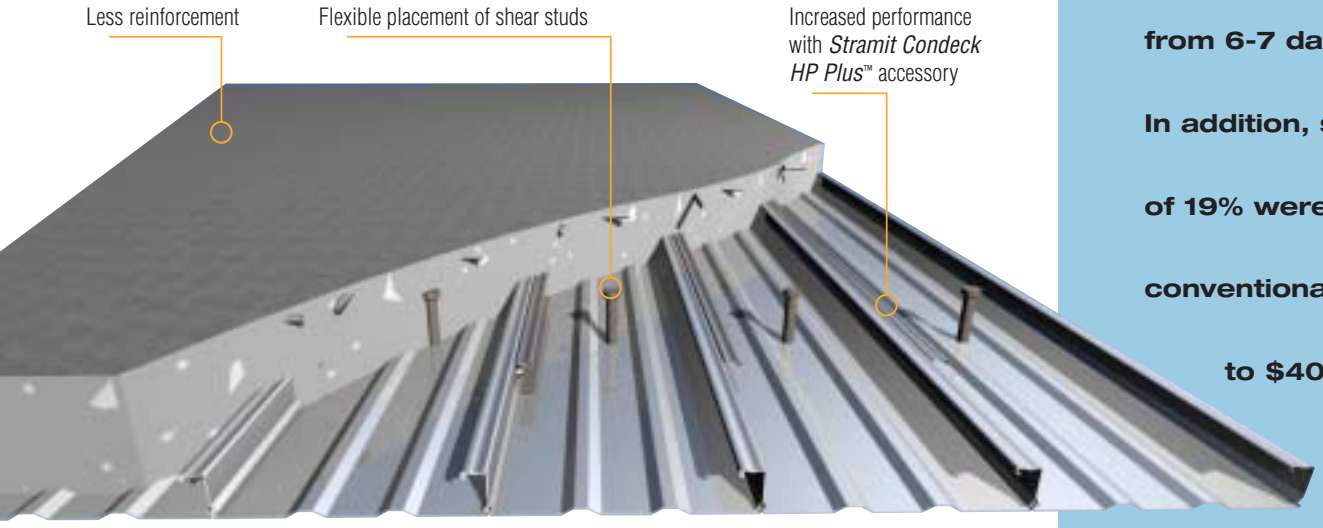
[120 Edward St, Brisbane]

Multi-storey buildings can be finished faster with *Stramit Condeck HP*® composite decking.

On this 20-storey building in Brisbane, floor-to-floor cycle times were reduced from 6-7 days to only 3 days.

In addition, savings in reinforcement of 19% were achieved over conventional slabs, amounting to $4000 per floor.

(independent estimation by quantity surveyors Rider Hunt)



Stramit Condeck HP® decking ribs act as fire reinforcement

In a fire, this deck keeps its cool

Stramit Condeck HP® composite decking has all of its profile ribs embedded within the finished slab, giving thermal insulation characteristics comparable to a solid slab. There are no gaps in the slab for heat to enter, as with trapezoidal and re-entrant decks. The ribs remain cool and therefore act as FER.

Major savings on fire reinforcem

Minimum fire emergency reinforcement

Based on the unique, simplified fire emergency reinforcement (FER) design method for *Stramit Condeck HP®* composite decking, minimal or no additional reinforcement may be required.

The unique fire design approach was developed at Stramit's R&D Laboratories and finished slabs were tested by CSIRO. The results and the design procedure have been verified by BRANZ.

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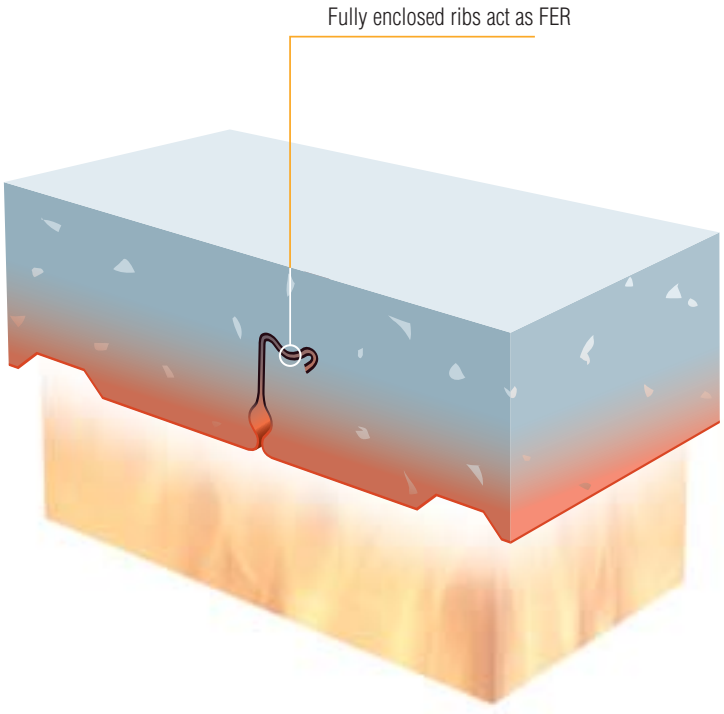


Thermal insulation characteristics are comparable to a solid slab. There are no gaps for heat to enter.

Composite slab advantages

Reduced steel reinforcement

Generally, no conventional positive reinforcement is required. *Stramit Condeck HP*® composite decking acts as positive reinforcement to optimise strength and control of composite slab deflection.

Negative reinforcement can be reduced in many continuous slabs by applying the partial shear connection strength factor to take account of moment redistribution.

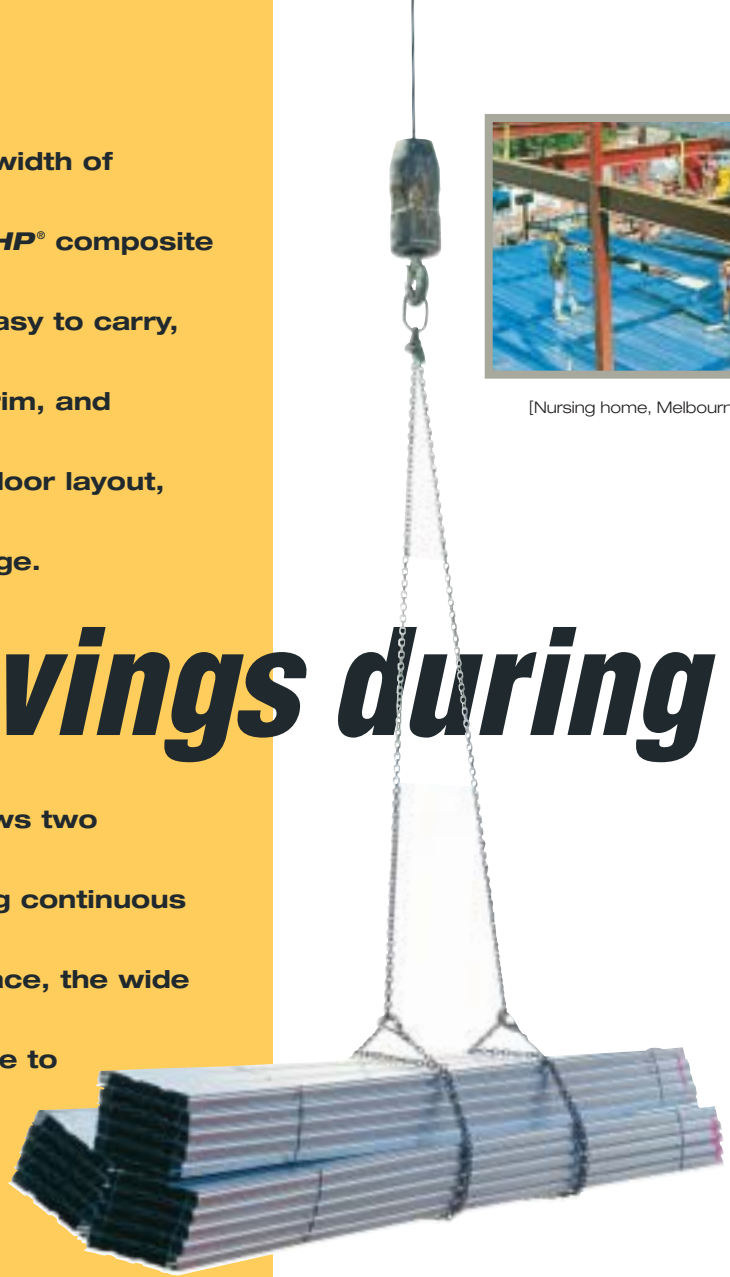
Resistance to deflection

Deflection of the completed composite slab is often the governing design criterion. *Stramit Condeck HP*® composite decking, with its fully enclosed ribs, has excellent resistance to deflection. The ribs are fully embedded in the slab to provide maximum stiffness.

The 300mm sheet width of *Stramit Condeck HP*® composite decking makes it easy to carry, simple to cut and trim, and easier to fit to the floor layout, with minimal wastage.

Major savings during installatio

Its light weight allows two people to carry long continuous lengths. Once in place, the wide pan is easy and safe to walk in.



[Nursing home, Melbourne]

Labour savings

Stramit Condeck HP® composite decking requires fewer formworkers and can be installed, under supervision, by semi-skilled labour. The wide trays allow easy installation of penetrations.

The unique sheet interlocking of *Stramit Condeck HP*® composite decking ensures fast, cost-effective installation with only minimal fastening to attach the sheet to the structure. The single pan design enables greater lengths to be placed. Side lap fasteners are often not required to connect the interlocking sheets.

[120 Edward Street, Brisbane]

Follow-on trade access

When installed, *Stramit Condeck HP®* composite decking provides a safe working platform and quick access under the slab. The wide trays can carry all necessary foot traffic and, when reinforcing mesh has been laid, the wide rib-tops can support the mesh as well as any foot traffic.

[Deakin University carpark]

Prop-free construction

Stramit Condeck HP® composite decking can be designed for use without props, providing major time savings and clear follow-on trade access beneath the slab.

n and construction

[120 Edward Street, Brisbane]

Formwork savings

Compared with conventional plywood formwork, there are lower installation and propping costs, reduced labour requirements, no stripping costs and no associated time delays.

[SY21 apartments, Melbourne]

Stacked materials

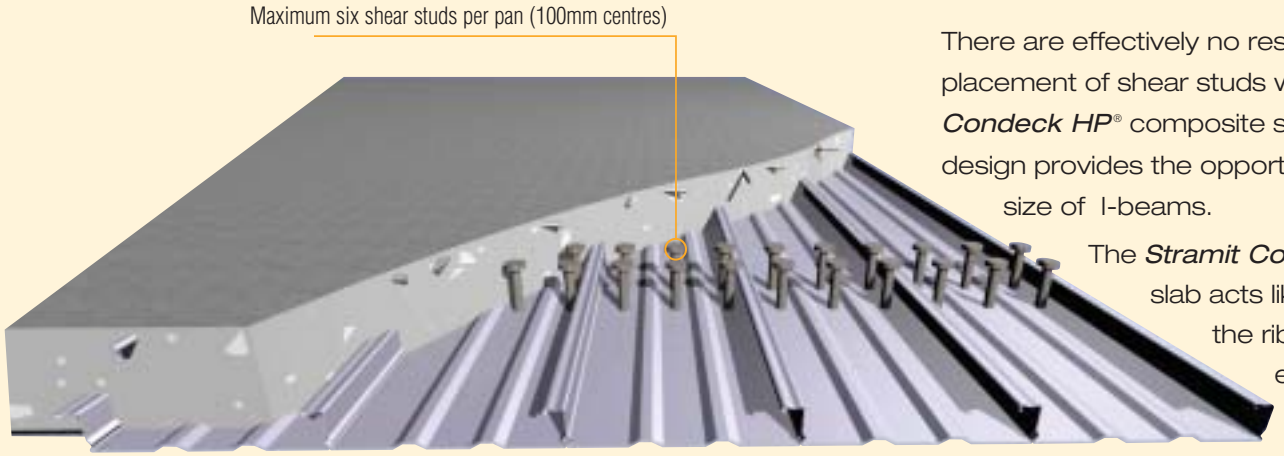
Construction materials can be stored on top of the deck before the concrete pour, providing greater flexibility for building supervisors.

The *Stramit Condeck HP Plus*™ accessory is unique to Stramit. This "extra rib" is fastened along the sides of the end span ribs to significantly reduce end span deflection under wet concrete. This effectively removes the design limits imposed by end spans. *Stramit Condeck HP Plus*™ accessory can also be used to increase unpropped end spans by up to 300mm.

Stramit Condeck HP Plus™ accessory increases the performance of *Stramit Condeck HP*® composite decking in a number of ways. It reduces lateral rib distortion and tray deflection. It increases the stiffness of the composite slab. When combined with long, continuous lengths of decking, the *Stramit Condeck HP Plus*™ end span accessory permits the design of thinner slabs, with added savings in concrete. Greater deck spans can also reduce the cost of structural steel. The accessory is simple to install and is only required on decking end spans.

Unique accessory extends spans

Performance under wet concrete has been independently tested by the University of Sydney.



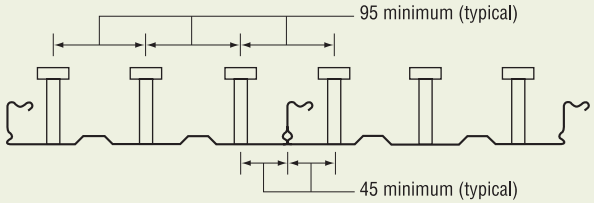
There are effectively no restrictions on the placement of shear studs with a ***Stramit Condeck HP***® composite slab. Flexibility in beam design provides the opportunity to reduce the size of I-beams.

The ***Stramit Condeck HP***® composite slab acts like a solid slab because the ribs are completely enclosed in concrete, with no voids.

Flexible placement of studs

Design virtually any stud configuration with 100mm, 200mm or 300mm centres

Tests by the University of Western Sydney have confirmed that shear studs can be placed closer to the ribs than the 60mm limit for open-ribbed metal formwork.
This gives engineers the freedom to design virtually any stud configuration, with 100mm, 200mm or 300mm centres.
Tests by BHP have confirmed that shear studs can be welded directly to beams through the ***Stramit Condeck HP***® decking without reduction in shear stud performance.



10 studs/metre (single row) – nominal 100 spacing

Faster floor cycles on concrete frame buildings

[Self storage facility, Melbourne]

Stramit Condeck HP® composite decking is ideal for use on concrete framed buildings, where it can speed up construction by improving the slab cycle. Floor cycle times can be improved by as much as 40% to 50% compared with timber plyform.

Plus, the excellent composite action delivers economical slab performance. In propped construction, *Stramit Condeck HP*® decking can lower the total floor cost. Optimising the composite slab can reduce beam costs per square metre of total floor area.

Savings set in concrete

[Marine Apartments, Port Melbourne]

The closed ribs of the *Stramit Condeck HP*® deck eliminate the need for rib end closures or taping of joints. This lowers installation time and costs.

And with the *Stramit Condeck HP Slab Designer*™ software, designers can quickly create optimised slabs for concrete band beam constructions, as well as structures with pre-cast beams and/or walls.

[120 Edward Street, Brisbane]

Design time has been slashed from days to minutes using the ***Stramit Condeck HP Slab Designer***™ software on CD-ROM.

Engineers can now create optimised slab designs quickly and easily in formwork, composite and fire modes.

The software can be used to design ***Stramit Condeck HP***® composite slabs for both steel-framed and concrete structures.

This easy-to-use program provides metal formwork, composite slab, moment redistribution and FER calculations using data for spans, slab thickness and loads. Moments, shears and deflections can be calculated and compared with capacities in both formwork and composite slab modes.

The program is ideal for buildings with unequal spans and varying loads.

Continuous slabs of up to 10 spans can be assessed with or without moment redistribution. Specified reinforcement can be checked quickly - or the program will select the required reinforcement. In formwork mode, props can be introduced automatically if desired.

Software saves the hard work

- Detailed graphic and tabular output for each section of slab, including additional reinforcement requirements and deflection visualisation
- Span input: Up to 10 span continuous
- Total or incremental deflection analysis
- Additional positive reinforcement input
- Audit trail and printout of results
- Analysis of cantilevers
- Continuous slab assessment with or without moment redistribution
- Automatic selection of required negative reinforcement

In addition to these improvements, all the traditional advantages of ***Stramit Condeck HP***® composite decking still apply

Up to four-hour fire rating: *Stramit Condeck HP*® composite slabs have been tested successfully for up to four hours by the CSIRO.

Speed of installation: Fast, cost-effective installation with minimal sheet fastening. The 300mm width allows sheets to be easily manhandled.

Economy: Little or no propping and no stripping. In steel framed buildings *Stramit Condeck HP*® composite decking is commonly used unpropped. In concrete framed buildings, far fewer props are required than with conventional formwork.

Light weight: Easy to lift, stack and carry.

Less wastage: 300mm provides easy fit to any floor layout.

Easier cutting: Narrow deck and wide pan make trimming simple.

Flat soffit: Pre-painted undersides available on request.

Ceiling support: Simple ceiling hanger system supports ceilings and services.

Rounded edges on sides of deck: For easy handling.

High tensile steel: For best performance and damage resistance.

Z350 galvanised coating: Exceeds the requirements of the Building Code of Australia and protects the steel during construction and in service.

The final word in permanent formwork

Reinforcement savings: Replaces bottom reinforcement in many slabs. Additional savings in reinforcing steel can be made using the improved composite performance of the partial shear connection strength design method.

Positive bonding: No need for bond connectors.

Three BMT choices: Available in 0.75mm, 0.90mm or 1.00mm base metal thickness for optimised design.

Technical support: Comprehensive data and advice from Stramit Technical Services Managers.

Availability: Supplied and supported throughout Australia.

Stramit®
Building Products