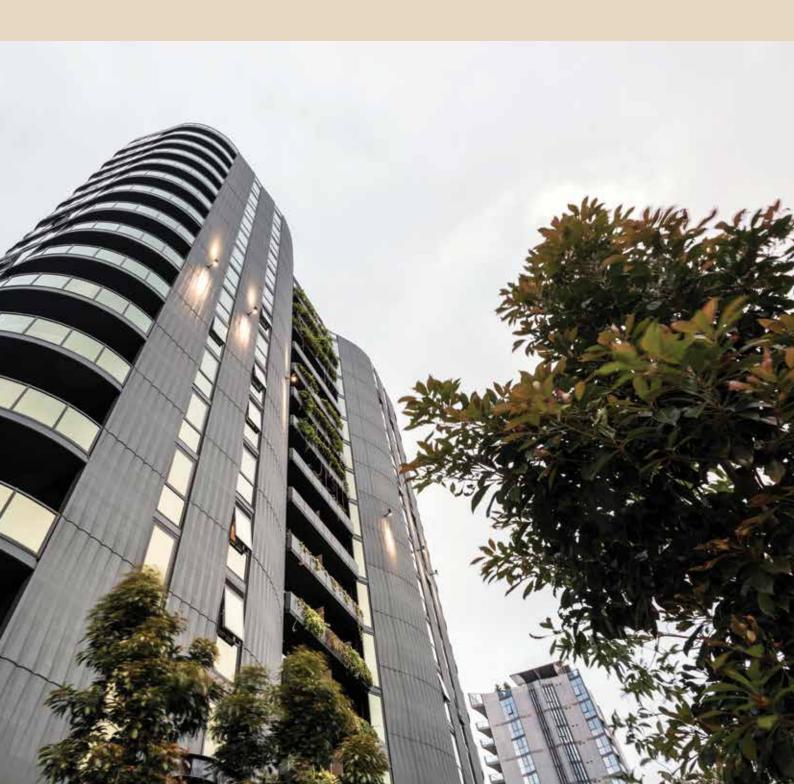


Precast Concrete Solutions

2021 Collection



What's inside

- 1 Walling Solutions p¹¹
- 2 Wall Finishing Solutions p²¹
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- 4 Framework Solutions p³⁷
- 5 Balcony and Balustrade Solutions p⁴³
- 6 Technical Guide p47
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Austral Precast

Build faster, build smarter, build better



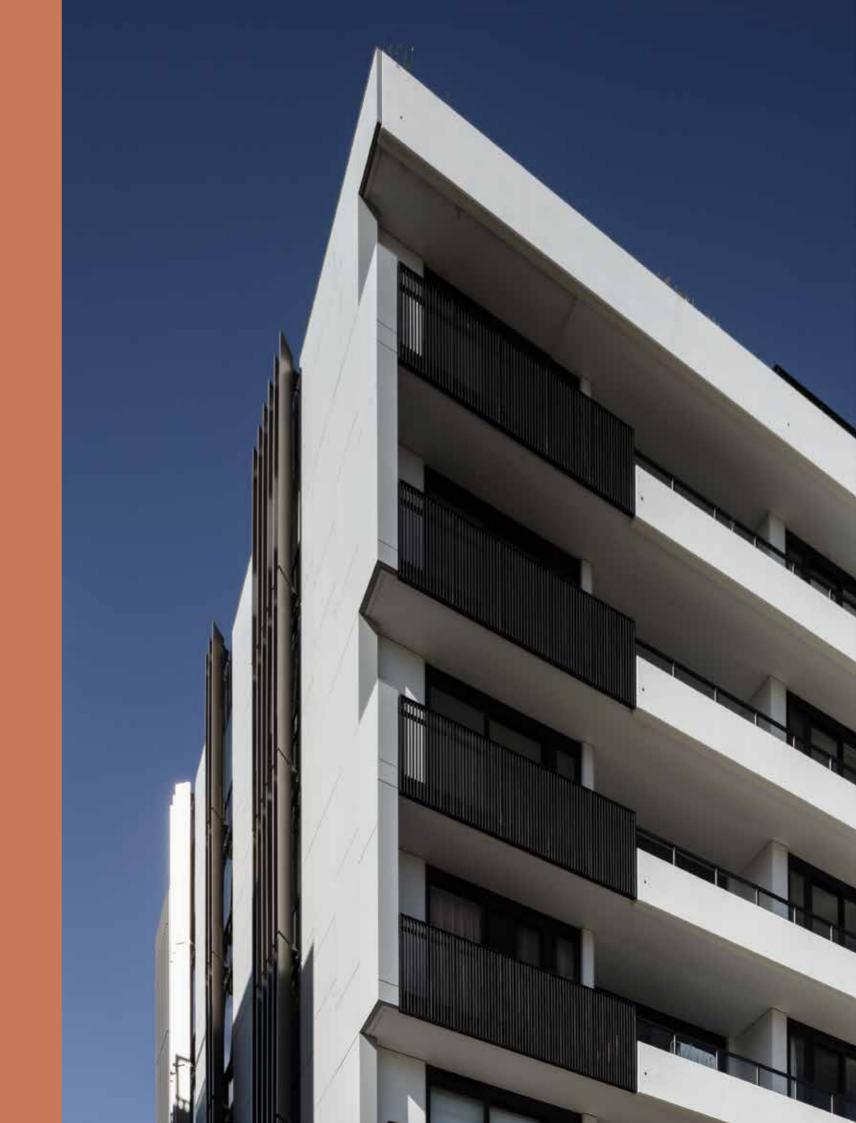
Australia's leading provider of precast concrete building solutions

As part of the Brickworks Building Products Group, our goal is simple, to be Australia's best building products company.

At Austral Precast we believe there is no substitute for quality. That the building material choices you make should not only look great, but stand the test of time. We believe in taking the complex and making it simple.

This belief has placed us in pursuit to be Australia's leading provider of precast concrete building solutions. Austral Precast's relentless focus on, and continued investment in state of the art production facilities is part of what had made us Australia's leading provider of precast concrete building solutions.

We are focused and determined to continuing this journey with research, development and investment sharply focused on solutions enabling the construction industry to build faster, build better and build smarter.



Why Austral Precast?

World-class style is built on attention to detail, so we're proud of our relentless focus on the use of advanced technology, quality control and commitment to service.



Modern Production Facilities

At Austral Precast we believe the best results are achieved with the best people Our in-house detailing team are using the latest technology and tools. For this reason we invest regularly in upgrading our infrastructure to ensure our customers receive quality product and with a smooth construction process.

A Leader in Precast **Building Solutions**

composed of industry experts with qualifications in engineering, architecture, detailing and design. Our team are able to work with, understand and deliver purposeful solutions, identifying the most economical means of constructing your project.

East Coast Distribution

Austral Precast is Australia's leading provider of high quality and innovative, customisable precast concrete product solutions.

We use state of the art technology, production techniques and systems, Austral Precast produces a diversified range of customised walling, flooring, framework, balcony, and client specific precast solutions. We take pride in our ability to exceed the expectations of our customers and partnering with them to find solutions that meet their needs.

Your Market

We service a range of markets including; multi-residential, commercial, industrial, community and civil sectors. Austral Precast offers a full product and service package with the ability to design, detail and manufacture a diverse range of precast products and provide industry leading installation services.



A One Stop Shop

We offer everything from: walling, flooring, balconies, columns, beams, decking, noise barriers, retaining walls, and a collection of finishing solutions to ensure design and creative flexibility.

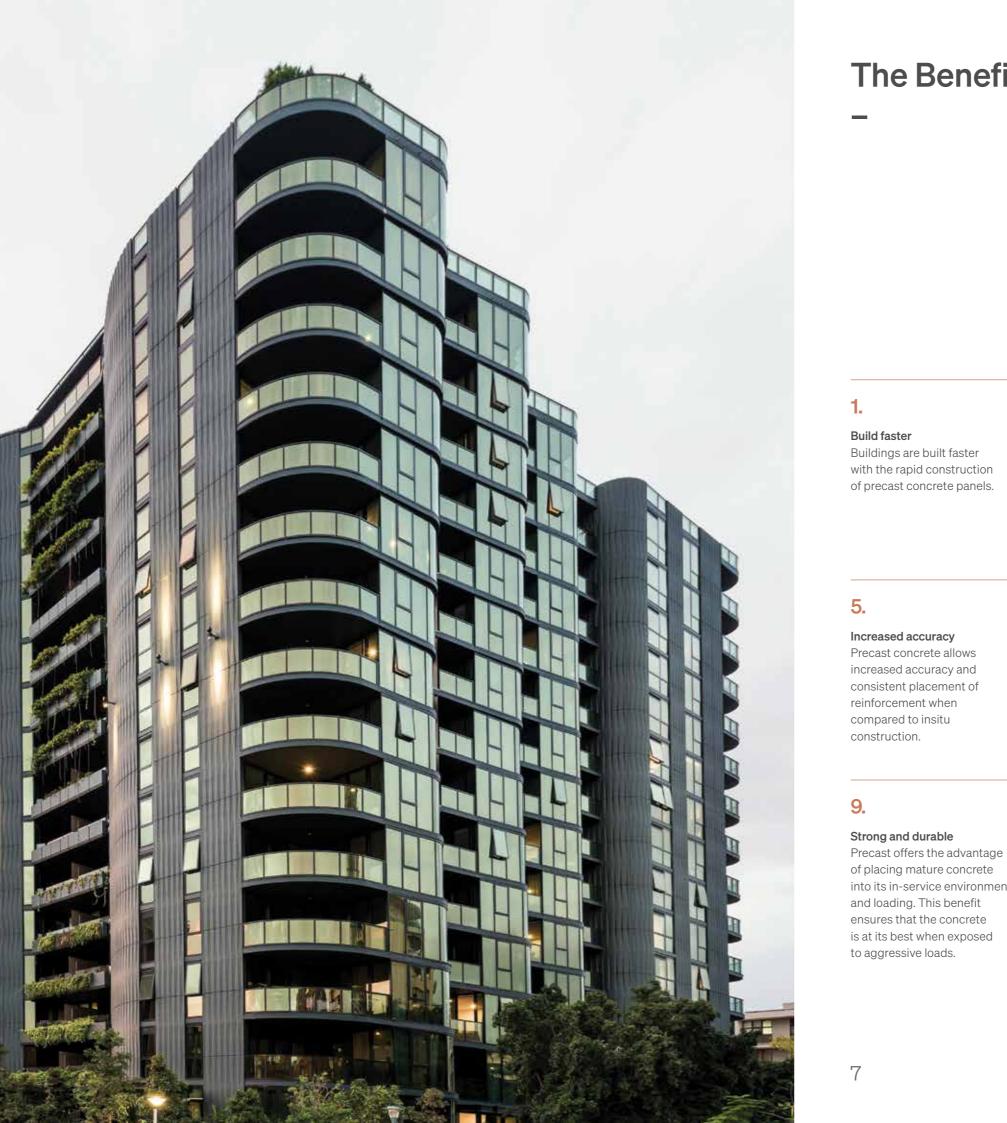
Advanced 3D Modelling Technology

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We build your project in 3 dimensions with startling accuracy. This enables us to identify any potential construction issues that may occur in the design phase so they can be quickly overcome and ensure a seamless construction process







The Benefits

1.

Buildings are built faster with the rapid construction of precast concrete panels.

2.

Cost saving Eliminates need for expensive scaffolding creating a cleaner and safer worksite.

Increased accuracy Precast concrete allows increased accuracy and consistent placement of reinforcement when compared to insitu

6.

Fire resistant

Our precast concrete panels are non-combustible.

10.

Reduced waste

Controlled management of waste with production into its in-service environment of precast concrete. Tight control of quantities of constituent material and precise mix proportions mean optimum use of material.

7

9.

3.

Minimal risk

Minimises labour, loose materials and storage on-site.

4.

Cleaner worksite Reduces plant, amenities, tools and materials storage on site.

7.

High quality finish

Precast concrete can be left untreated and exposed, maximising concrete's thermal mass benefits and to contribute to green energy-management solutions.

8.

Trafficable

Most precast products are accessible and trafficable, providing safe access to the next part of the construction site.

11.

Recycled materials

Recycled cementitous materials can be incorporated into precast concrete. This diverts materials from landfill, reducing use of virgin materials and the overall environmental burden.

12.

Comprehensive range

Solutions to suit any project. We are proud to offer a range of precast solutions for the construction of walls, floors, stairs, balconies, and structural elements.

Our Range Precast Solutions



1.

Panel Brick Walling Solutions

Enabling the speed and ease of precast while retaining the aesthetic appeal and durability of bricks.



4.

Austral Deck **Flooring Solutions**

A revolutionary precast flooring solution eliminating the need for in situ formwork.



7.

PermaTint PermaTech Finishing

Remove the need for on-site painting with our PermaTint colouring solution offered with a 25 year guarantee.

8.

PermaForm PermaTech Finishing

Create imprints, shapes, and designs formed in concrete with PermaForm.

Double Wall Walling Solutions

With many unique advantages, Double Wall is a convincing structure for stairs, basement and retaining walls.



5.

2.

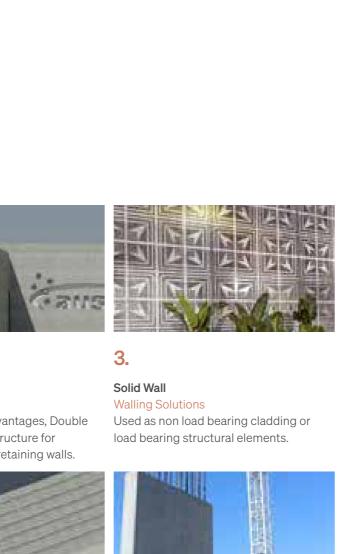
Beams Framework Solutions Core framework elements that are used to provide lateral support between columns.



9.

Balconies

Premade with fittings included, and ready to be craned into position, precast balconies offer style and efficiency.

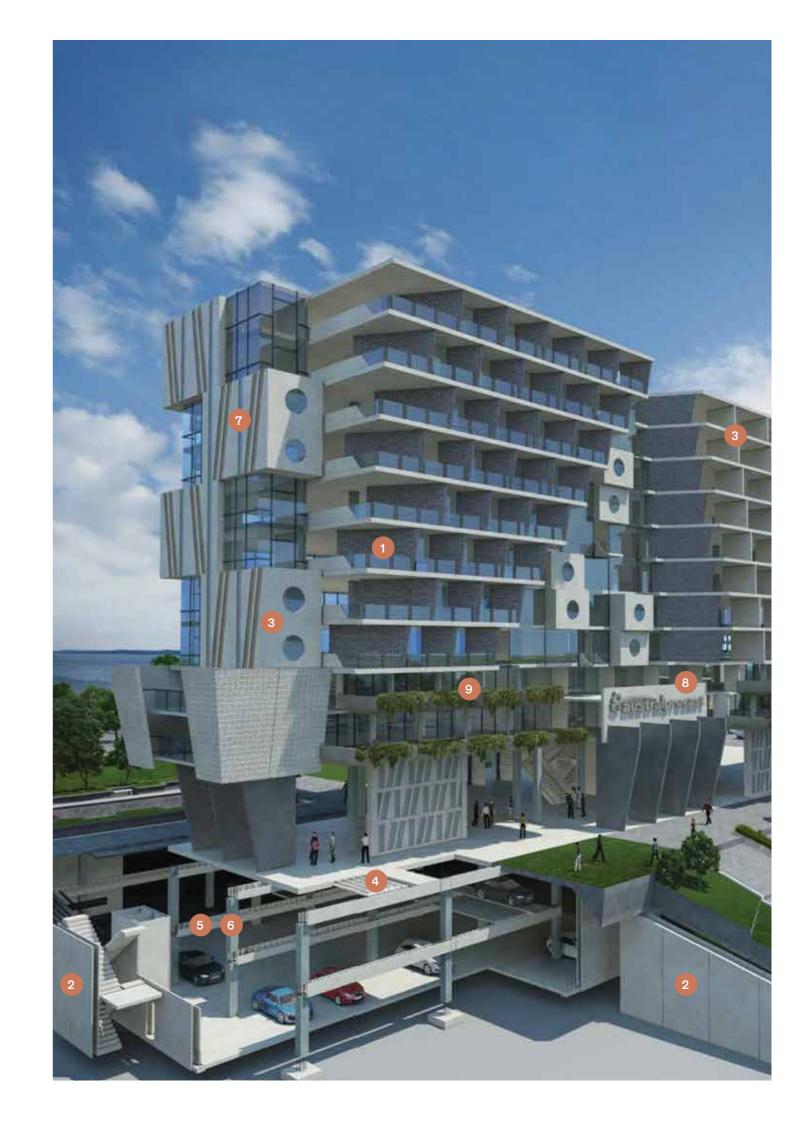


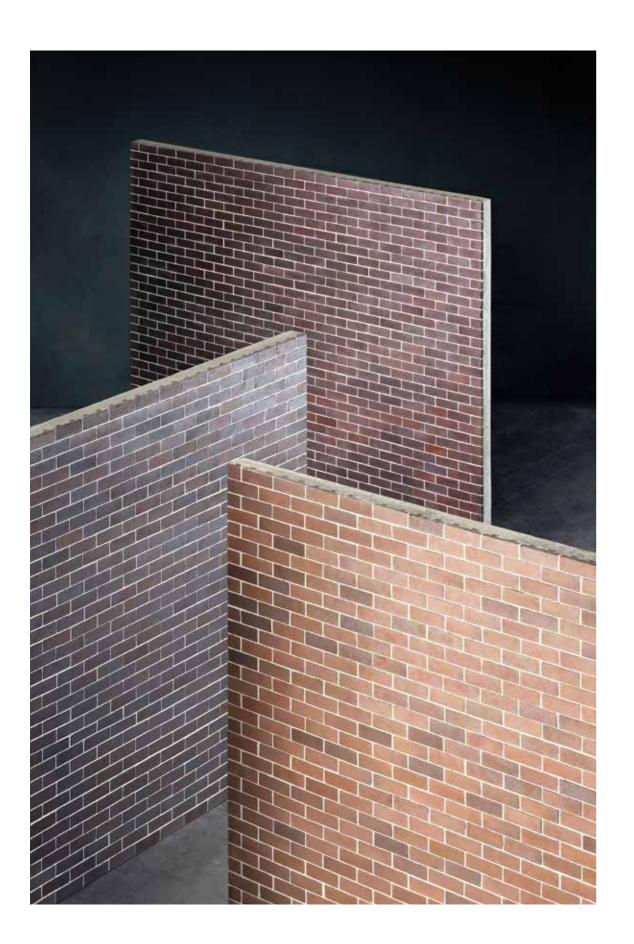
6.

Columns Framework Solutions

Structural framework elements that can be used as architectural elements, especially with PermaTech finishes.







Walling Solutions

Suitable for use as a facade, functional wall or an ideal solution for structural load bearing applications. Solid Wall and Double Wall offers limitless creativity combined with a magnitude of functional construction advantages.

- Panel Brick
- Double Wall
- Solid Wall





Walling Solutions



Panel Brick

A

A concrete panel with brick facings on outside.

Key benefits of Panel Brick

- The fastest way to build in brick
- Colourfast, low maintenance finish
- High resistance to wind and earthquake loads, and superior thermal performance
- Cost-effective, creating a brick finish that is designed to last the test of time

Double Wall

Two concrete panels with a cavity connected by a steel lattice.

Key benefits of Double Wall

- An efficient solution to create a monolithic structural permanent formwork solution
- Suitable for construction where watertightness is essential
- Construction efficiency results from increased speed of construction and less on site material to handle

Solid Wall

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A standard precast concrete panel.

Key benefits of Solid Wall

- Design flexibility
- Efficient installation
- Provide excellent sound
 insulation properties





Panel Brick

The fastest way to build in brick

Panel Brick is the ideal building solution for medium and high density residential projects, industrial and commercial building and contemporary infrastructure. This innovative product offers a high quality, long-lasting finish with low maintenance, and outstanding thermal performance.

Create internal and external walls with a low maintenance finish, high resistance to wind and earthquake loads, and superior thermal performance with Panel Brick. This cost-effective walling system can be used in load-bearing and non load-bearing applications for facades, cladding or structural elements, creating a brick finish that is designed to last the test of time.

Prefabrication enables precision manufacturing to suit the construction process and thereby ensures greater efficiency in installation. Panel Brick connections are the same as traditional precast panels, with a variety of fixing methods available to suit your design. The system is ideally suited for:

- Medium Density
 Multi-Residential Buildings
- High-Rise BuildingsIndustrial Building Units and Warehouses
- Commercial Buildings
- Schools
- Hospitals

For design and architectural purposes, Panel Brick can be treated as a precast panel which is ideally suited for construction of straight, flat walls laid in linear configurations. Panel Brick can be self-supported, supported on slab edges or structurally integrated into a building with brick elements cast in on one side of the panel only.



Our Panels

Panel Brick is a revolutionary product that combines the simplicity and ease of precast concrete with the timeless beauty and style of Dovetail brick facings. Elevating brick to new heights, Panel Brick allows brick to go where it has never gone before.

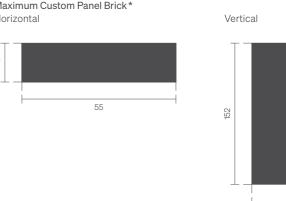
Panel Brick Selection

Panel Brick is available in 'Standard' and 'Custom' options with specific colour ranges and sizes associated with each.

Panel Brick features and bene	fits include:			Standard Panel Bric	k	Custom Panel Brick	
	¢	ŧ	€	Fabrication	Laid by robot	Fabrication	Laid by hand
Build faster Buildings are built faster with the rapid construction of	Build higher Panel Brick allows brick construction to go higher	Extensive colour range Creativity and colour variety. A wide selection of clay	Design flexibility Panels are available in shapes and sizes to	Colour Range	Bowral 76 Metallix	Colour Range	San Selmo La Paloma Bowral 50
prefabricated brick panels.	with strong resistance to wind and earthquake forces.	bricks from the Austral Bricks range are available for use with Panel Brick.	suit unique designs.	Panel Size (m)	Maximum Length: 4.5 Maximum Height: 3.6	Panel Size (m)	Maximum Length: 12 Maximum Height: 3.6
				Form	Flat	Form	Custom
				Thickness (mm)	110, 125, 150, 200	Thickness (mm)	Minimum: 110
•	€	•	€	Double Wall Panels	Maximum Length: 4.5m	Double Wall Panels	Maximum Length: 12m
Outstanding performance Strong and durable, Panel Brick offers outstanding thermal insulation, non-combustibility, fire, earthquake and weather resistance.	Less waste Off-site manufacturing means no waste on-site.	Outstanding quality High precision and consistent quality from a factory-made product.	Minimal risk Minimises labour, loose materials and storage on-site.		Maximum Height: 3.4m External Skin: 110mm Internal Skin: 70mm Minimum Cavity: 60mm		Maximum Height: 3.6m Maximum Panel Size: 26m² External Skin: 110mm Internal Skin: 70mm Minimum Cavity: 60mm
•	•	•	•	Maximum Standard Pan Horizontal only	el Brick*	Maximum Custom Pane Horizontal	el Brick* Vertical
Load-bearing Ability to integrate panel as load-bearing structural elements of the project.	Suitable for challenging sites Allows for construction on boundaries with limited external access.	Cost saving Eliminates need for expensive scaffolding creating a cleaner and safer worksite.	Cleaner worksite No broken bricks or mortar mess on-site. Panel Brick removes the need for on-site brick cleaning.	42 44 44 44 44 44 44 44 44 44 44 44 44 4		2 2 2 2 2 2 2 2 2 2	5 <u>5</u>

17

19



Double Wall

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Create monolithic structures faster with permanent precast concrete formwork.

Austral Precast Double Wall consists of a pair of precast reinforced concrete shells connected by lattice reinforcement trusses to form a cavity that is core filled once installed on site. Double Wall enables greater savings in installation costs and time while adding monolithic design advantages to the many other benefits of the using other precast concrete elements.

With the quality advantages of class 2 concrete finishes to both faces and production in Austral Precast's automated precast manufacturing facilities, Double Wall is the ideal solution.

Double Wall components

Precast Concrete Shell

Double Walls features and benefits include:

+

Custom designed

The overall wall thickness can vary between 200mm to 400mm depending on the structure and applied loads.

Off form finish Both surfaces of the

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Both surfaces of the Double Wall panel achieve an off form finish.

Monolithic structure Joins to create a monolithic

structure eliminating joints

shear walls and basements.

and wet joints. Ideal for cores,

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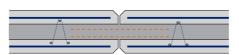
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Cleane

Cleaner worksite Reduces plant, amenities, tools and materials storage on site.

Double Wall

Plan view



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Reduced weight

Crane load capacity can be reduced due to the reduced weight of the hollow wall.

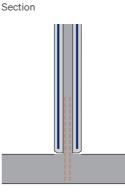
Structural framework Hybrid solution replacing conventional cast in situ operation.

Ð

Suitable for challenging sites Construction activites are mainly performed within and inside the boundary.

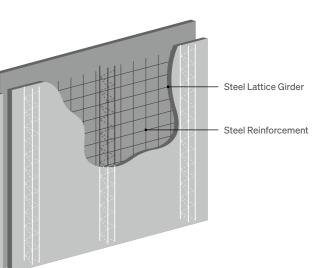
Casting frame

Double Wall panels act as a permanent casting frame, replacing the need for onsite casting moulds which require access from both sides of the wall.



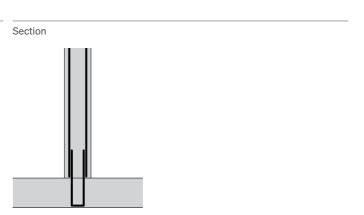
Key
Precast steel
Site placed steel
Precast concrete shells
Site placed concrete core fill

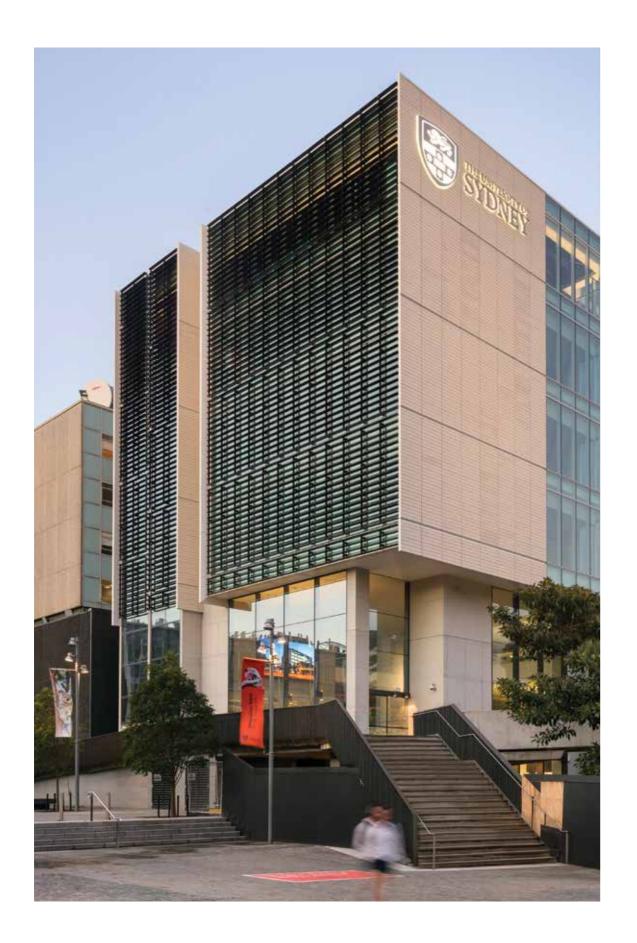
19



Conventional Pour In Situ Wall

Plan view





Wall Finishing **Solutions**

We believe the style choices you make when building a new project should stand the test of time. Select from our dovetail brick facings and prefinishing solutions to create inspired designs that stand out.

- Dovetail Brick Facings
- PermaTint
- PermaForm

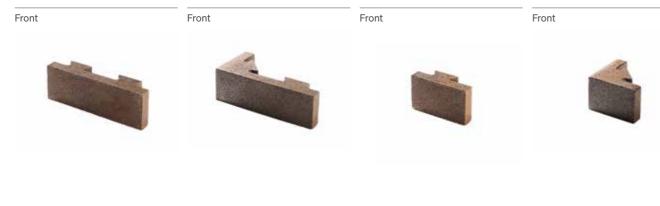




Dovetail Brick Facings

Panel Brick uses a range of Dovetail Brick Facings in each panel.

Full Brick Facing	Full Brick Corner	Half Brick Facing	Half Brick Corner
-	-	_	_
The standard brick facing.	Applied at corners and panel edges.	Used at panel edges or in the body of the wall to create an interesting bond pattern.	Applied at corner or panel edges.



Back

Back

Back





Back





The Dovetail Brick System

Our Registered Dovetail brick design maximises the mechanical bond between the brick and the precast panel. The Dovetail design allows you to build higher with confidence.

Dovetail Bricks

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Extensive testing of the brick's pull-out strength has been performed under standard and freeze-thaw conditions to ensure compliance with Australian and International Building Standards. When it comes to brick-in-concrete construction, there is no better option than the Austral Bricks Dovetail Brick.

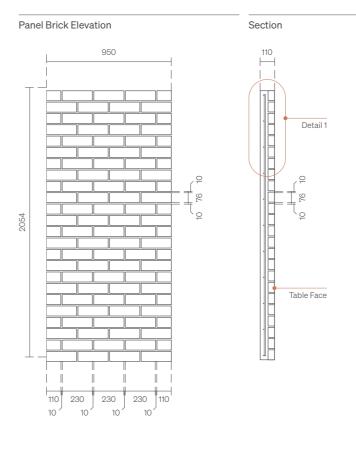
Design Registrations

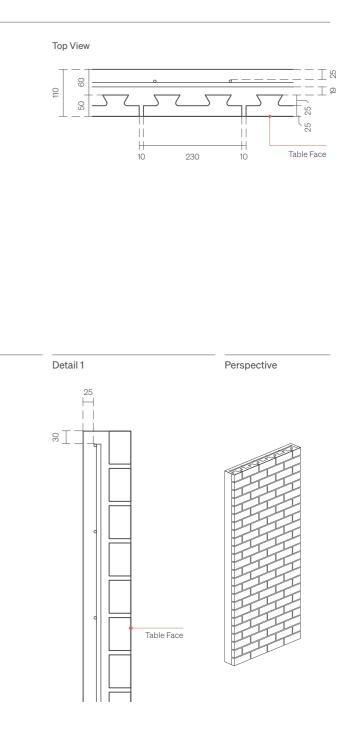
Australia 201911536, 201911537, 201911538, 201911539

New Zealand 425978, 425979, 425980, 425981

US 29700880, 29700881, 29700882, 29700883

Choose from a variety of bricks from the Austral Bricks range, including dry pressed Bowral bricks, La Paloma bricks and San Selmo.





Our Dovetail Brick Range

Select from a huge range of colours and finishes to create striking building facades.

Metallix



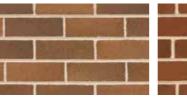
La Paloma



Bowral 50 & 76 Dry Pressed Bricks







Chillingham White

Simmental Silver

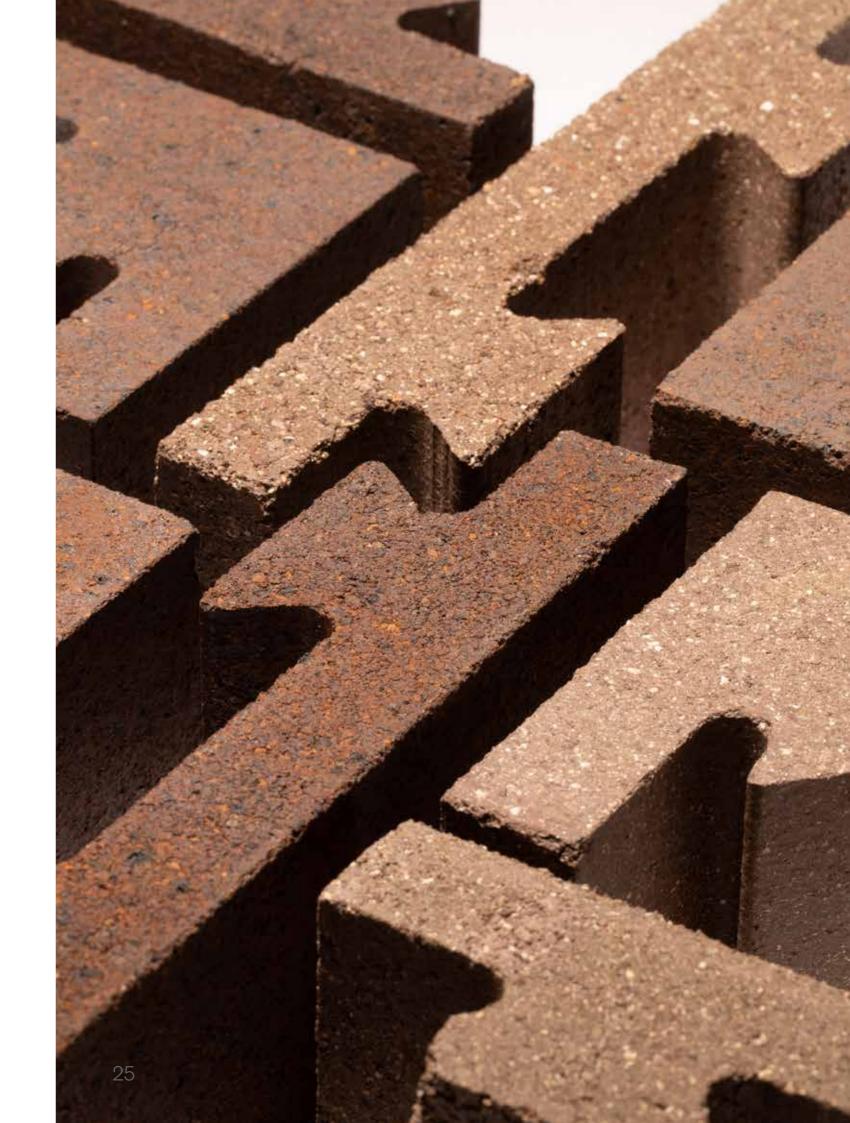
Bowral Blue

Symmetry



Bowral Brown

Gertrudis Brown



PermaTint

A long-lasting alternative to the on-site painting of precast panels.

Discover colouring that goes beyond paint and actually binds with the concrete panel to which its applied, creating a long lasting, deep finish which will never peel and is UV, mould, mildew and weather resistant. From substrate to surface PermaTint embeds itself in the panel for a finish with unmatched longevity, resistant to fading, and cracking.

PermaTint features and benefits include:

Ð

25 Year Warranty 25 Year Gaurantee on PermaTint colours.

Ð

Easy to update Colours and finishes used to create panels today can be replicated in the future for building expansion.

Ð

Consistent

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A truly consistent finish and outstanding attention to detail with unlimited colour options.

Reduced maintenance Maintenance is reduced thanks to superior colour and

finish longevity and durability.

Ð

Cost savings

Removes the need for scaffolding and labour required to apply finishes on site, offering time and cost savings for the project.



PermaForm

Three dimensional designs brought to life.

Shapes, artistic designs, and intricate details are formed in concrete, and designed to last a lifetime.

The PermaForm process takes liquid concrete and moulds it into limitless creations with patterns and finishes mimicing anything from timber grain, hewn stone to any number of imaginative designs with unprecedented definition.

PermaForm features and benefits include:

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Visual effect Provide visual effect to liven the surface character.

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Organic graphics Achieve original artistic (sculptural, graphic) expression.

Design freedom

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PermaForm can replicate images and letters, through to faces and landscapes.

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Simulate materials

Replicate other materials such as stone walls, stacked slate.

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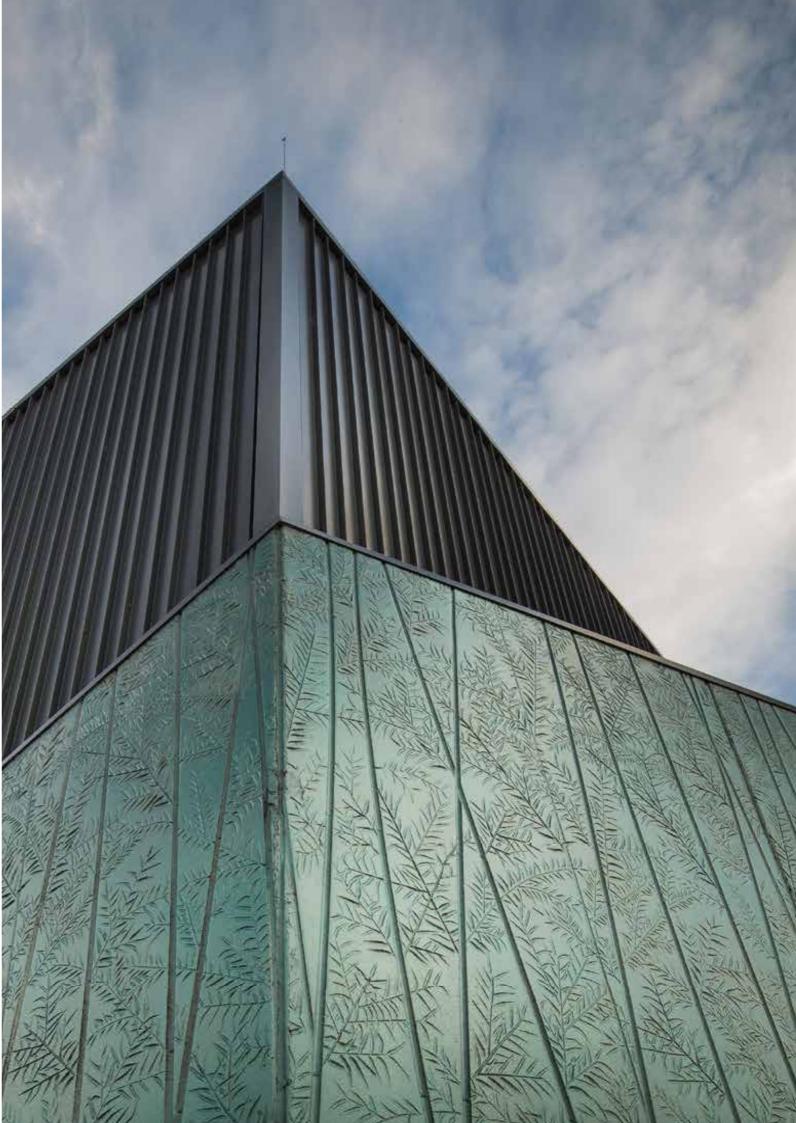
Reduced cost

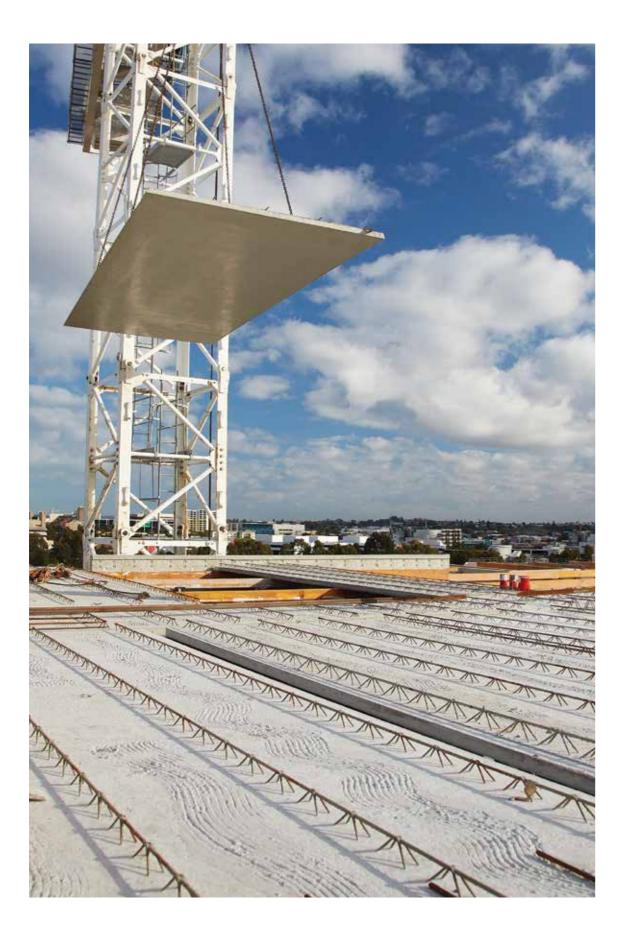
The factory applied finish removes the need to scaffolding and labour required to apply such materials on site, offering time and cost savings for the project.

Ð

Affordable finish solution Moulds used to create PermaForm finishes are reusable and the cost to create them can therefore be spread across multiple panels.







Flooring Solutions

The permanent formwork is an ideal and economic solution for constructing concrete floors for single or multi level structures, concrete decks and platforms and to construct roofs and lids.

- Austral Deck
- Austral Deck Post Tensioned





Flooring Solutions



Austral Deck

Austral Deck incorporates triangular truss reinforcement (lattice girder) providing a bond between the precast and in-situ concrete. These trusses increase spans between temporary props solution to construct concrete floors during construction and contribute to the reinforcement mass of the final slab.

Austral Deck is a factory made precast panel that can be designed and manufactured to suit a variety of building The combined precast post tensioned functions and occupancies, catering for a solution offers many advantages range of imposed and permanent loads. Lengths of panels are generally limited to 12m and its standard width is 2.5m for handling and transport purposes. Austral Deck comes in a standard thickness of 70mm (60mm in Western Australia only) to suit various slab design specifications.

Austral Deck Post Tensioned

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The flexibility of Austral Deck means it is well suited to accomodate slab post tensioning components. Austral Deck is an ideal and economic for single or multi level structures. For residential applications spanning 10m, it is recommended that post tensioning is employed.

compared to cast in situ post tensioned solutions including; reduction in concrete volume, post tensioning amount and rate.



Austral Deck and Austral Deck Post Tensioned

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A permanent formwork and precast concrete decking solution. The Austral Deck flooring system can easily accommodate varied designs, shapes, thicknesses, penetrations and cast-in fittings.

Austral Deck features and benefits include:

Bridge superstructures

The permanent formwork system has been approved by many state road authorities, providing safer and more efficient construction of bridge superstructures.

Minimal finishing The high quality off form Class 2 finish on the under side of the Austral Deck

Class 2 finish on the under side of the Austral Deck floor eliminates the need for gyprock or plaster the ceiling.

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Easy installation Composite platforms and shear connection panels can be constructed easily with partial or full-length gaps or pockets of concrete blockouts.

Unique flooring solution

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During construction the panel can stand construction loads and be used as a platform for workers and materials.

Austral Deck components





Flexible formwork

Custom made sizes and shapes can be manufactured to suit construction layout and design specifications.

Improving site safety

Safety rails can be prefitted to the panels prior to installation, improving site safety.

Void former blocks

When produced with formers attached to the top of the precast, these formers reduce the volume of in-situ concrete topping volumes and reduces the overall mass of the floor structure typically by 30%.

Non-combustible

The excellent fire, thermal and acoustic advantages of Austral Deck are superior to other light weight flooring options.

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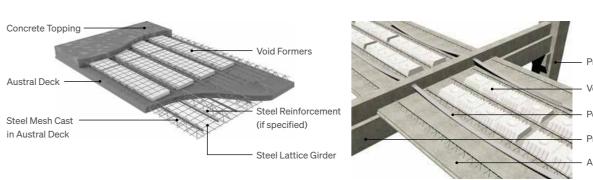
Construction efficiency

Construction trades can commence working on the structure immediately after installation. Services ducts and conduits can be installed and accommodated into the cast in-situ portion of the slab.

Fast to install

Ð

Panels can be lifted straight into position, reducing conventional installation time. The panels have a relatively thin layer of concrete, which makes it lighter to transport and install.



Austral Deck

Austral Deck Post Tensioned

- Precast Column
- Void Formers
- Post Tensioning Conduit
- Precast Beam
- Austral Deck



Framework Solutions

Austral Precast offers a range of standard structural framework solutions with precast columns and beams. The Austral Precast Framework solution is an efficient and economical replacement to the cast in situ concrete or a steel structure frame.

- Double Wall Columns
- Standard Columns
- Beams



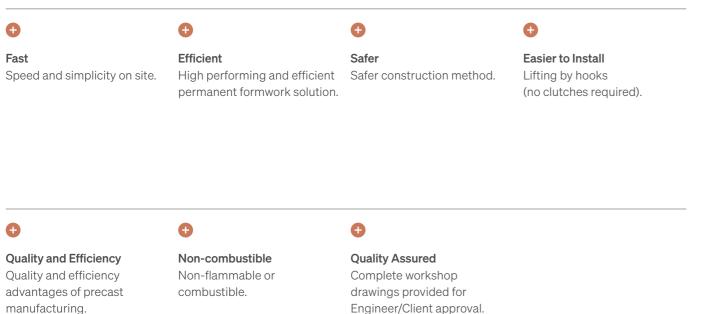


Double Wall Columns

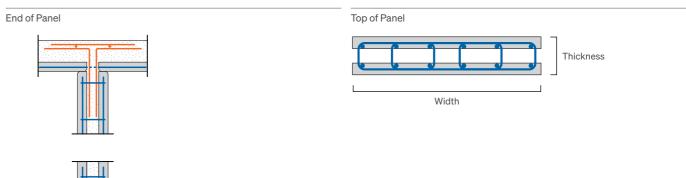
Austral Precast Double Wall Column consists of a pair of precast reinforced concrete shells connected by reinforcement, forming a cavity that is core filled on site.

Once installed on site, panel to panel reinforcing is inserted and the cavity is filled with selfcompacting ready-mix concrete. When filled Austral Precast Double Wall Column behaves like a fully cast in situ reinforced concrete column.

Double Wall Column features and benefits include:



Typical Column Details





Connecting reinforcement* to be placed before pouring. See structural engineer.

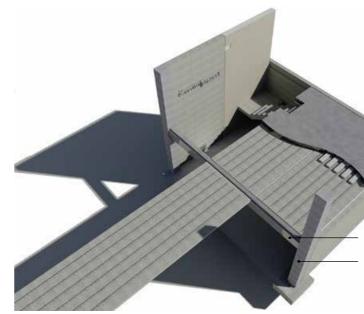
Timber

Standard Columns and Beams

Precast concrete columns and beams form the framework on and into which walls. floors, balconies and stairs can be attached to create the overall project envelope and create a whole of structure solution.

The Austral Precast range of square and rectangular precast columns and beams are designed to accommodate a wide variety of building functions, occupations load capacities and to suit various construction methods.

Columns and Beams components



Columns and Beams features and benefits include:

Ð

Complete solution

The precast Framework is designed to be installed with the entire Austral Precast elements offering a complete precast building solution.

Ð

Flexible framework Create an ideal framework for supporting precast structural, facade and cladding wall panels and setting for installation of Austral Deck.

Comprehensive range Austral Precast offer a comprehensive range that eases the design process for engineers while offering architects limitless creativity.

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Fast to install The simplicity of the design combined with using mechanical connection contributes to speed of erection.

Ð

Minimal propping Minimal propping is achievable using precast columns and beams.

Aesthetic

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Precast Beams and Columns provide a clean, finished look for the structural component of the building. A variety of finishes can be applied if required.

Ð

Custom sizes Precast structural elements can be manufactured to maximum lengths (column height for up to three levels, beams spaning up to 12m).

Construction efficiency Construction of multiple levels can commence at the same time, reducing construction time.

Standard Mechanical Connections

Column Shoe and Bolts

Dowel and Cast-In Grout Tube





Double Height Column With upper part pre-installed









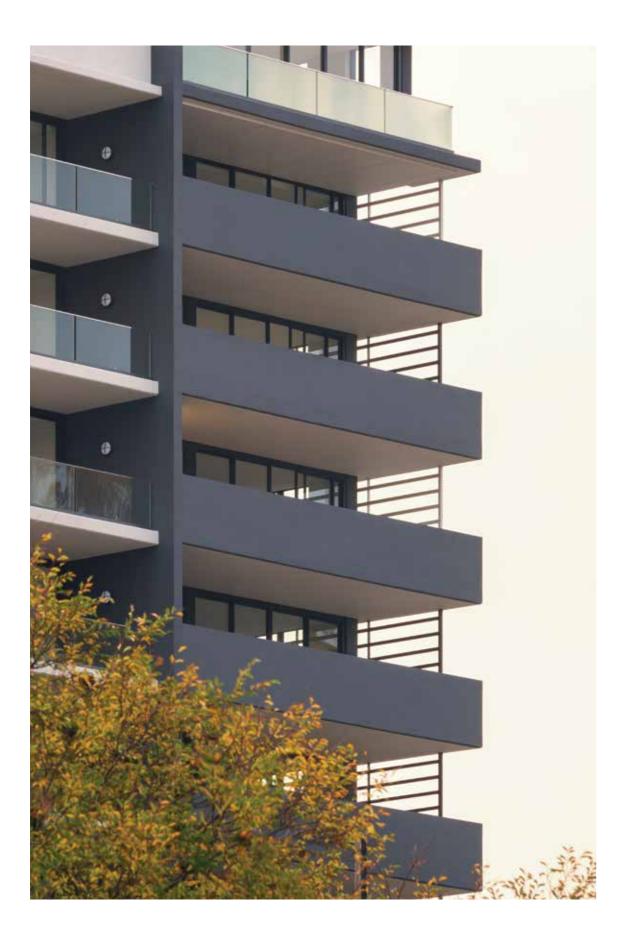
nner Precast Beam

Double Height Precast Column

Bolted Base Plate







Balcony and Balustrade Solutions

A key architectural feature on many apartment and high-rise buildings, well designed and carefully detailed balconies add to the character of the building.

- Balcony and Balustrade

Balcony and Balustrade

Like the rest of the structural precast range, balconies are designed to our clients' requirements. Our extensive experience ensures an excellent finish with careful detailing. Balconies can be designed, detailed and manufactured as plate floor elements, using Austral Deck or as solid precast elements. Balcony and Balustrade components



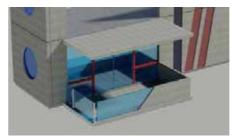
Balcony and Balustrade features and benefits include:

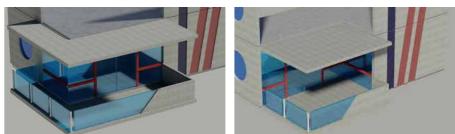
+	0	•	•
Custom design Precast balconies are designed and manufactured to any custom shape and configuration.	Proper drainage Precast Balconies are designed with a sloped top surface, step down and a drip edge on the underside for proper drainage and water run-off step.	Fast to install Balconies can be erected with floor units prior to pouring saving installation time.	Flexible framework Precast balconies can be either supplied as pre-finished structure or as structural platform supplied as Austral Deck.
•	•	•	•
Non-slip Balconies can be made with a standard (non-slip)	Safe worksite Installating precast balconies at the same time as the	Safety rails Safety rails, balustrade and upstands can be pre	Construction efficiency Speed of erection of precast balconies ensures project

Common Precast Balcony Configurations

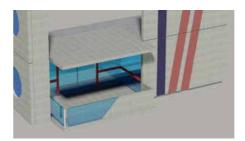
Cantilever Precast Balcony

Cantilever Precast Balcony External Corner

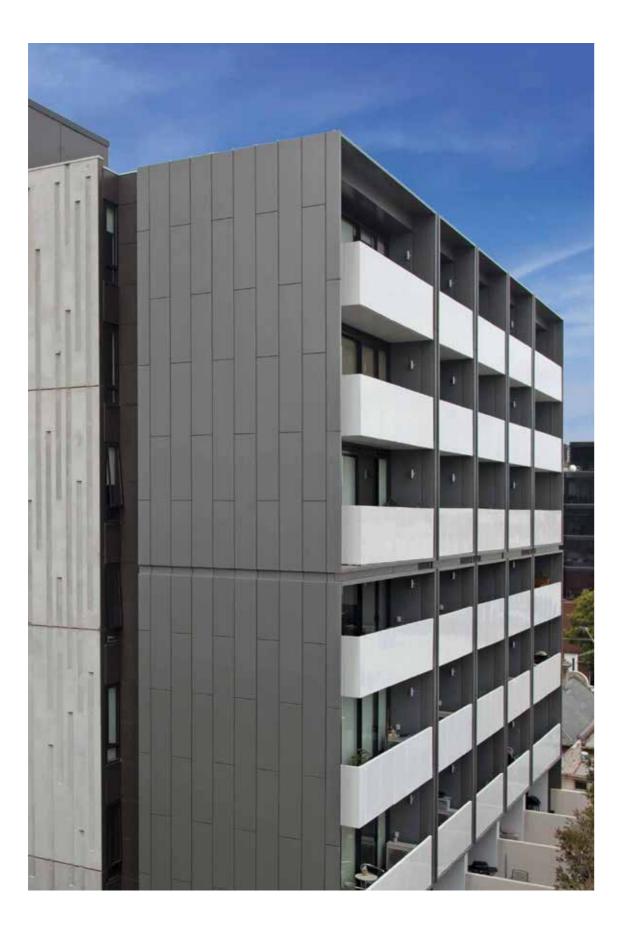




Supported Slab Recessed Balcony



Cantilever Precast Balcony Internal Corner



Technical Guide

- Applications





Applications

Austral Precast Solutions

The comprehensive range of Austral Precast framework solutions are designed to aid the construction of all building functions, single or multi level structures, various spans and to cater for a variety of applied loads.

This includes our Solid Wall, Double Wall, Panel Brick, Columns, Beams, Balcony and Balustrade solutions.

These systems are ideally suited for

- Medium Density
- Multi-Residential Buildings
- High-Rise Buildings
- Industrial Building Units and Warehouses
- Commercial Buildings
- Schools
- Hospitals
- Carparks
- Recreation Centres

Austral Deck Solutions

Austral Deck is easy to design with and fast to install, saving time and money across the construction life cycle. A flexible and adaptable formwork, Austral Deck integrates well with Austral Precast walling solutions, covering the entire structure including cantilevers and balconies.

The permanent formwork is an ideal and economic solution for constructing concrete floors for single or multi level structures, concrete decks and platforms and to construct roofs and lids.

Wall Finishing **Solutions**

Our wall finishing solutions allows the creation of facade panels which can be used to create a striking building façade, offering economy in the number of elements used, style in finish, and cost efficiency across the project.

PermaTech can be applied to either solid walls or double walls.

Various finishing solutions can be combined to create truly distinctive designs.

The system is ideally suited for

- Balustrades
- Noise Barriers
- Retaining Walls

Structural Flooring

- Medium Density
- Multi-Residential Buildings
- High-Rise Buildings
- Industrial Building Units and Warehouses
- Commercial Buildings
- Schools
- Hospitals
- Carparks
- Recreation Centres

Decks and Platforms

- Traffic and Pedestrian Bridges
- Curved on and off ramp structures
- Rail Platforms
- Marine Jetties and Platforms

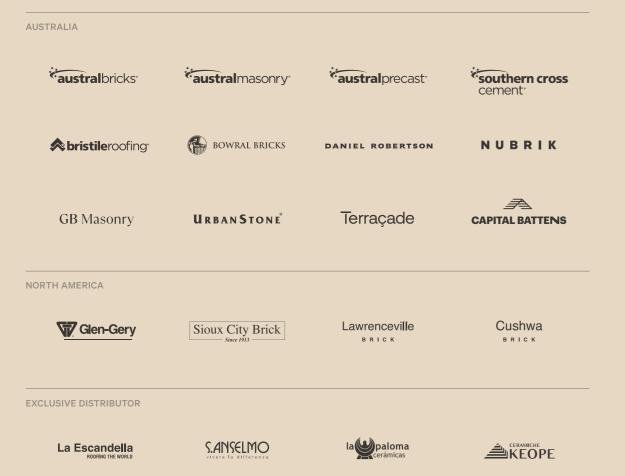
Roofs and Lids

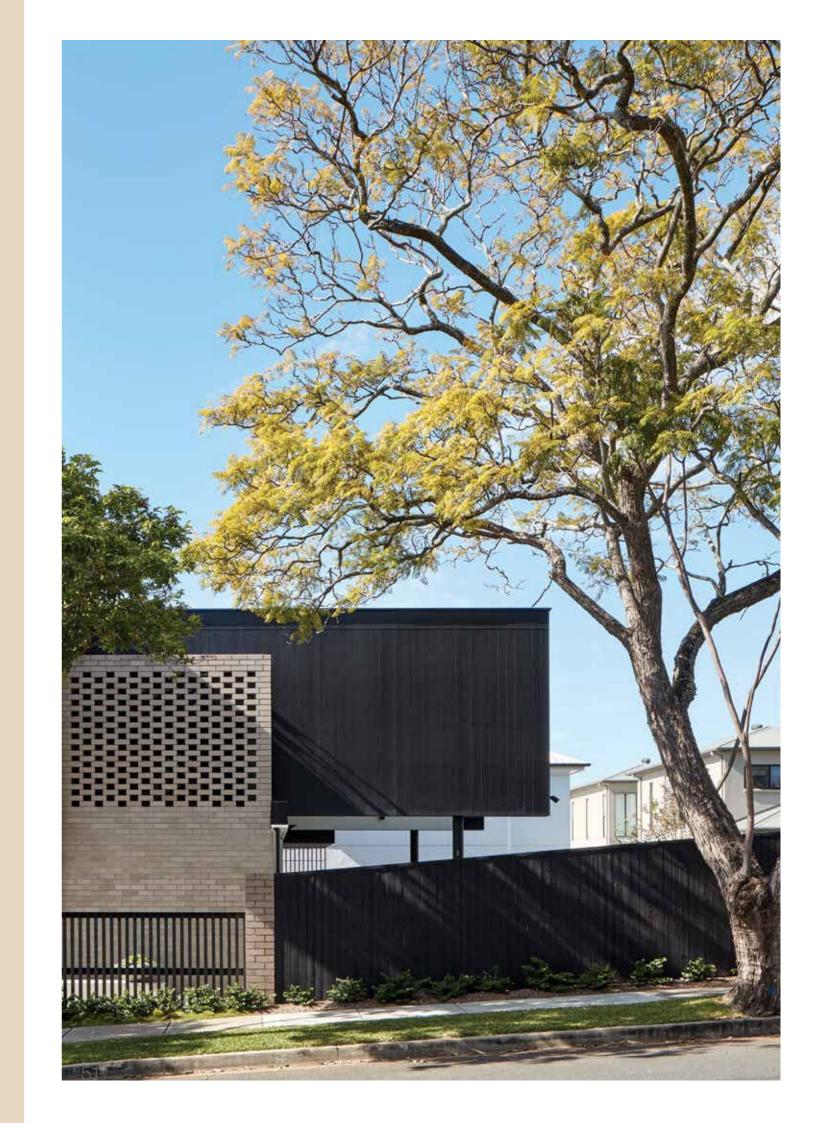
- Tunnel and shaft roof panels
- Culverts
- Tank lids

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Our Locations

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The product images in our brochures give a general indication of colour for your preliminary selection. We also recommend you view current product samples before making your final selections.

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