Austral Precast

East Coast

precast.
style and
function

australprecast™

Contents

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function

Who are we

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.

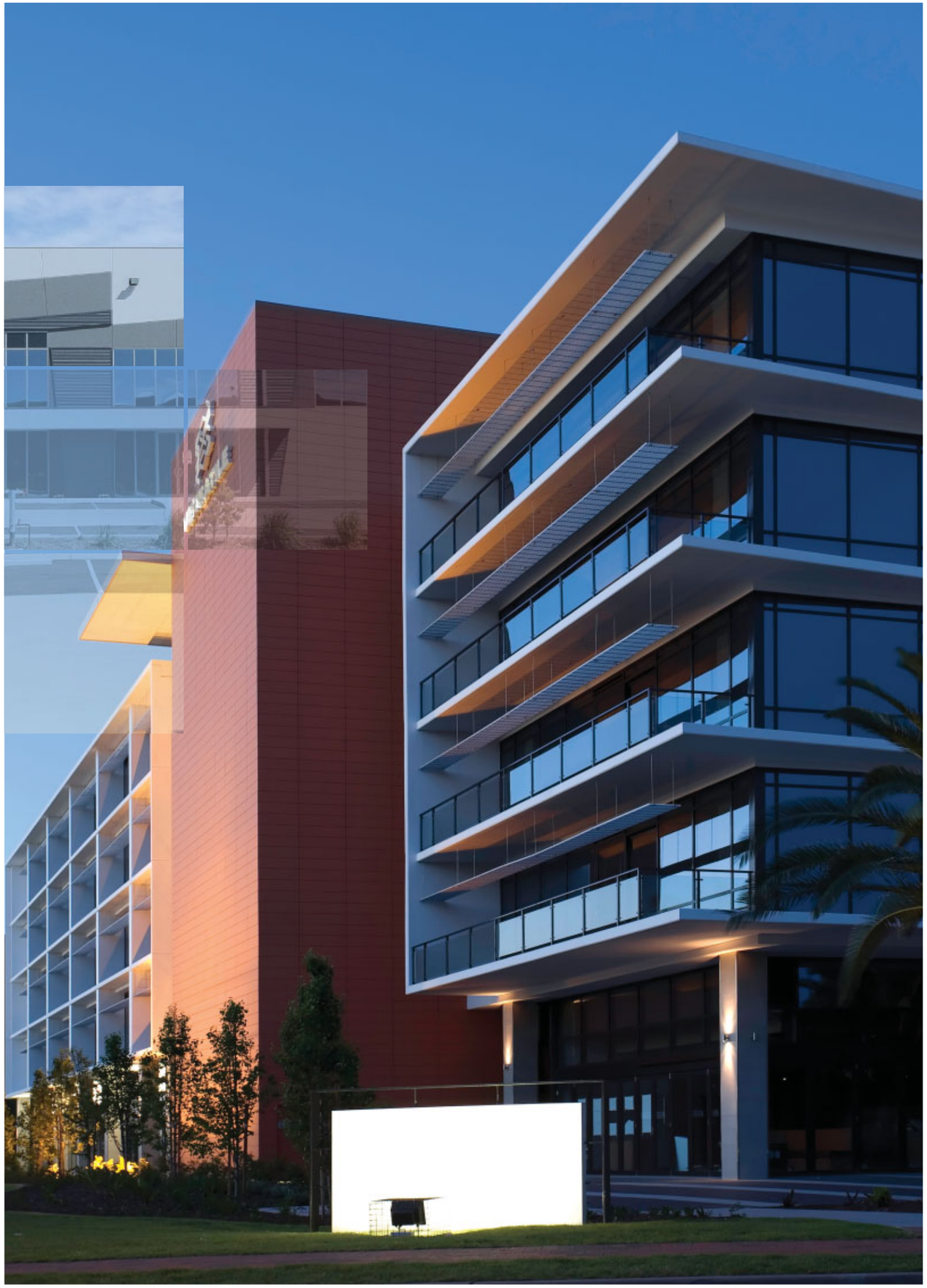
Austral Precast is Australia's premier supplier of high quality and innovative, customisable precast concrete product solutions, and industry leading installation and construction services designed to meet the needs of an evolving building and construction industry.

Operating from five plants located across Australia, using state of the art technology, production techniques and systems, Austral Precast produces a diversified range of customised wall, floor, column, and client specific precast solutions, taking pride in our ability to exceed the expectations of our customers and find solutions that meet their needs.

We service a range of markets and focus primarily on the industrial, commercial, multi residential and community 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 either using our own team of installation experts or one of our experienced and respected sub contracting partners.

Why use Precast



For a stylish solution with a host of benefits, the answer is Precast Concrete.

Easy and Quick Installation

The most widely recognised reason to use precast is the reduction in construction timelines that can be achieved.

This is possible because precast concrete is manufactured off site and made to client specifications so that manufacture and site preparation can occur simultaneously with quick and straight forward installation, ensuring faster enclosure of the structure, minimal delay to work being carried out by other trades, and limited site congestion.

In addition, precast does not suffer from delays resulting from external weather conditions which can occur with competing substitutes.

Minimal Disruption Onsite

Because they are manufactured off site and simply lifted and fixed in position (usually in a day or two), precast concrete panels cause minimal delays to other trades, providing opportunities to bring forward project completion dates.

Sound Insulation

Due to its density and mass, concrete is an excellent barrier against various external noises such as traffic, aircraft, and weather events.

Durability

Made from concrete in various densities and compositions, precast concrete is a strong, low maintenance material that will endure the ravages of weather, time, pollution, and other external forces with minimal degradation or damage.

Product Customisation

Concrete's plasticity or malleability makes it easy to form into a range of shapes, sizes, and finishes designed to meet individual requirements.

With precast panels, every product is distinctive with each developed based on intimate knowledge of the project and client for which its required.

What this means for you as our client is that whatever your needs, we'll try and design a product to meet them.

Thermal Insulation

Due to their thermal mass, precast concrete panels slow the flow of temperature fluctuations by storing and releasing these gradually, resulting in more comfortable living conditions for occupants.

Quality Controlled

All precast concrete panels are manufactured to meet and exceed Australian standards and Austral Precast's own stringent quality standards.

At Austral Precast, we see the quality of our product as a reflection on the quality of our business, so each panel is manufactured and designed to reach the highest standards in quality.

Fire Resistance

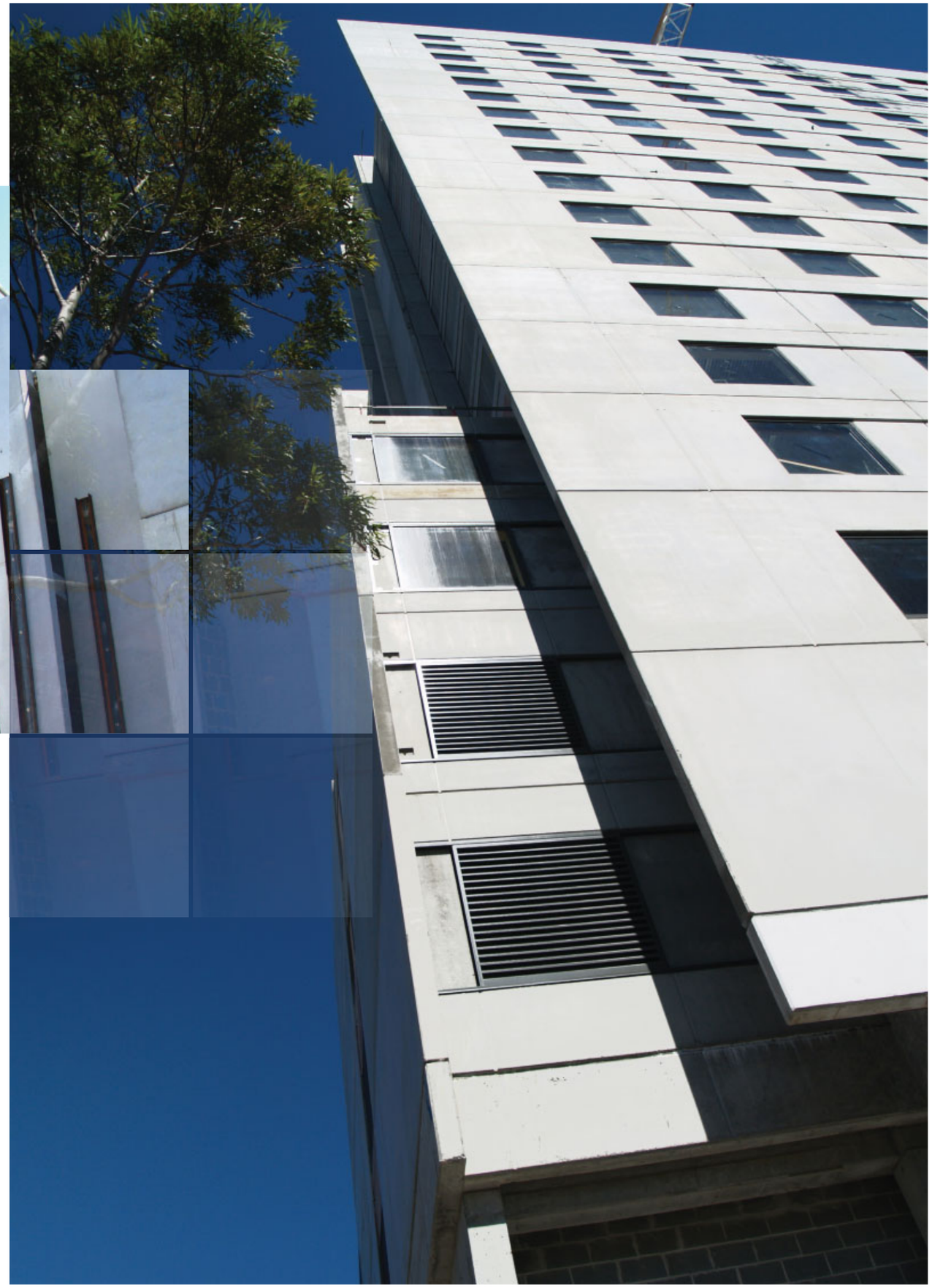
Easily achieving fire resistance requirements set out in national standards, precast concrete is well recognised for being impervious to fire.

Cladding Panels
Style with Distinction

Muted, distinctive or striking, precast facade panels can be used to achieve a look that is only limited by your imagination.

Precast wall cladding offers all the benefits of other precast concrete materials including thermal mass, sound insulation, longevity and cost efficiency with the ability to use a range of finishes including: off form (smooth), exposed aggregate, applied and honed finishes. For a facade that suits your style, the solution is precast concrete wall cladding.

Load Bearing Panels
Style & Function



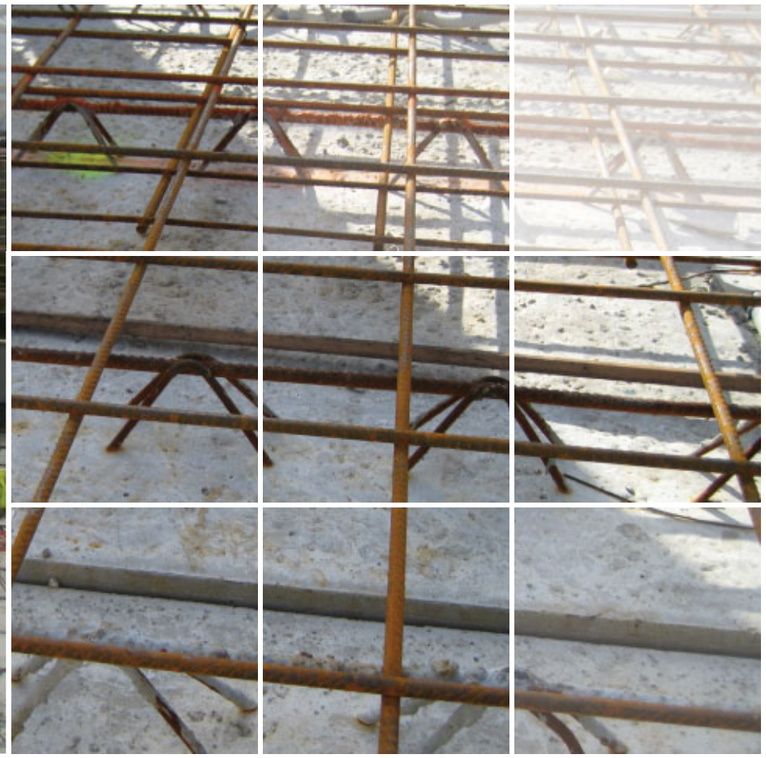
The cornerstone of intelligent design, load bearing panels offer economy and style.

The ideal solution for structural support, a load bearing panel can eliminate the need for structural framing and act as a striking building facade, offering economy in the number of products used, style in finish, and cost efficiency across the project.

Prominent in commercial, industrial, architectural and high level residential buildings, load bearing panels are the material of choice for contemporary projects.

Flooring

Foundation Built on Style



A revolutionary precast concrete flooring system which uses a combination of precast steel reinforced concrete panels and a poured in-situ topping as a means of constructing a suspended concrete slab.

Size

A Transfloor™ panel is a factory made precast concrete slab of variable width up to a maximum of 2.5 metres and variable length, usually limited to about 12 metres for transport and handling purposes.

Thickness

The panel thickness can be varied and will depend on reinforcement size and concrete cover. For many applications a nominal thickness of 55 mm is satisfactory.

Reinforcement

The bottom reinforcement embedded in the panel can consist of a layer of fabric, the bottom chords of the trusses and additional reinforcing bars as required by the designer.

Handling

The Transfloor™ trusses provide strength and stiffness for handling and transport, allow panels to support construction loads with a minimum of temporary propping, contribute to the bottom steel and to the top steel and can also serve as continuous bar chairs to support the top reinforcement.

Weight Saving

Polystyrene void formers, added at the precast factory, allow for construction of voided slabs with a significant reduction in self weight (typically 30%).

Flexibility

In contrast with most other prefabricated systems, Transfloor™ imposes few restrictions on designers because there are no standard panel sizes. The length, width, thickness, plan geometry and reinforcement steel can be varied to suit design requirements and allow considerable flexibility for both the Architect and the Engineer.

Faster Construction

Up to 150 m2 per hour can be placed by crane, reducing building time significantly.

Transfloor™ panels provide both the working platform and part of the completed floor while eliminating the need for formwork.

Reduced Propping

Propping requirements are reduced when compared with traditional formwork meaning less cluttering of the floor below and earlier access by following trades.

Clean & Safe

Fewer trades are required resulting in a less cluttered, cleaner and safer building site. An immediate work platform is provided.

Lighter Structure

Use of polystyrene void formers reduces the self weight of the slab and provides cost savings in foundations, columns and beams. The void formers also reduce the volume of in-situ concrete.

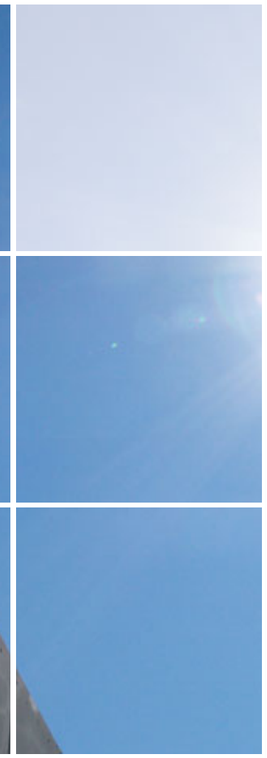
Soffit Finish

A class 2 off-form grey finish is easily achieved, suitable for painting with minimum preparation (refer Figure 3).

Balcony Upstands

Balcony upstands can be provided as an integral part of the Transfloor™ panel, eliminating costly edge formwork and scaffolds. Precast balcony upstands also offer early installation of temporary or permanent balustrades.

Other Products
Style Solutions



For stylish precast products designed to stand the test of time, Australia looks to Austral Precast.

Columns & Beams

Whether used as an architectural feature or as a critical load bearing element of a larger project, columns and beams can be used in a variety of applications and designs.

Used correctly, columns and beams offer the potential to increase the speed of floor on floor construction, cutting completion timelines and offering cost savings in the process.

Parapets

Commonly used on commercial buildings, Austral Precast can offer a range of parapet designs to meet your needs.

Signage

Strong and durable, precast concrete signs create a powerful corporate presence. Whether you have a logo imprinted, raised on their surface, or a panel in the shape of your logo, our range of signage solutions will create a strong impact and lasting impression.

Retaining walls

The strength and longevity of concrete makes it an ideal material for retaining walls, while the finishes available mean that function and aesthetics can be brought together to create a distinctive retaining wall feature.

Finishes
Finished in Style

Austral Precast offers a range of finishes that can used separately or in combination to add a point of difference to creative designs.

Finishes (Off Form)

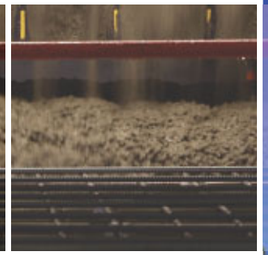
Off form refers to the panels surface shape and finish being formed from the casting bed in which it's poured. Traditionally off form finishes are smooth flat finishes however, various moulds and designs can be installed in the casting bed to change the finish and shape of the panel.

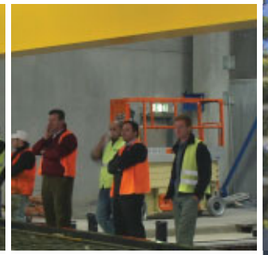
More recently these moulded finish panels have been used as architectural features often with the same mould pattern repeated on multiple panels to spread the cost of mould creation and achieve cost efficiency.

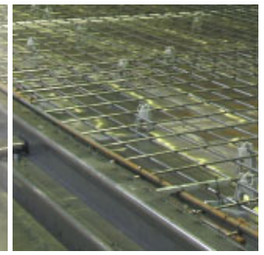
Finishes (Applied)

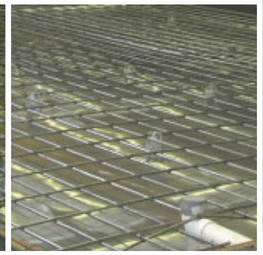
Applied finishes are achieved through the application of materials, such as tiles or bricks, to the surface of the concrete panel in various patterns to create a truly distinctive look. Whether you want a traditional brick veneer finish or a striking tiled pattern that captures the eye, applied offer a range of choices.

Services
Service with Style









Austral Precast offers an industry leading service through a team of experienced professionals.

Austral Precast offers an industry leading installation service either through our own team of installation experts or through a number of Austral accredited installers.

Years of experience and the knowledge developed from this means we understand the intricacies of precast installation and offer an industry leading installation service offering: quality, efficiency, affordability and an unrivalled level of attention to detail.

Austral Precast Service Areas:

Contract Department - Offering estimating services to find a solution that not only suits your project but also fits within your budget.

Detailing Department - Offers comprehensive design advice to help you bring your creation to life, while giving advice on how to design panels to achieve economy and easy installation.

Manufacturing Department - For expertise on how the panel you need can be made, our manufacturing department offer a wealth of knowledge and experience.

Erection Department - Experts at putting the pieces of the project together, our erection teams are experts in their field.

Post Erection Department - Offering, Grouting, Caulking, Welding, Patching and Brace removal, Post Erection apply the finishing touches.

Technical Information

FIGURE 1
Design Principles for Loadbearing Facades

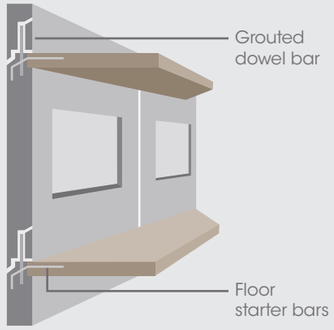


FIGURE 3
Typical Connection Details for Loadbearing Facades

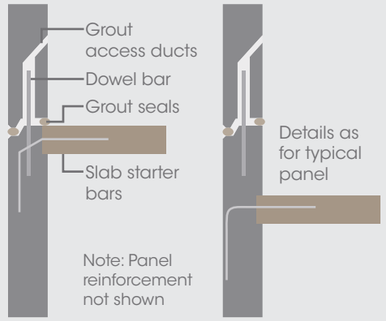
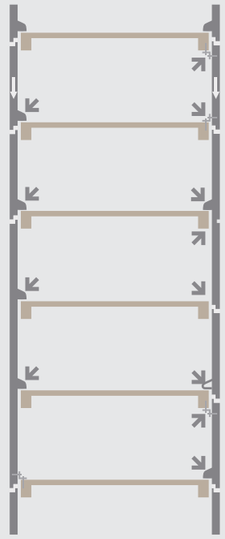


FIGURE 4
Design Principles for Loadbearing Facades

1. Transfer dead load directly to the structure through bearing
3. Provide only two bearing points per panel.
5. Panel should be bottom-supported (if possible).
7. Panel may also be top-supported
9. A bolted connection (cleat) is suitable for lateral restraint.



2. Avoid carrying deal load on bolts in shear.
4. Provide bearing at one level only, per panel.
6. Alternatively, panel may be middle supported.
8. Bearing support to be tied against lateral forces.

FIGURE 5
Eccentric Forces

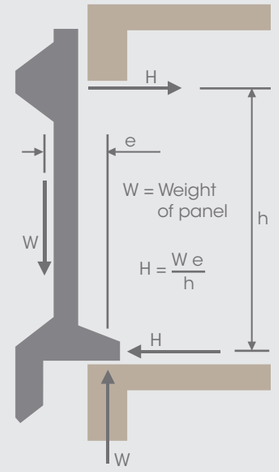
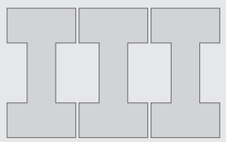


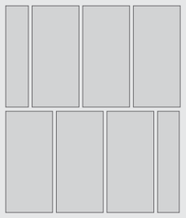
FIGURE 2
Location of Joints

Vertical joint between panels



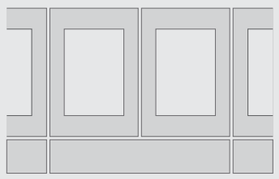
DO NOT curtail vertical dummy joint as this will lead to staining

Vertical joint between panels



DO NOT stagger vertical (or horizontal) joints as it leads to staining and stress on sealants. In some cases it can lead to stress on the panel with possible cracking of the panel.

Dummy joint



AVOID this configuration as it can lead to potential water staining and leakage problems.

Walling (Load Bearing) Connections

Technical Information - Basic design principles for loadbearing wall units are shown in FIGURE 1. Loadbearing units may have a window or other opening incorporated into them.

The location of vertical and horizontal joints is important. The doughnut configuration with the window enclosed in the panel is best. If another configuration must be used then weatherproofing of the facade needs to be carefully thought out, see FIGURE 2.

Vertical load bearing connections should be made panel-to-panel as illustrated in FIGURE 3. Connections are detailed to provide for ease of erection and grouting. Issues not resolved on the consultants drawings will be addressed with by Austral during the shop drawing process.

As with all precast concrete the design should produce the most commercially attractive result consistent with the architectural and other customer requirements.

Panel sizes should be maximised within the limits of transport, crane capacity and temporary support arrangements.

Window openings can often be glazed, or at least have the frames installed, before the panels leave the factory. Careful detailing and selection of surface finishes will minimise the effects of weathering.

Cladding

Cladding refers to non-loadbearing precast panels connected to a supporting structure. The ten basic design principles for cladding panels are shown in FIGURE 4.

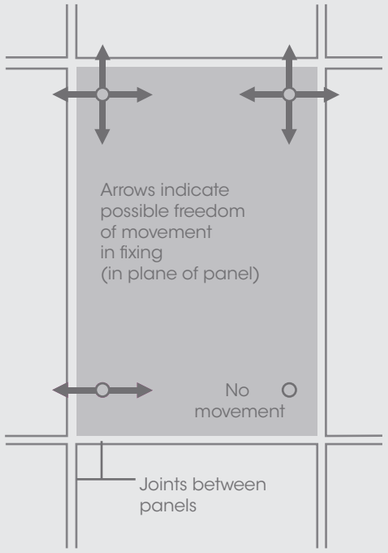
The following principles should be recognised in the design of connections for precast cladding units:

Connections must be detailed to ensure that each unit supports only its own weight and no weight is transferred from the units above.

Connections should be chosen so that the loads are transferred through the connections as simply as possible with minimal eccentricities. The design of the fixings must recognise all forces and allow for them in the detailed design, FIGURE 5

Technical Information

FIGURE 6
Typical Panel-Fixing Details



ELEVATION

FIGURE 7
General Arrangement

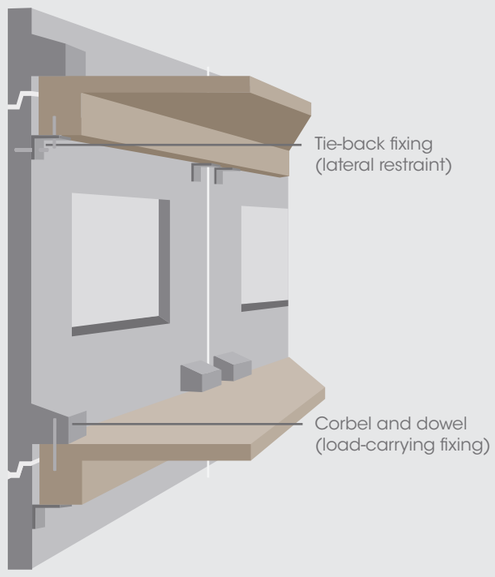
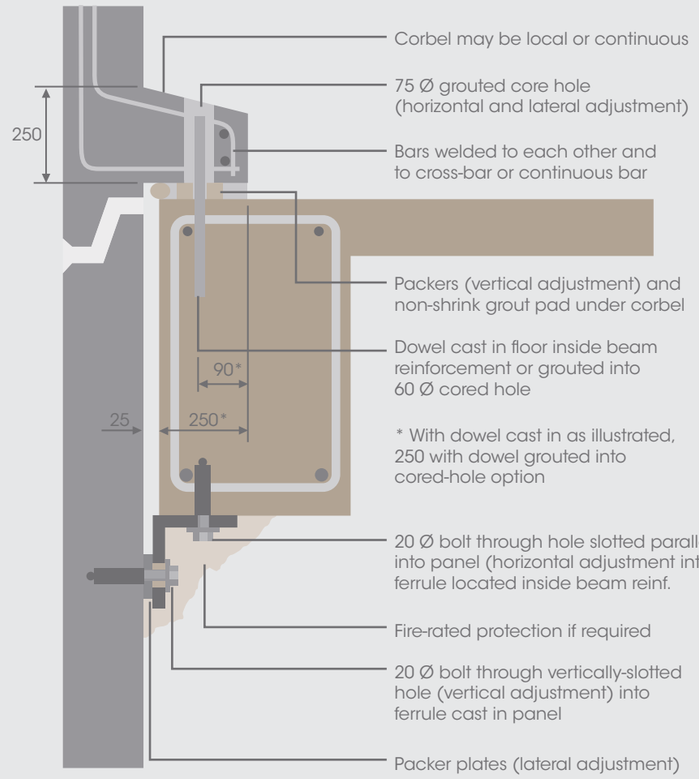


FIGURE 8
Typical Connection Details for Cladding Panels



Walling (Cladding) Connections

Units should be provided with at least four fixings as shown in FIGURE 6. The arrows show the freedom of movement that must be provided at each of the fixings in the plane of the panel. The fixings must provide resistance to wind forces perpendicular to the plane of the panel. Panels must not bear on one another.

The connection details should be standardised as much as possible. This results in economy, speed and simplicity during production and erection, and also reduces the chance of error.

Typical Panel-Fixing Details

Adequate tolerances and clearances are required. Connections should allow economical fabrication of the precast elements. The hardware should not interfere with concrete placement, cause finishing problems nor make it difficult to provide the specified cover to reinforcement.

Connections should be detailed so that hoisting equipment can be quickly released.

It may be necessary to provide temporary connections that are released after final adjustments are made. Typical cladding general arrangements & panel connection details are shown in FIGURE 7 & 8.

Design for repetition; aim for the least number of variations between panels and increased repetition of mould usage for maximum economy.

Design for the largest possible panel size within the limits of transport, crane capacity and temporary support arrangements. This will reduce costs and close up the building more quickly.

Associated Companies

Brickworks Group of Companies

austral bricks since 1908

AUSTRAL BRICKS

Austral Bricks is the largest and most efficient producer of pavers, bricks, building materials, façade systems and landscaping products in Australia.

With the commissioning of a new brick factory at Wollert, Victoria in 2007 we continue to set the pace for quality, efficiency and high levels of environmental performance.

The introduction of robotic brick handling equipment at plants around Australia enables us to greatly reduce manufacturing costs and enhance production flexibility.

austral masonry

AUSTRAL MASONRY

The acquisition of a number of concrete masonry manufacturers, most notably GB Masonry in Queensland, complemented established manufacturing Victorian facilities and led to the formation of Austral Masonry.

Through natural growth and acquisition Austral Masonry™ has become a significant player in the market for grey block building materials in Queensland and provides further diversification of earnings for the group.

bristile roofing

BRISTILE ROOFING

Bristile Roofing™ was established in 1929 when Sir Lance Brisbane opened his first terracotta products factory in Perth. The division is now one of Australia's largest manufacturers and expert installers of quality terracotta, and concrete roof tiles.

auswest timbers

AUSWEST TIMBERS

Auswest Timbers™ manufactures a diverse range of timber products including heavy structural timbers, roof tile battens through to floor boards and decking. The company has manufacturing plants in Western Australia, Victoria and the A.C.T.

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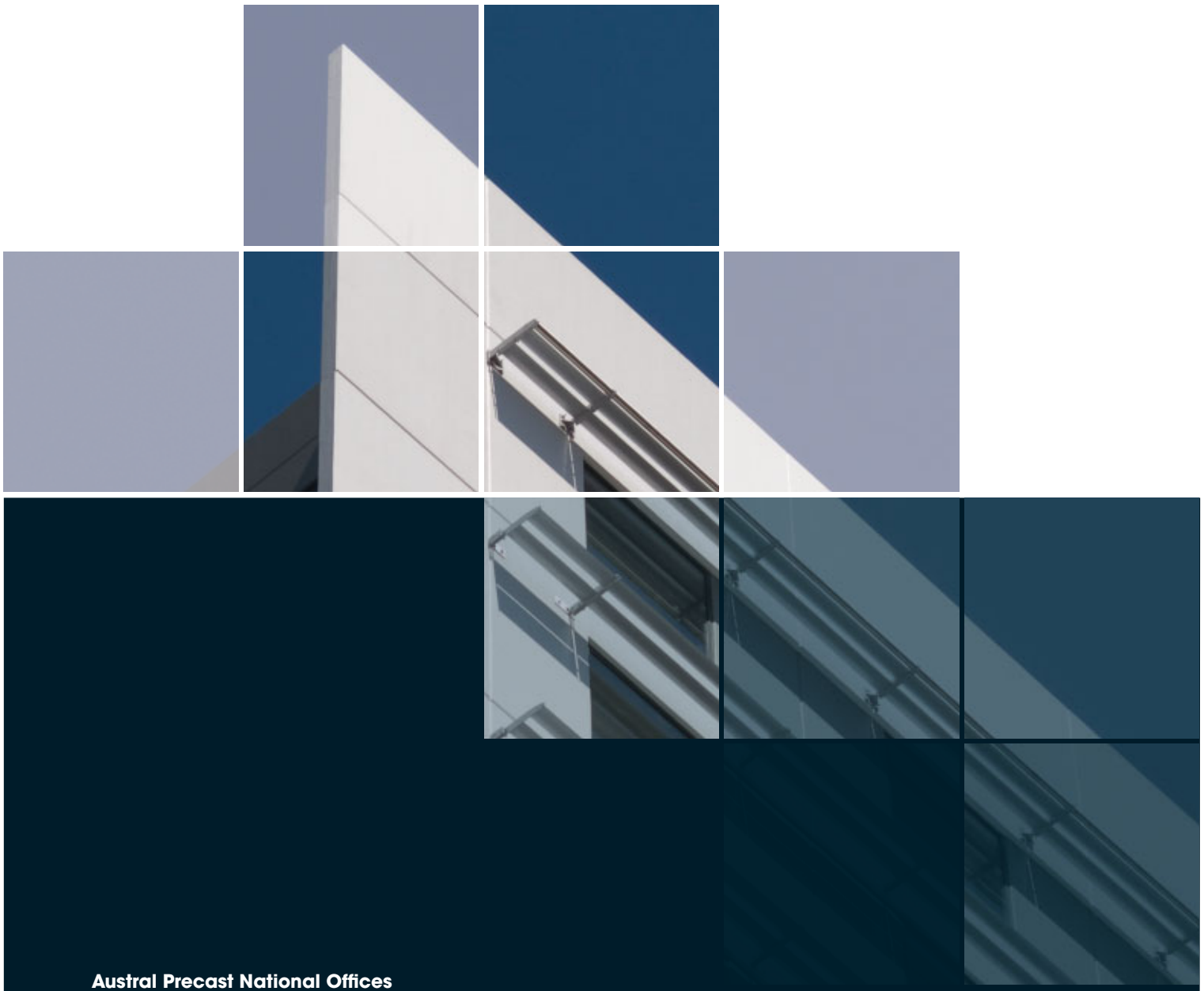

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