



PRECAST CONCRETE AUSTRALIA



capability statement - july 2021

CAPABILITY STATEMENT

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YEAR ESTABLISHED	2021
ABN	54 647 134 950

Capability Information

Main Business Activities

Overview

Precast Concrete Aust (PCA) is a privately owned Queensland company that manufactures sustainable precast concrete products from mostly recycled construction and demolition waste. We offer a comprehensive catalogue of engineered precast concrete products that can be augmented with a variety of accessories and attachments. Our products are used across the civil, mining, agricultural, earth retention and materials storage industries.

Our primary focus is manufacturing sustainable precast concrete products. We aim to produce concrete products from recycled materials without compromising quality, strength or appearance whilst remaining competitively priced and economically viable. We achieve this by implementing as sustainable business practises in each step of the product development lifecycle. Our raw materials are processed from locally sourced construction and demolition waste. We invest heavily in research and development to find novel uses for waste products that currently do not have suitable industrial applications. We offer a whole of life product stewardship program to help clients reuse, repurpose or recycle their unwanted concrete products.

Our products are available in a range of standard sizes and configurations of interlocking, flat-top and tie-down blocks. We provide tailor-made custom precast products for clients requiring a unique solution to their unique problems. Our customer service, design and manufacturing is done in-house at our manufacturing facility located in Pinkenba which has the capacity to produce 950 tonnes of precast concrete per month.

Preferred Work

We work with clients large and small. Our orders can range from a single block for a DIY project through to hundreds of blocks for Tier 1 companies. We treat all clients equally with exceptional care, service and attention to detail.

Products and Services

We manufacture precast concrete products with a compressive strength rated up to 20 MPa from primarily recycled materials. We are able to produce stronger mixes upon request.

Concrete Blocks

Our standard blocks come in interlocking, flat-top or tie-down variants. They can be outfitted with a large variety of accessories including additional lifting points, tie down points, threaded ferrules, forklift pockets or reinforcing mesh. These blocks are available in 500kg to 1500kg sizes. We have made blocks as small as 40kg and are currently developing a block that weighs 23, 000 kilos. All our concrete is rated to at least 20 MPa in compressive strength and made from 85% recycled materials.

Our blocks are most commonly used for:

- Retaining Walls
- Aggregate/Bulk Materials Bunkers
- Igloo/Dome Structure Bases
- Anchor weights for marquees, shipping containers and semi-portable structures
- Temporary street light pole footings
- Marine applications

Custom Precast Products

We provide bespoke custom precast solutions for clients and customers who are unable to find products to suit their needs. This process typically involves liaising with the client to determine what design would best suit their requirements. Our design team will provide a concept sketch and can even provide a scale model to help the client visualise the end product. We will then create custom moulds and proceed to casting the product based on the specifications set out by the client.

Our customisation options include but are not limited to:

- Custom dimensions
- Accessories and fittings (e.g. ferrules, eyelets, reinforcing mesh, tie down points, ragbolt cages)
- Painting and Stencilling
- Custom Engineering Requirements (such as high compressive strength concrete)

Sustainable Concrete

At Precast Concrete Aust our mission is to produce concrete that is more sustainable. We do this by implementing significant changes to how concrete is made at every stage of manufacturing. Our raw materials are locally sourced from recycled and reclaimed construction and demolition waste from worksites across South East Queensland. We utilise manufacturing methods which minimise wastage of raw materials, energy and water as much as possible.

Whole of Life Product Stewardship

We have implemented a product lifecycle program to try to keep our blocks out of landfill. If a concrete product no longer fulfils a need for our clients and customers we can take the blocks back at the end of their life. If we are unable to repurpose blocks then we recycle them back into raw materials and use them to make new blocks.

Facilities and Equipment

Our 4047m² manufacturing facility is located in Pinkenba, Queensland in close proximity to Brisbane Airport, Port of Brisbane and the Gateway Motorway. We operate 5 days a week but can provide after-hours service and advice where needed to fulfil project requirements.

We keep large stores of all raw materials required to pour concrete on site at all times including fine and coarse sand, multiple sizes of aggregate and cement. All concrete products are poured and set on site using specialised concrete pouring equipment by a team of expert tradespeople.

We have a fully functional concrete batching plant on site as well as a range of concrete pouring equipment. Our plant is staffed by an experienced team of concrete



Above: The Precast Concrete Aust manufacturing facility at Pinkenba, Queensland

Specialised Capabilities

Our manufacturing team is supported by our management and design team who have the following capabilities:

- Customer Support
- Design advice on structure layout and planning
- Computer Assisted Design (CAD)
- 3D Rendering and Modelling
- Scale model and prototype manufacture using FDM 3D Printing

For complex projects we maintain close partnerships with the following external providers:

- Structural Engineers
- Concrete Testing Facilities
- Landscaping Professionals
- Sheet Metal and Form Fabricators
- Logistics and Freight Partners

Engineering conformance certificates are available for most of our products and can be provided on request.

Capacity

Capacity Levels

We always maintain a large inventory of precast concrete products at our manufacturing facility across a variety of sizes and variants. This equates to keeping a rolling inventory of approximately 1000 blocks. We can produce 950 tonnes of precast concrete per month and have the capability to increase this to 1150 tonnes by expanding manufacturing to 6 days a week for selected projects. Custom designs can be produced within 2-4 weeks after the design is finalised. We can provide scale models of custom designs on request.

Area of operation or supply

We are located in Pinkenba, Brisbane but we maintain relationships with multiple logistics partners which allow us to deliver our concrete products to all capital cities and regional centres across Australia.

Track Record

Project	Client	Value	Role
Stotts Creek Resource Recovery Facility	SoilCo Constructions	600 tonnes of precast concrete blocks	Supply of interlocking concrete blocks for building materials bunkers
Port of Brisbane	BMD Urban	350 tonnes of precast concrete blocks	Supply of interlocking concrete blocks
Molendinar Waste and Recycling Centre	City of Gold Coast	210 tonnes of precast concrete blocks	Supply of interlocking concrete blocks for building materials bunkers
South32 Mine Accommodation Site	Atco Structures & Logistics on behalf of South32	178 custom concrete plinths	Supply of concrete plinths for AC Compressor, AWS (heat pumps and electric)
DreamWorld	Ardent Leisure	30 custom precast concrete blocks with ferrules and steel plates.	Supply of custom precast blocks for mounting lighting fixtures

Management Systems

Safety Management

Precast Concrete Aust is committed to providing a safe workplace for all staff. We are committed to risk management including the Chain of Responsibility for heavy vehicles and operation of heavy machinery.

We ensure all employees are appropriately trained to conduct their duties safely. All visitors to our facility are required to undergo a mandatory induction. All employees are directly employed by Precast Concrete Aust and are paid hourly according to the Award.

Environment Management

Our facility has the appropriate environmental licences and development approvals.

Quality Management

All completed precast concrete products are inspected by a senior foreman prior to shipping to the client. Quality control is performed based on a multiple point inspection checklist. Blocks that do not meet our strict quality control criteria will not ship to customers and are instead recycled or reused.

Our concrete formula is tested by accredited concrete laboratories at 7 and 28 days to provide an indicative compressive strength value (our concrete is rated to 20 MPA at 28 days).

Insurances

We hold Public Liability Insurance to \$20,000,000 and Comprehensive Motor Vehicle insurance for all vehicles in our fleet. All employees are covered under Work Cover.

Customer Service and Market Response

Responsiveness & Customer Service

We maintain a 1300 number which is staffed from 8am till 5pm Monday through Friday. Customers calling through to that number will speak directly with a senior member of the sales and management team. Email enquiries are responded to within 48 hours and requests for quotes and concept sketches are usually completed within 72 hours.

Continuous improvement and innovation

As a relatively young company we strive towards continuous, incremental improvement in all facets of our business. Our three areas of focus are concrete research, product development and sustainability. As the smallest and newest member of a waste management group we are able to leverage the resources of our sister companies to improve our workflows. We take advantage of raw materials, personnel, and expertise as well as facilities and plant that are made available to us.

Sustainability

Every part of our business is focused on our mission to produce sustainable concrete which is competitively priced and economically viable. The majority of our development focus goes into materials research where we try to incorporate novel raw ingredients into our concrete mix. We want to utilise elements of construction and demolition waste into our mixes which currently have no valid industrial applications and would otherwise go to landfill.

We also focus on the reduction of water and energy usage in the manufacturing of concrete. Currently we are optimising our processes to rely on captured rainwater and transition away from town water. Our medium to long term goal is to shift to biomass energy which is powered by fuel collected from waste.

The last part of the sustainability puzzle is finding new ways of repurposing old concrete. Ideally, we try to re-use the concrete products as they were originally intended but if this is not possible we will crush and recycle the components and utilise them in producing new concrete.

Concrete Research

We are always seeking to optimise and improve our concrete manufacturing workflow. Our goal is to reduce the time, resources and manpower required to product concrete. We look at every step the production process and try to eke out small improvements. Starting with the raw materials we experiment with different formularies and adjust the ratio of ingredients. We

will experiment with new ways producing forms and moulds as well as trialling a variety of concrete pouring accessories.

Our goal is to produce economically viable concrete that is made from purely recycled components that does not compromise quality, strength or appearance.

Product Development

Precast Concrete Aust works closely with clients to design new products or modify existing products to improve workflow or quality of life. Our design process is multifaceted and starts with liaising with our key stakeholders and discussing their needs and requirements for every product. Our designs are sketched digitally using CAD software. We utilise fusion-deposition-modelling 3D printing to make scale of our products. This gives us the ability to rapidly prototype shapes and designs.

From there we have formwork and moulds made to order and we batch pour several copies. At each step of this process, we iterate and improve our designs with the goal of producing new products which are useful, high quality and sustainable.

Currently we are exploring several avenues in which to utilise recycled precast concrete for novel applications such as playground furnishings, civic furniture, and BMX tracks.

Gallery



Precast Concrete Blocks
(600x600x600mm – 500kg)



Custom Precast Block – Cast-in ferrule with chain void



Materials / Aggregate Bunker constructed from interlocking concrete blocks with grout tubes and reinforcing steel



Igloo/Dome Structure Support constructed from interlocking concrete blocks



Building Protection composed of interlocking concrete blocks



Concrete blocks used to anchor marquees