





04	MAIERIAL
06	COLOURS
08	TIMBER OPTIONS
08	FEET, CASTOR WHEELS & SKATE DETERRENTS
09	UPHOLSTERY OPTIONS
09	CUSTOM DESIGN & MANUFACTURE
10	WATERPROOFING
10	DRAINAGE

# **MATERIAL**

#### GLASSFIBRE REINFORCED CONCRETE

Glassfibre Reinforced Concrete (GRC) has made a significant contribution to the technology and aesthetics of the built environment since its introduction in the 1960's. Its ability to be shaped and moulded bring creative freedom and design flexibility to achitects and engineers when planning and resolving public space design.

GRC is a mixture of cement, sand and other additives as well as alkali resistant glass fibres that are blended together during manufacturing to create strong yet lightweight products. Glass fibre strands are used to reinforce the concrete, which negates the need for steel reinforcing, and allows the thickness of the GRC to be reduced without compromising on strength.

- It can be coloured with mineral oxide pigments or painted to match virtually any colour.
- It is easily moulded to reproduce shapes, reliefs and patterns to compliment any design theme.
- It lends itself to bespoke design and innovation, as custom ideas can be modelled and moulded into functional public space pieces.
- The surface finish is not only smooth and aesthetically pleasing, but also strong and durable. It is also resistant to extreme weather conditions.
- GRC products are lightweight and easy to handle compared to those produced through traditional cast concrete methods. As it is strengthened by alkali resistant glassfibre filaments, there are no embedded steel elements in GRC. Consequently, it does not suffer from splading or concrete cancer as precast concrete products can be prone to.
- GRC is a thin walled product. It is environmentally friendly as it consumes far less raw materials and energy during manufacture and transport compared to cast concrete products.









### LOCAL MANUFACTURING WITH GRC

All of our products are designed and manufactured in Australia, where we currently operate from our large and modern factory in Murwillumbah, NSW. To produce GRC, moulds are required. As manufacturers it makes sense to produce all our moulds inhouse. We have a band of dedicated and highly experienced and multifaceted mould makers working in our factory producing and maintaining our moulds.

Each GRC product is made by spraying uniform layers of concrete slurry and chopped glass fibres with hand-held spray guns into a mould. The surface is compacted by hand, using rollers, to ensure that all trapped air is removed, and a uniform layer has been created before the next layer is added. The GRC mixture is sprayed into each mould until the desired thickness has been achieved. The surface is then hand troweled smooth.

Once a product is complete it is left to cure overnight before it is de-moulded the next morning. After demoulding it is sent to our detailing department for inspection and detailing. The product surface is sanded and sealed to create our signature smooth surface finish.

Complimentary waterproofing is added before the products are packaged and prepared for dispatch.



# **COLOURS**

#### INTEGRAL CONCRETE COLOUR

During manufacturing the GRC mixture can be coloured by blending mineral oxide pigments with either grey or white cement.

#### **OUR STANDARD COLOURS**

Our product collections are available in four standard colours:

- CHARCOAL
- CONCRETE GREY
- WHITE
- KALGOORLIE



Left to right, charcoal, concrete grey, white, and kalgoorlie

### MINERAL OXIDE COLOURS

The GRC mixture can be tinted through the addition of coloured mineral oxides during manufacturing. These colours are available on special request and additional costs will apply, the cost varies depending on the oxide colour.

Visit the following link to view the full CCS Pigment Colour Range:

- CCS Colours

Boulder Collection



Pebble Collection



Delta Collection



### PAINTED COLOUR

Our products can be painted in virtually any colour. Typically we use high quality exterior, low sheen, water-based acrylic paints to achieve your desired colour. You nominate the name and code of the paint of your choice and we'll purchase the paint and apply it or your order. Complimentary black Bitumen-based waterproofing is included.

Painted colour is available on special request and additional costs will apply. We do not recommend painting seating units without a timber deck cover.

U Bowl Collection Features a custom paint colour



Gem Collection Features a custom paint colour



Delta & Fusion Collection Features a custom painted stripe



### SPECIAL EFFECTS & FINISHES

We can use specialised paints to achieve rust, copper and aged copper effects. Bridge paint (micaceous iron oxide paint) can also be applied to our products.

Some of our collections can also be manufactured with a pitted surface, and should you need a special design moulded onto the surface of a square or rectangular planter, we can assist with patterns available on the Reckli Formliner Catalogue: Reckli Formliner.

These special effects and finishes are available on special request and additional costs will apply. Please contact us to discuss the suitability of your nominated specialised paint or patterned surface.

Cylinder Collection Features an Aged Copper finish



U Bowl Collection



Cube Collection

Features a Patterned Surface

# OTHER OPTIONS

### **TIMBER OPTIONS**

We use Tonka hardwood, also known as Southern Spotted, Cumaru or Brazilian Teak for all timber seating units (unless specified differently). Tonka is a kiln dried, Class 1, nonbleed hardwood and is ideal for structural and furniture applications. Tonka is extremely hard and shock resistant, and it carries FSC100% Certification that it is sourced from legal and well-managed forests.

All timber is sealed with Equisol E365 oil with medium brown tint (unless specified differently). We can also offer a non-tinted version upon request.

Tonka can be substituted with a timber and sealant of your choice, please contact us to discuss suitability before specifying and note that additional costs will apply.

Delta Collection Features a Tonka hardwood deck



Delta Collection Features a Tonka hardwood dec



Soul Collection
Features timber seating



Custom Seating Unit
A custom timber deck and
tinted sealant was specified



# FEET, CASTOR WHEEL & SKATE DETERRENT OPTIONS

Square and rectangular planter boxes come standard with 10 mm high strip feet. Depending on the size, planters are also available with 25, 50 or 75 mm high block feet.

We can also fit castor wheels onto the base of selected smaller planter boxes.

Stainless steel anti-skate studs can be installed to deter skateboarders from marking planters and street furniture products.

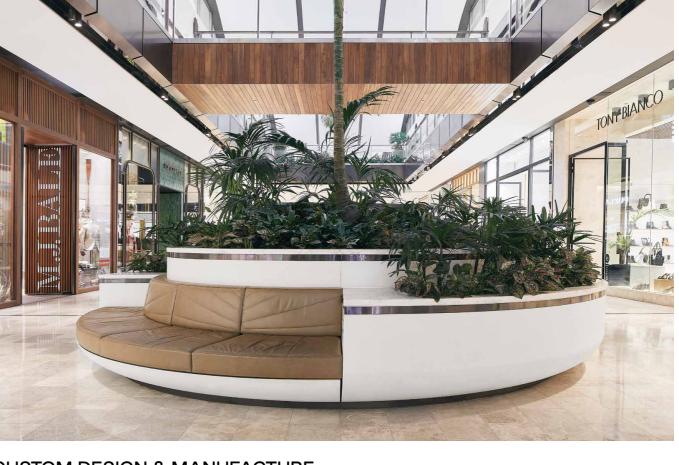
Feet, castor wheel and skate deterrent options are available on request and additional costs will apply.

Modular Trough Series Features 75 mm high feet



Planter Boxes
Features castor wheels





#### **CUSTOM DESIGN & MANUFACTURE**

The creation of bespoke pieces is one of the most rewarding aspects of what we do.

We partner with you to collaboratively resolve your design vision, custom project or product concepts.

Our design team work through your drawings and specifications and can provide guidance on the parameters of mould-making and manufacturing with GRC. They can also produce two and three dimensional drawings to help you envision the final product.

The size specifications of some of our existing product ranges can also be modified to suit your project requirements.

Please contact our team to discuss your next project. You can also visit our website for inspiration and to view our completed custom projects.

Custom Planter & Table Unit



Custom Seating Unit Watergardens Town Centre



Custom Seat Planter Westfield Carindale



Custom Seat Planter Westfield Chermside



# WATERPROOFING

All pots and planters have complimentary clear acrylic-based internal waterproofing.

Black Bitumen-based internal waterproofing membrane can be added at an additional cost. (Non-toxic and fish-safe option also available).

# DRAINAGE

# IMPORTANCE OF DRAINAGE

Drainage is the most important aspect of container gardening and is critical to plant health. It allows the water in the soil to drain freely so ample air is available for the roots.

Healthy roots mean healthier plants, a lack of adequate drainage is one of the most common causes of unhealthy and dying plants, as waterlogged soil can lead to root rot.

All our pots and planters come standard with acrylic-based internal waterproofing and with drainage holes and aids already installed. The location, size and number of drainage holes relate to the size of the pot and its soil volume.

#### DRAINAGE AIDS

#### DRAINEZE





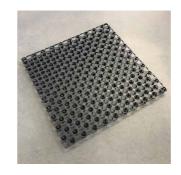


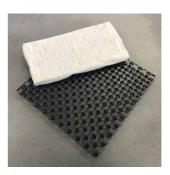


DrainEZE drainage hole screens are fitted to all of our smaller pots and planters and are included in the price. This device (patent pending) is a conical dome with vertical openings to enable water to pass into an air chamber above the drainage hole, this increases the area through which the water can pass compared to the drainage hole by itself. The DrainEZE drainage hole screen is covered by a thin layer of Geofabric filterwrap, and secured at the top with a press—on clip to prevent the pot drainage hole from blocking whilst still allowing water and fine particles to pass through.

Visit quatrodesign.com.au for our Drainage Guide.

## DRAINAGE CELL









VersiFlex flexible drainage cells are fitted to our large and over-sized pots and planters. These interlocking drainage cells are designed for use in planter boxes, roof gardens and retaining walls. Their open surface design and high internal void volume enable the rapid capture and transport of water volume to result in efficient drainage. The Drainage Cells are covered by a thin layer of Geofabric filterwrap to prevent the drainage hole from blocking whilst still allowing water and fine particles to pass through.

Visit quatrodesign.com.au for our Drainage Guide.

#### DRAINAGE REGULATOR RISER









Drainage Regulator Risers are often installed when the amount of water draining from the base of the pot should be limited. They create an approx 60 mm high water reservoir at the base of the pot to prevent excess water from draining away. The Drainage Regulator Riser is covered by a thin layer of Geofabric filterwrap to prevent the drainage hole from blocking whilst still allowing water and fine particles to pass through.

Visit quatrodesign.com.au for our Drainage Guide.

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