



UNIQUE GRG STONE MOULDINGS

ARMOURCAST

ArmourCast, part of the Armourcoat Group, creates unique stone finish casting products offering stunning textures and effects with the look and feel of real stone.

These hard and durable castings can reproduce almost any architectural shape that can be made in conventional GRC (Glass Reinforced Gypsum). The material and manufacture process are ideally suited to creating shapes and designs that are too complex for a hand-applied finish.

A full technical service is available from design to manufacture and installation, to produce custom designs such as modular solutions for shop-fitting applications, to original sculptures and panel designs. Certain clients or projects demand finishes or decorative effects that are original and unique.

Whether it is a simple colour match, a complex geometric design or an intricate combination of different textures, the company's creative vision and understanding of the decorative craft will guarantee an outstanding end result.



Standard ArmourCast products are produced using crushed limestone, gypsum and marble in five base colours; *Bianco Carrera* (White), *Giallo Mori* (Yellow), *Rosso Verona* (Red), *Verde Alpi* (Green), *Nero Ebano* (Black). These can be combined in varying proportions to create a wide array of natural stone colours without the addition of any pigment.

An initial range of colours provides for the majority of tonal requirements, and marble granules and other aggregates can also be added to impart more texture to the surface and coloured mica flakes to add further visual interest. A wide range of other natural materials can also be used and are often incorporated into custom solutions to meet a clients' brief.



THE DESIGN PROCESS

The great majority of the projects we complete are custom designs made for a specific client or project.

ArmourCast is a material that enables architects and designers to innovate with sculptural forms in a way that may be prohibitively expensive or even impossible using natural stone.

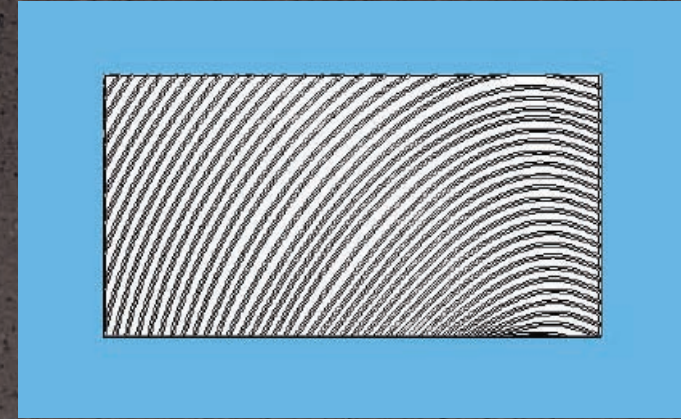
Our role is to facilitate the design process by working closely with the architects, designers or end clients, enabling them to fully realize their creative ideas.

INSPIRATION > DRAWINGS > MOULDINGS > FINISHED ITEM



INSPIRATION

The first part of the process is to formalize the design in terms of shape, form and function. We then work with the designer looking at the detailing, fixing points and structural integrity of the design. Once a design concept has been established and key detailing has been worked out, transforming it into finished item can be achieved in a variety of ways.



DESIGN

Certain designs are developed using 3D modeling software such as Solidworks, Rhino or Autocad, and the original master is then cut using precision CNC routers. Other designs may be entirely hand-sculpted or modeled in clay to achieve the correct feel and form. It is also possible to combine computer aided design with a degree of hand sculpting to reach the desired result.



CREATING THE MODEL AND THE MOULD

Once the master has been created it is necessary to produce one or more mould negatives from which the final pieces can be cast. The type of mould will either be Plywood/MDF, GRP (Glass Reinforced Polyester) or Silicone – depending upon the size, shape and complexity of the master.

MODULAR PATTERNS AND DESIGNS

ArmourCast can be used to make a broad range of modular panel designs ranging from complex geometric designs to more organic and sculptural forms.

The panels can be designed so that the pattern or design flows naturally from one panel to another. It is also possible to integrate the join lines within the design so that the surface does not read as a series of adjoining panels.

One of the key advantages of this modularity is that relatively few moulds are required to complete large wall areas.



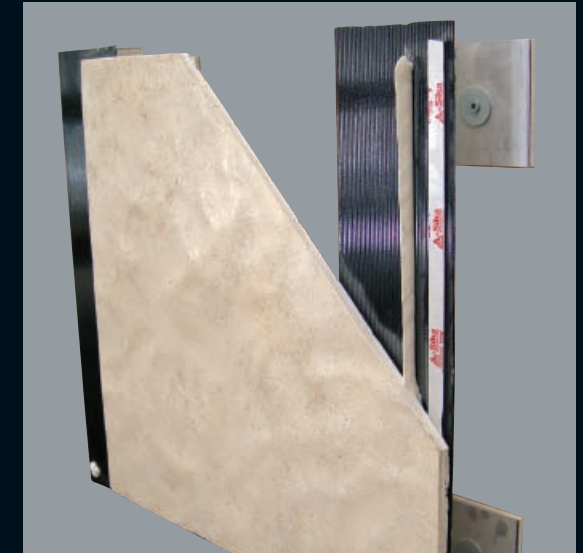
PANEL SIZE

Whilst panels can be made in a variety of shapes and sizes, the most common sizes we make are as follows:

- 600mm x 600mm, x 1200 mm, or x 1800mm
- 800mm x 800 mm, or x 1200 mm

Larger panels can be made but as the panels get larger it becomes necessary to incorporate return flanges or support struts in the back of the mould so they can be moved and installed without breaking. We try to avoid making panels much more than 3-4m² in size.





PANEL FIXING SYSTEMS

Direct Fix to a Aluminium Framing System: Eurofox substructures (image above) are made of aluminium with individual system components produced in stainless steel. Eurofox systems use Fixed Point and Flexible Point brackets to absorb vertical weight loads. Due to the special geometry of the structural framework, high load-bearing capabilities at a small cross section are possible.

Direct to Wall: The panels are fixed directly to the wall using a combination of double sided tape for initial hold and positioning combined with an adhesive system for long term fix.

Split Batten Hanging System: A split batten if fixed to the substrate, or a metal framing system, and a reverse batten is fixed to the back of the panel by means of adhesive. The panels are then hung onto the wall. Packing pieces can be used for minor adjustment.



SEAMLESS WALLS

The 'Flow' wall panel system creates a dramatic sculptured wall finish, with fluid, elegant curves.

The seamless artisan-look, is achieved from the creation of a sequence of CAD generated ArmourCast panels. Each panel interlocks either in a staggered or aligned formation, cleverly creating a unique wall finish each time with numerous design options.

The 'Flow' system can be finished in a wide range of decorative effects including ArmourCoat Polished Plaster and ArmourColor wall finishes.





SHOP-FITTING

With the ability to create logos or brand identity in 3-dimensions integrated into panels or display items, ArmourCast offers tremendous scope for shop-fitting design.

ArmourCast can be used to create entire display items, floor mounted display units, shelving display and niche boxes that have the look and feel of solid stone.





SEATING

ArmourCast can be used to manufacture an array of seating designs that convey the monumental solidity of stone but without the excessive weight.

The material is packed into the face of the mould and then laminated with several layers of glassfibre matt to create a reinforced surface that is 12-15mm thick. A support framework of either wood or tubular steel is then laminated into place to strengthen and provide fixing points for adjustable feet or castors.



COLUMNS

Real stone columns are not only extremely expensive and heavy, but they are not well suited to modern building practices where the structural supports are invariably poured concrete or steel I beams. ArmourCast is ideal for making columns or pilasters that truly look and feel like stone.

Full columns are generally made in two halves which are joined together on site and clad over the existing structural supports.

Horizontal lines, fluting and decorative detail at the base and capital of the column can all be incorporated into the design. Round, oval, elliptical, square, hexagonal or even asymmetrical columns are all possible.



Making column moulds can be expensive and time consuming and therefore there is a significant cost per column for small production runs.



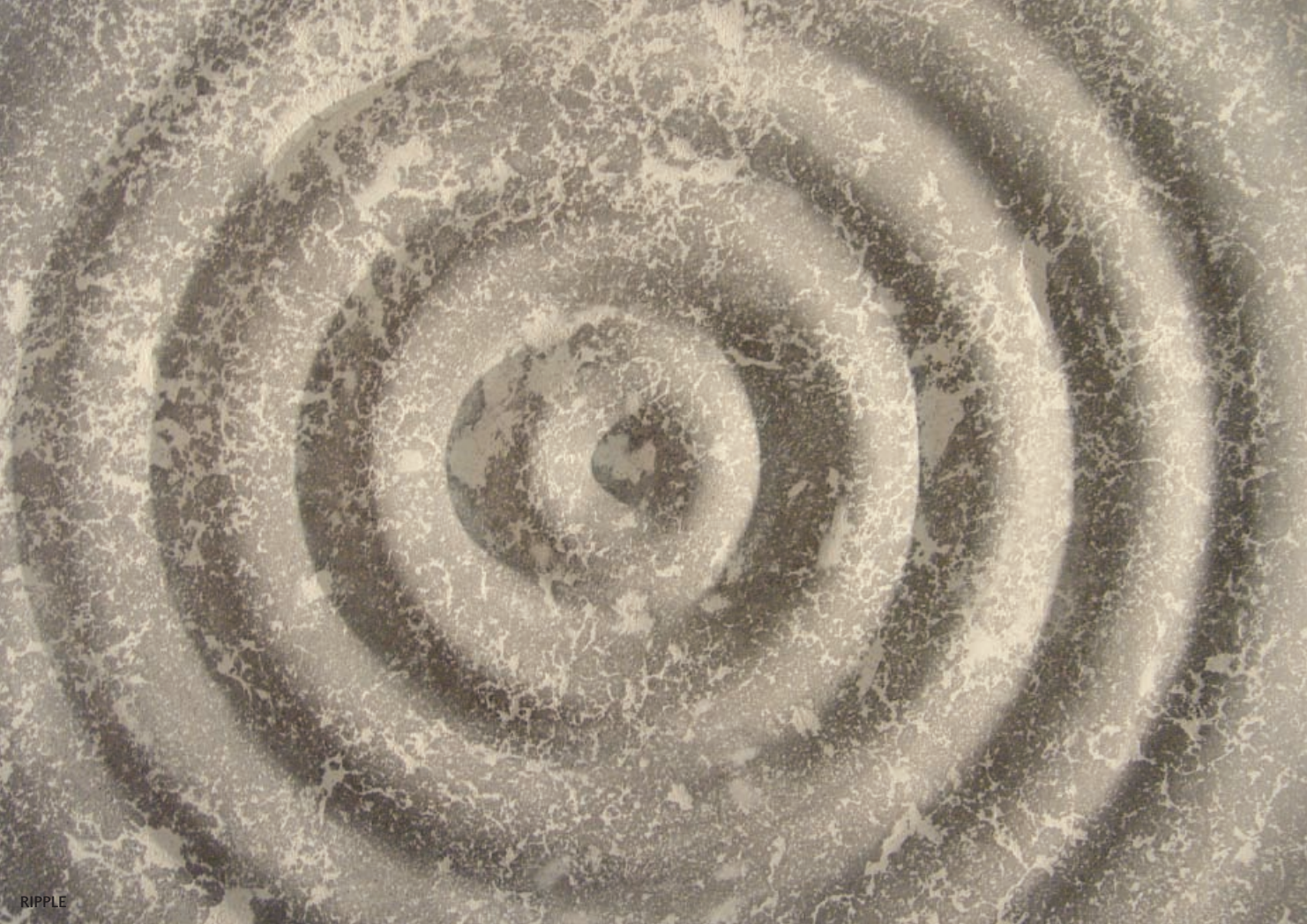
MIRRORS

To make a mirror frame from a single piece of stone would normally require a large stone slab and a significant amount of carving.

With ArmourCast we can easily achieve substantial sized mirror frames and intricate sculpted designs in a completely seamless stone finish.

The weight can be kept to manageable levels as the total thickness of the material is just 9-12mm and any necessary support struts and fixing brackets are laminated into the frame.

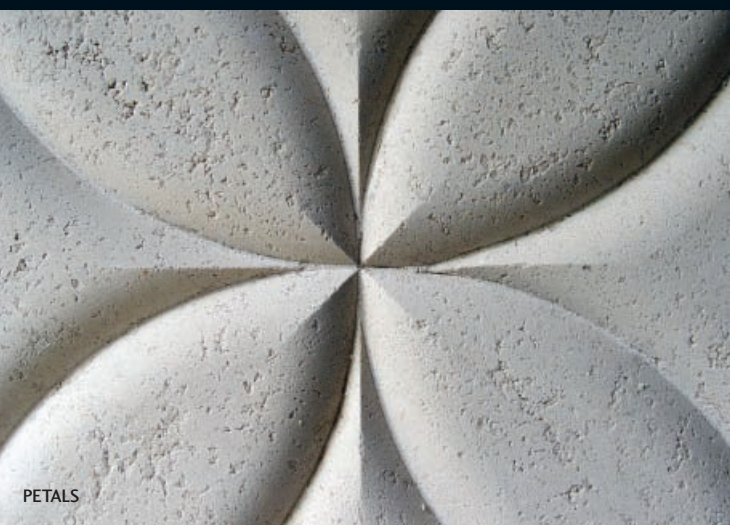




CUSTOM DESIGN

With the ability to make an almost unlimited range of shapes and designs in a huge range of stone finishes, ArmourCast offers architects and designers great artistic scope.

RIPPLE



PETALS



ARABIC



IRIS



STAR



DUNE



SAND



ROSE TRELLIS
DESIGN: DKT SPECIALIST DECORATION

COLOUR PALETTE

All of the coloration in ArmourCast comes from the crushed marble within the material.

Whilst we can make a broad range of stone colours, we are not able to offer any colour. The key advantage of using natural mineral coloration is that the material can be repaired much more easily without getting the pigment halo at the edge of the repair that is common in all tinted systems.

STANDARD COLOUR PALETTE



FISSURED AC F01



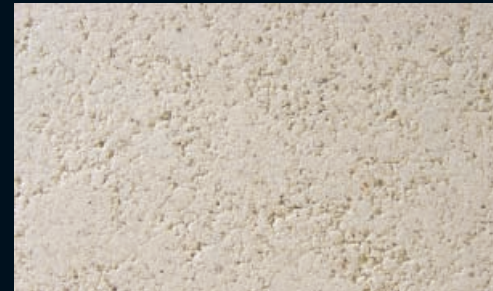
FISSURED AC F02



FISSURED AC F03



FISSURED AC F04



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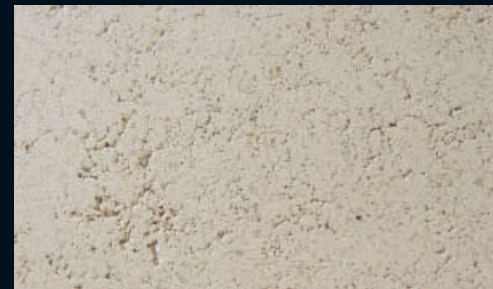
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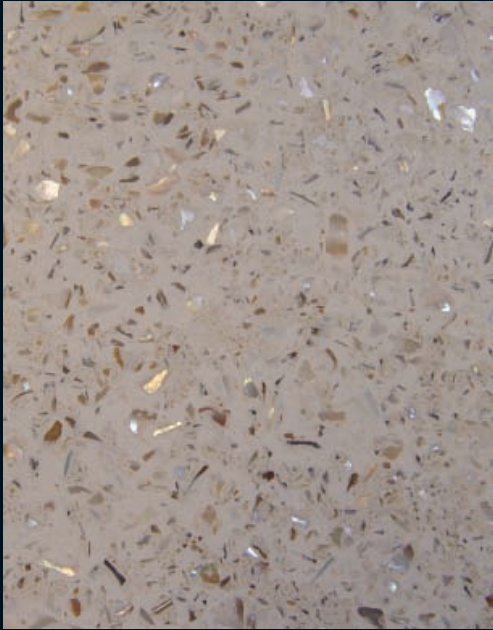


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FISSURED AC F12

CUSTOM FINISH OPTIONS



AC C14



AC C15



AC C16



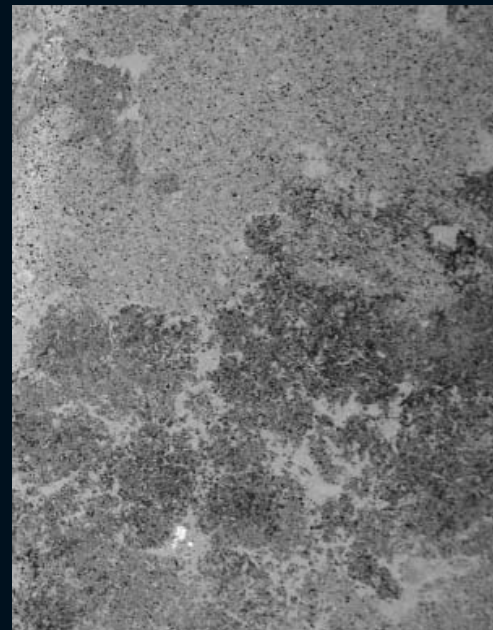
AC C17



AC C18



AC C19



AC C20



AC C21



CREATIVE DESIGN GUIDELINES

A number of creative guidelines should be considered when specifying ArmourCast:

Ordering

Due to the shapes, sizes and colours possible, ArmourCast items are custom made and priced to order. Following initial discussions with the client, a quote can be provided and material samples supplied.

Colours

ArmourCast is available in a standard range of twelve colours, and colour matching and custom effects can be achieved.

As ArmourCast is hand-made, colour and texture variations should be expected. This reinforces the natural variation found within real stone, and adds further depth and character.

The standard range is indicative of the colours that can be achieved using natural marble bases. We are able to combine different Armourcast colours in the mould to achieve multi-tone finishes.

TECHNICAL DATA

Material composition

ArmourCast is a composition of crushed marble, limestone, gypsum, mica and acrylic polymer onto a laminated glass fibre reinforced gypsum backing.

ArmourCast is a natural mineral material and contains no VOCs.

WPB birch plywood is laminated into the castings and return flanges to provide fixing points where necessary. Galvanized and perforated steel can also be laminated into the larger castings to provide extra rigidity and strength as required.

Physical properties

Flat veneer panels are nominally 9mm thick +/- 1 mm.

ArmourCast moldings will be from 10-40mm thick depending upon the requirement for support struts and reinforcement. ArmourCast panels and cast designs will normally weigh from 10-18kg/m² however designs with a great depth of relief and support brackets can weigh up to 25kg/m². ArmourCast has a compressive strength of 18-30N/mm² and the strength will vary dependant upon the final combination of ingredients.

ArmourCast is entirely UV stable.

Surface finishes

ArmourCast can create a wide range of surface finishes and effects from a fissured to a honed or semi-polished stone surface. The honed and semi-polished finishes require extensive sanding to expose the aggregates in the material. This process is not suitable for highly ornate or sculptural shapes due to the level of hand finishing required. For complex surfaces and shapes we strongly recommend using a fissured finish which gives a very natural stone look.

Panel dimension

The maximum panel area that can be manufactured is approximately 3m² – where the width is no less than half the length. The maximum length of an ArmourCast item that

can be manufactured as a single piece would be 3m, either as a 'U' or 'L' shaped piece in cross section. This gives the item sufficient longitudinal rigidity to be lifted from the mould without breaking. The length limit for flat panels with no return flanges would be approximately 2m. These are guidelines only, and a final judgment would be made based upon each design situation.

Panel weight

ArmourCast has a nominal weight of 10-18kg/m² for flat or curved shapes. Designs that have deep relief or complex surface designs will have an increased weight. Support struts and fixing brackets can further increase the weight.

Joints between panels

ArmourCast can be designed to be made in panels or sections, with the joints between panels left open to form a shadow gap or grouted like natural stone. Even when the panels are grouted the joints will remain visible.

To achieve a seamless effect such as the Flow wall the ArmourCast panels are glued together on the wall and the joints are filled and sanded flush. The surface then receives an applied decorative finish like ArmourColor or Armourcoat Polished Plaster.

Mould costs

Mould making is a necessary step in the creation of ArmourCast. The mould origination cost is generally divided into the total number of items cast from each mould. If it is a complex design requiring hand sculpting or ornate CNC cutting and very few items are being cast from each mould, the unit price can be high.

Sealers

All ArmourCast panels are sealed with Armourcoat Clearseal Matt Acrylic Sealer, or Armourcoat Anti-Graffiti Sealer. The Anti-Graffiti Sealer has a matt finish but darkens and intensifies the colour of the material, and is therefore not recommended for certain colours.

Tolerance

Gypsum products expand upon setting, and then can shrink back slightly upon drying, and therefore the final cast can end up with small dimensional differences from the original mould.

Dimensional tolerance: +/-1.5%

Warping out of plane: up to 1.5mm in 1000mm

Fire resistance

ArmourCast is non-combustible and rated as class 'O' for flame and smoke development when tested to BS 476 part 6 & 7.

Water resistance

ArmourCast can be washed with a damp cloth but should not come into regular contact with water. ArmourCast is unaffected by humidity and can be used in covered external situations where it will not come into contact with any water. ArmourCast is not suitable for exterior applications.

Installation

ArmourCast panels can be applied to:

- drywall substrate with an adhesive or split batten system
- aluminium channel framework (www.eurofoxengineering.com)

ArmourCast sections can be fixed in place to either a timber or aluminium framework. ArmourCast items can be installed by a carpenter and can be cut using conventional woodworking equipment.

Repairs

ArmourCast can be repaired with a high degree of success for small chips and gouges. ArmourCast achieves its colour from the crushed stone in its composition and does not suffer from the pigment halo effect that is common with cast materials that contain pigmented.



**ArmourCast – unique GRG stone mouldings from Armourcoat.
For more information visit our website.**

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