



# ShapeShell™ brings creativity to commercial building developments.

ShapeShell™ is the result of ten years of collaboration with leading Architects and Builders delivering numerous highly creative and ambitious projects within the practical framework of commercial building developments.

ShapeShell™ is available in both standard flat panels as well as a freeform version that can be produced in the most complex of shapes. The product has a unique monocoque construction that eliminates the need for a separate support structure and allows large spans not possible with more conventional panel cladding.



**Victorian Comprehensive Cancer Care Hospital (VCCC) - Feature Facade, North Melbourne, Victoria, Australia**

**Product:** ShapeShell™ Monocoque  
**Architect:** STHDI+MCR  
**Builder:** Grocon PCL



**Victorian Comprehensive Cancer Care Hospital (VCCC) - Colonnade, North Melbourne, Victoria, Australia**

**Product:** ShapeShell™ Single Skin  
**Architect:** STHDI+MCR  
**Builder:** Grocon PCL



**William Barak Apartment Tower Facade**

**Product:** ShapeShell™ High Performance  
**Architect:** ARM  
**Builder:** Probuild  
**Developer:** Grocon



**Sydney Cricket Ground Noble - Bradman Stand**

**Product:** ShapeShell™ Monocoque  
**Builder:** AW Edwards  
**Architect:** Cox Architects

ShapeShell™ Specifications		Product Range		
		Single Skin	Monocoque	High Performance
<b>Physical</b>	Thickness (mm)	3-8	10-50	3-20
	Specific gravity	1.6	0.652	1.6
	Weight (kg/m <sup>2</sup> )	6.4	21	5-32
	Thermal expansion (C <sup>-1</sup> )	15.4 x 10 <sup>-6</sup>	18.8 x 10 <sup>-6</sup>	7.0 x 10 <sup>-6</sup>
<b>Mechanical</b>	Tensile strength (MPa)	103	38	250
	Tensile modulus (GPa)	10	8	57
	Flexural modulus (GPa)	10	16	48
	Elongation (%)	2	2	6
<b>Surface Finish</b>	Cementitious	YES	YES	YES
	Full spectrum colour 5% – 90% gloss	YES	YES	YES
	Metal	YES	YES	YES
	Anti Graffiti option	YES	YES	YES
<b>Fire Rating</b>	BCA Classification	1, 2 or 3	2 or 3	1, 2 or 3
	Aust. and Internation full scale Façade Fire testing standard	AS: 5113 - 2016 BS: 8414	AS: 5113 - 2016 BS: 8414	AS: 5113 - 2016 BS: 8414
<b>Sizes</b>	Custom or standard sizing	Up to 2.4M x 12M	Up to 2.4M x 12M	Up to 2.4M x 12M
<b>Warranty</b>	Structure / surface finish	50 years / 25 years	50 years / 25 years	50 years / 25 years



ShapeShell™

# ShapeShell™ brings buildability to any shape you can imagine.

The essence of ShapeShell's construction is a matrix of structural fibre reinforcement in a polymer binder tailored and enhanced to address the core needs of the building industry.

## ▶ Complex 3D shapes

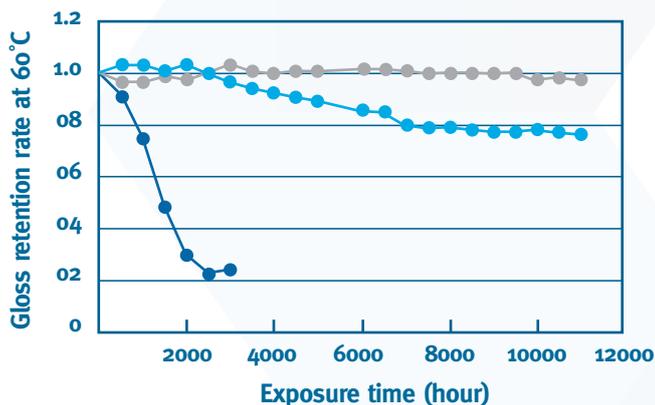
A solution for both flat panels and the most complex of curves. MouldCAM, our 3D CNC manufacturing business, has plants around the world that are capable of delivering millimetre accuracy across even the most organic shapes. [www.mouldcam.com](http://www.mouldcam.com)

## ▶ Long term durability

50 year warranty on substrate, 25 year warranty on surface finish and gloss retention.

## ShapeShell™ weatherability

### Xenon weatherometer test (white panel)



● Polyurethane Resin ● PVdF Fluoropolymer ● ShapeShell™

## ▶ Strength, durability and span

ShapeShell™'s monocoque infused construction method creates a single unit with reinforcement as part of the base structure, not added on. This combination of light weight structure and stiffness outperforms most other materials including steel, aluminium, timber and cement when used in the same application.

## ▶ Through colour

ShapeShell™ uses fluoropolymer technology in both the top layer of the product and through the underlying matrix to provide a base colour which assists in reducing the visibility of scratches.

## ▶ Ease of maintenance

ShapeShell™ is used on commercial high rises where maintenance is infrequent and must be made as simple as possible. ShapeShell™ is a non-reactive, non-conductive building material and as such will not react to other materials (coatings and fasteners etc).

## ▶ Simple, non specialised repair system

Automotive smash repairs use the same polymer fillers and coatings, and repairs can be made on site. Single units can be easily produced.

## ▶ Edge detail

Edges are finished with a high quality detailed radius, not just cut.

## ▶ Impact resistant

ShapeShell™ is designed to resist impact. A key strength is its ability to absorb impact during an extreme event (eg. hail storm) and return to its original shape without memory or fatigue.

## ▶ Dimensionally stable

ShapeShell™ has a lower coefficient of expansion than that of steel, aluminium, concrete or wood which means no cracks.

## ▶ No corrosion

ShapeShell™ is chemically resistant. Through the introduction of specific materials ShapeShell™ is inert and non conductive. It will not react with other materials and for this reason it provides a perfect substrate for any paint or surface preparation.

## ▶ Installation simplicity

Lightweight, stiff structures built to the highest level of accuracy allows maximum off-site manufacturing. Elements come to site in sections up to 12m in length. Light weight means easy and safe handling.

## ▶ Environmental benefits

The embodied energy of ShapeShell™ is low due to the materials being;

- More durable
- Recyclable
- Options for manufacture with recycled materials
- Lower carbon miles due to light weight structuring

## ▶ Fire retardant

ShapeShell has been tested in full scale façade burn tests to International BS:8414 and Australian Standard AS:5113 – 2016. ShapeShell also complies to NCC Spec C1.1.0 - Group 1 through 3.

## ▶ An anti graffiti barrier layer is an option with this surface finish.

## ▶ Surface finish

ShapeShell comes in both a cementitious finish (GRC, Precast or exposed aggregate acid wash Precast), or a PVDF finish in any level of gloss from 5% to 80% in the full spectrum of colours.

## ▶ Warranty

A comprehensive warranty is provided for the full ShapeShell™ range. The substrate is guaranteed for 50 years and up to 25 years for the surface finish including gloss retention.