



MARINE GLASS SOLUTIONS

Delivering Bent & Specialist Glass with Excellence



glasshape.com



COMPLETE MARINE GLASS SOLUTIONS

Delivering Bent & Specialist **GLASS** with **Excellence**

Riviera - 68 SMY

Overview

Glasshape® offer a comprehensive portfolio of fully certified marine glass for a wide range of applications. The range includes laminated or monolithic marine glass, which can be an annealed laminate or toughened (tempered) glass. Applications include but are not limited to skylights, portholes, balustrades and windscreens. Our offer covers a wide range of both interior and exterior applications.

We also offer decorative glass solutions by combining our glass with a digital print (ceramic ink) as well as other decorative glass solutions. These can all be supplied as flat or curved glass options. Our manufacturing capabilities cover flat, curved as well as complex compound curves making us the one stop shop for your marine glass requirements.

To further eliminate risk, we offer a digital site measure service that utilises the latest scanning hardware to produce electronic templates with unmatched accuracy, doing away with the need for physical templates that are cumbersome and time consuming to use. Using this service also allows easy replication of glass components should they be required in the future as we can keep a digital record of your glass requirements.

Our range of marine glass is certified to ISO Standards and validated by international accreditation with proven performance in builds from all over the world.



Riviera - 395 SUV

Complete Marine Glass Solutions

When it comes to glass, Glasshape® understand that quality, performance, durability and safety standards are paramount to designers, builders and owners of luxury launches and working boats.

Combining over 30 years of industry knowledge and technical capability Glasshape has developed unique proprietary manufacturing processes addressing the specific needs of the marine sector to provide premium glass solutions.

At Glasshape®, we take a customised approach. We work with clients to confirm their needs and establish the appropriate glass solutions. Our service includes consultation, digital measurement, CAD design, certification (where applicable) and manufacturing. We also audit existing vessels for refit purposes. With the Glasshape tailored approach, clients are assured their glass solutions are effortlessly fulfilled.





Riviera - 445 SUV



Riviera - 445 SUV

Superior Laminating Technology

Specifically designed to meet the rigorous demands of exterior marine applications, the DuraShield Marine® portfolio is fully certified and is set apart from the competition by its high-performance interlayer. The laminate technology overcomes delamination typically displayed in marine windows and windshields, while delivering exceptional strength and clarity.

Whether monolithic, laminated or multi-laminated, each pane is engineered to meet Client specific requirements. With more than a decade of proven capabilities in the manufacture of marine grade glass to boat yards the world over, DuraShield Marine® has an international reputation for quality, performance, durability and safety, making it perfect for new build and refit projects alike.



Custom Laminating

Certification and Compliance

All DuraShield Marine® products are manufactured to ISO 21005:2018 and are tested to ISO614:2012 standards, helping to ensure the highest level of quality, specification and performance for its range of Marine Grade Glass products.

Marine Glass Solution

With a portfolio of products that cover both exterior and interior applications, a design team with digital site measure capabilities that can be deployed anywhere in the world, and our many years of specific marine experience Glasshape can proudly offer a genuine Marine Grade Glass solution to fit your requirements. For refit projects we are also able to offer an audit service where we can identify specific glass elements that need to be addressed.

Features & Benefits:

- Overcomes delamination typically displayed in marine windows and windshields
- Retains clarity and high levels of light transmission
- Can eliminate the need for storm covers when using our dead-lite glass.
- Customised solutions curved to your specifications
- Tinted, low iron & non-reflective glass types available
- Numerous thicknesses available and options in flat, 2D and 3D (compound) curves
- Can be combine with VisionInk (ceramic digital print, available in black, white and colour)



Hatteras - MY70 Enclosed Flybridge

Solar Heat Gain Control

Ezone™ Marine is a technologically advanced glazing solution to help moderate inbound solar heat gain. Perfect for pilot houses or any area on a vessel that experiences excessive exposure to the sun, where there is still a need to provide clear windows. It is a quality alternative to double glazed units potentially contributing to significant weight, and on-going fuel savings.

A pyrolytic process embeds invisible heat-reflective materials to the glass, allowing light to enter, but reflecting much of the inbound heat. It is possible to configure Ezone Marine to maximize heat retention for vessels in cooler climates.

Specifying Ezone Marine with DuraShield Marine delivers all the benefits of exceptional thermal performance and the ultimate in strength and clarity. It can be supplied in laminated form that may eliminate the need for storm covers, or monolithic toughened (tempered) form which may require storm covers.

Features & Benefits:

- Decreased solar heat gain, cooler working conditions and improved comfort
- High levels of visual light transmission
- Potential to reduce HVAC requirements, by reducing solar heat transfer.
- Alternative to Double Glazed Units (reduces the impact of structural flex on window performance)
- Reduced overall weight by replacing double glazed options, with likely positive effect on fuel consumption
- Available in customised curved solutions, produced to your specifications.
- Various low iron & non-reflective glass types available
- Numerous thicknesses available and options in flat, 2D and 3D (compound) curves
- Can be combine with VisionInk (ceramic digital print, available in black, white and colour)





HMNZS Wellington - NZ Navy

Fog & Frost Control

DuraShield Heat-R™ is a wire-free glazing solution for windows susceptible to fogging or freezing over. The technology features a metallic coating between the interlayer and glass that conducts power evenly to gently warm the window with absolutely no obstruction to visibility from wires, making it ideal for pilothouses.

Incorporating DuraShield Heat-R with DuraShield Marine and the benefits the high-performance interlayer provides, delivers exceptional visibility as well as the ultimate in strength and clarity in extreme (freezing) climates.

DuraShield Heat-R windows are custom built and manufactured to internationally recognised standards. Heating power can be adjusted to the conditions of the moment as required.

Features & Benefits:

- Prevention of fogging or freezing
- No visible wires
- Eliminate need for warm-air blowers
- Heating power is adjusted depending on operating conditions
- Supplied in both flat and curved forms
- Customised solutions curved to your specifications
- Can be produced as a laminated safety glass





Hatteras - MY100



Curved Toughened (Tempered) Glass

With more than 30 years' experience in producing curved glass solutions, Glasshape can provide unrivalled design opportunities for glass in a marine context. Maximise the use of space and light without compromising on design, quality or safety, through the use of DuraShield® Marine. The structural properties of this product enable large spans to be covered with the use of minimal framework.

We can custom curve toughened glass including complex designs (compound curves), we can achieve uneven radii, conical and even spherical shapes. The product extends to internal use through our TemperShield® brand which can be used for applications such as glass floors, spiral staircases, lift shafts, shower screens, partitioning, and cabinetry are typical applications. When combined with VisionInk you can further extend the possibilities for this remarkable substrate.

Features & Benefits:

- Opens design possibilities
- Maximise space & light without compromising design, quality or safety
- Open & frameless mounting methods
- Large panels 3900 x 2440mm (153 1/2 x 96 1/8 inches)
- Variety of thickness, tint, low-iron options available, combine with VisionInk
- Marine certified where applicable





Riviera - 57 Enclosed Flybridge

Digitally Printed Ceramic Ink

With pinpoint accuracy up to 720dpi and inks, that once toughened (tempered), become a part of the glass itself. VisionInk represents the cutting edge of glass print technology and provides the most powerful resistance to scratching, UV light & weather deterioration and an easily maintained surface that withstands the test of time.

VisionInk removes all the limitations of screen printing:

- Print any design, from simple lines to detailed imagery
- Six spot colours combine to create an unrivalled colour palette; bespoke premixed colours can be created too
- Complete predictability, repeatability & durability
- Extend black-out borders to include your brand/insignia (in colour if you wish)

VisionInk combines the durability of ceramic inks with the versatility of digital printing

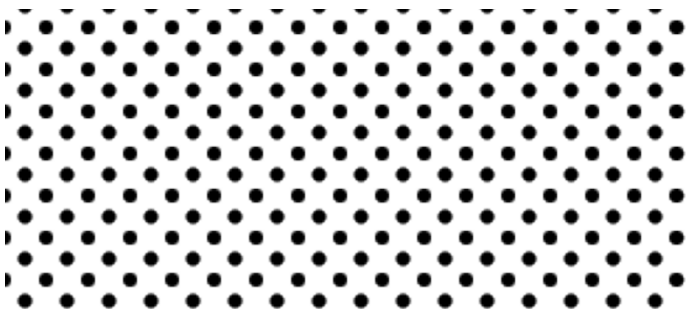
- Precision control of ink thickness for prediction & manipulation of Visible Light Transfer and Solar Heat Gain variables
- Surface can be cleaned as per normal glass with no impact on the graphic
- Perfectly suited to both interior and exterior applications.

VisionInk can replicate any image, design or pattern with brilliant accuracy, vibrant colours and sharp resolution. From simple lines to full colour photos, VisionInk allows architects, engineers and designers to explore new possibilities in modern and sustainable design in interior and exterior marine applications.

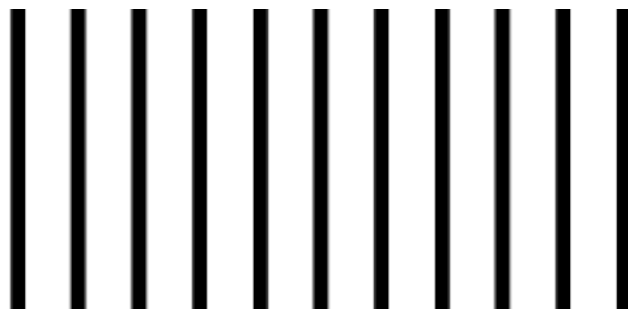
Colour Matching

VisionInk uses 6 'spot' colours (Blue, Green, White, Orange, Red & Black – BGWORK) to generate the hundreds of thousands of other colours possible with ceramic inks. This is a close match to the CMYK (cyan, magenta, yellow, black) 'Process' colour that paper-based print methods use. Our software will convert any image file colour-mode to BGWORK but bright pinks are not possible to print – this is due to a lack of magenta in our colour mix (a magenta ceramic ink given current technology would need to be toxic (lead or cadmium based)). The best results come when we convert an image file that is in RGB colour mode.

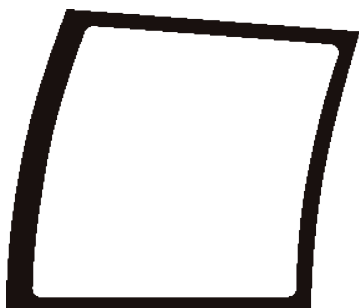
Applications



Single-colour dots



Single-colour lines



Single-colour edge-band



Single-colour dots matrix & edge-band

Digital Site (Field) Measurement Services

Our digital site (field) measure service utilises the latest scanning hardware to produce electronic templates with unmatched accuracy, doing away with the need for physical templates that are cumbersome to use and time consuming to produce. These electronic templates can be converted into 3D renders that can be approved by the client ahead of production. This added layer of checks and balances means inaccurate measurements and human error are practically eliminated from the process.

If at a later stage a replacement piece of glass is required, we have the exact record of what was produced and can reproduce it precisely.

Our team of dedicated Engineers, Designers and Site Measure Technicians are available to travel world-wide when required and are accessible to help ensure a fit for purpose solution is produced every time.

As an additional service, Glasshape can provide scanned data to the builder for use in other areas of the construction for the fitting of other non-glass related components.



Dimensions & Capabilities

Products	Even Curving	Uneven Curving	3D Curving	Standard Dimensions
DuraShield Marine	✓	✓	✓	3900 x 2440mm (153 1/2" x 96 1/8")
Ezone Marine	✓	✓	✓	3900 x 2440mm (153 1/2" x 96 1/8")
DuraShield Heat-R	✓	-	-	3900 x 2440mm (153 1/2" x 96 1/8")
TemperShield	✓	✓	✓	3900 x 2440mm (153 1/2" x 96 1/8")
VisionInk	✓	✓	✓	3900 x 2440mm (153 1/2" x 96 1/8")

Site (Field) Measure: We recommend a site (field) measure on complex glass shapes.

Compound shapes, Curves with tangents

Please contact one of the Glasshape team to establish the fit of your project within our manufacturing parameters.



Complete Marine Glass Solutions

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About Us

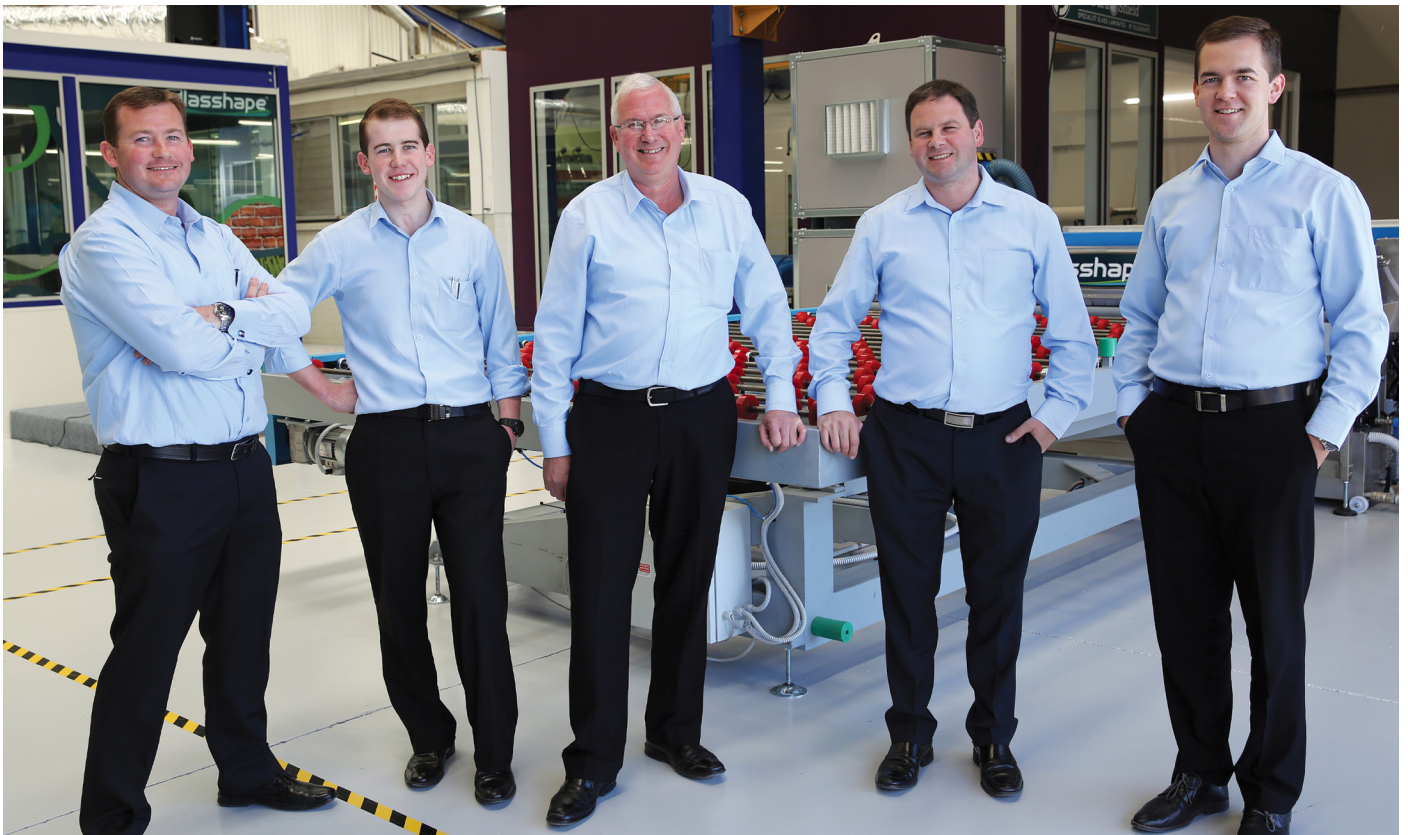
Established in 1986, we are a leading innovator, designer and manufacturer of bent, tempered, laminated and digital ceramic print specialty glass. Family owned, based in Auckland, New Zealand, with offices in Australia and the US, Glasshapes philosophy of growth through innovation, ingenuity and customer service sees it deliver best-in-class glazing solutions in a variety of categories, with notable success in marine, architectural (residential and commercial), high security and heavy machinery projects.

We're driven to exceed our client's design and performance requirements using our extensive industry knowledge and technical expertise to provide the perfect solution. Glasshape® provides customised turnkey solutions from initial consult through to installation, with proven global success backed by comprehensive warranties and validated by international accreditation.

The family spirit underpins the delivery of excellence at Glasshape®. Mark Forrest and his four sons combine more than 100 years of combined experience in bent and specialist glass technology. It's always the people behind the message who deliver on the promises.



Riviera - 505 SUV





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