

ESCAPE GLASSTONES – Glass headstones handmade in New Zealand

Individuality is not always carved in stone.

Escape Glass are one of New Zealand's only manufacturers of Glass Headstones and for more than 20 years, we've been making these beautiful memorials for families all over New Zealand.

Glass headstones and plaques have been accepted and a popular option in Australia, Europe and America for decades, adding a reflective quality to cemeteries and memorial parks across rural and metropolitan areas. As with all of our products, Escape Glass Headstones are unique to each client. We consult with customers in order to create a concept that follows how they would like to remember their loved ones. Throughout the process, the customer will be kept updated as the memorial is being created. In addition to our many years of experience in the glass industry, as well as the unique character of your memorial, ensuring the durability and safety of the final memorial is of utmost importance to us. **All of our memorial glass is a minimum of 48mm safety glass.**

Here is an overview of the properties and benefits of glass headstones made by Escape Glass.

- Nationally, Escape Glass Glasstones can be found in 25+ local cemeteries
- Escape Glass have over 20 years' experience in making Glass Headstones
- During the 20+ years we've made these, there has never been any vandalism
- Glasstones are as tough as granite, if not tougher and being sought out as an alternative for not just headstones but benches and stairways also
- Glasstones will not chip and break like regular 3-4mm thick glass they will chip etc the same way any block of granite will
- Unlike granite, our glass is non porous and will not deteriorate over time
- Glass Headstones have all the same characteristics as Granite, stone and concrete like materials currently used for manufacturing headstones in New Zealand
- Regardless of the climate, Glasstones are non-corrosive and non-stainable, this makes them perfect for all weather conditions
- The glass in these headstones lacks complete transparency, eliminating any potential for magnification or ignition points.
- Thanks to the textured design of all Escape Glass headstones, light refraction occurs in various directions, ensuring there are no safety hazards
- The product meets all of the safety standards in New Zealand and follows all guidelines for headstone requirements
- **All glasstones are covered by a minimum 50-year guarantee**
- A minimum thickness of 48mm is required for our glass with the ability to go up to 66mm when and if required
- The product is environmentally friendly with glass being a fully recyclable material, When possible, we use recycled materials
- In terms of maintenance, the glass surface is virtually maintenance-free since it is 'self-cleaning'
- Fused or slumped glass headstones are fade resistant
- We have in-house designers that will ensure all these requirements are met and that no element shows any weak points or flaws
- All of the artwork and production of the glass memorial is done in house. This gives greater control over the production and the high quality of finish expected by Escape Glass
- An installation guide is included with all Glasstones
- Glass Headstones can be slotted and siliconed into place in the Granite base or they can have holes drilled to allow for dowels meaning extra security when attaching the glass to the base
- Our production techniques allow for easy installation, without requiring any specialist glazing knowledge.
- There are four types of glass available: clear (green tint), dark green, blue, grey (black), and low iron (as clear as possible)
- We offer Glasstones in all sizes and thicknesses to meet your minimum requirements
- In addition to the shape of the glass, all of our glassworks can be customized - design and shape. Custom images can be slumped into the glass and are clearly visible as the light shines through
- Buying a Glasstone is supporting small business by buying locally made products
- We take pride in our quality of work as one of New Zealand's only manufacturers of custom bespoke glasstones
- Our glass headstones are an economical and environmentally friendly option made by a small family-owned business in Invercargill, New Zealand and shipped nationwide (or worldwide if necessary).



The Strength and Longevity of Glass in Slab Form for Headstones

Introduction:

In recent years, glass has emerged as a durable and long-lasting material for headstones. With its unique combination of strength, aesthetic appeal, and versatility, glass slabs have become a popular choice among individuals seeking a timeless tribute for their loved ones. In this blog, we will explore the benefits of using glass in slab form for headstones, backed by facts and figures.

1. Unparalleled Strength:

Glass, when manufactured into slabs for headstones, exhibits remarkable strength that can withstand the test of time. Fused glass is five times stronger than regular single sheet glass, making it highly resistant to cracking and breakage. This ensures that glass headstones can withstand various weather conditions, including heavy rain, strong winds, and extreme temperatures.

2. Durability and Resistance:

Glass slabs offer exceptional durability, making them a long-lasting choice for headstones. The manufacturing process involves heat-treating the glass, which imparts additional strength and resilience. Research reveals that tempered glass is highly resistant to scratching, chipping, and chemical damage, ensuring the headstone remains intact and beautiful over time.

3. Customisation and Aesthetic Appeal:

One of the significant advantages of glass slabs for headstones is the ability to customize them to reflect the personality and preferences of the deceased. Glass can be crafted into various shapes, sizes, and colours, allowing for endless design possibilities. Much literature suggests that the use of glass headstones offers a unique and visually striking tribute that stands out among traditional stone or metal monuments.

4. Low Maintenance:

Glass slabs require minimal maintenance compared to other materials commonly used for headstones. Glass is non-porous, which means it is less prone to staining or discoloration over time. Routine cleaning with a mild glass cleaner and a soft cloth is typically sufficient to keep the headstone looking pristine.

5. Environmental Sustainability:

Glass headstones also offer ecological advantages. The Glass Packaging Institute (GPI) states that glass is 100% recyclable, making it an environmentally-friendly choice for memorialization. By opting for glass slabs, individuals can contribute to reducing the carbon footprint and promote sustainable practices.

Conclusion:

Glass slabs have revolutionised the concept of headstones, offering a combination of strength, durability, customization, and low maintenance. As demonstrated by reputable sources, the strength of tempered glass, its resistance to damage, and the ability to personalize designs make it an ideal choice for those seeking a lasting tribute for their loved ones. With its aesthetic appeal and eco-friendly nature, glass in slab form is undoubtedly a remarkable option for headstones that will stand the test of time.



Is Glass Harder Than Granite?

As you investigated materials for your new countertop or tabletop, two of the materials that interested you the most are glass and granite. Both seem durable, and they certainly have their respective appeal. That has you wondering about the strength of glass versus granite and vice-versa. Which one of these materials is harder?

Friedrich Mohs, in 1812, created a scale that's still used to compare the hardness of various materials today. This is called the Mohs scale. Mohs, who worked as a mineralogist and geologist, certainly knew a thing or two about diamonds, granite, and everything in between.

So, to determine whether glass is harder than granite, let's take a closer look at the Mohs scale.

1: Materials rated a 1 are considered the softest. In this spot on the scale is talc, a type of clay mineral with hydrated magnesium silicate. Soapstone, which comes from talc, is also considered the softest material on the Mohs scale.

2: Gypsum is the second hardest material. It's a sulfate with a hardness equivalent of your fingernail.

3: A type of mineral that forms rocks, calcite is number three on the Mohs scale. According to that scale, calcite has the same hardness as a copper coin.

4: One of the fourth hardest materials is marble. This metamorphic rock is a common material choice for countertops. Fluorite, a gemstone, is just as hard.

5: No, not apatite, but apatite, a mineral, is the fifth hardest. Apatite, which comes from phosphate, contains small amounts of chlorine and fluorine as well. It's sometimes green and other times purple. Apatite is said to be as hard as glass or a knife.

6: Granite is classified as the sixth hardest material per the Mohs scale. Also ranked this high is orthoclase, a gemstone that becomes igneous rock. It's on par with feldspar or steel in terms of hardness.

7: Quartz, a type of mineral with a crystalline texture, ranks as the seventh hardest material.

8: Above quartz is topaz, a silicate mineral with fluorine and aluminum.

9: Getting to the hardest materials now, next up is corundum. This occurs when aluminum oxide becomes crystalline. Corundum is technically a type of mineral that forms rock.

10: The hardest material according to the Mohs scale is diamond.

Now, admittedly, glass isn't classified on the Mohs scale. However, if you go back and look, apatite, the fifth hardest material, is said to be as hard as glass. Granite, which is the sixth hardest, is thus one step above glass on the Mohs scale.

If you've refrained from considering glass as a material for headstones because you were worried about their stability, this should clear things up. Perhaps you're stressed about the possibility of the glass cracking. While glass can crack, so too can granite. Both materials don't shatter often, and it typically requires misuse for it to happen, especially with glass.

At Escape Glass you get to choose the thickness of the glass and so much more, giving you peace of mind that you've made a great decision.

Sources:

<https://ariastonegallery.com/how-hard-is-your-stone-everything-you-should-know-about-the-mohs-hardness-scale/>

<https://www.cbdglass.com/are-glass-countertops-harder-than-granite/>

<https://geology.com/minerals/mohs-hardness-scale.shtml>

WON'T GLASS BREAK?

Our day-to-day experience with glass is associated with windows and wine glasses, light bulbs and sunglasses - all of which are fractions of an inch thick. The truth is, nothing is unbreakable. But glass is non-corrosive, non-porous, stainless, and has survived thousands of years in some of the most unforgiving climates. It is the reason why we store nuclear waste in glass-lined containers and mix chemicals in glass beakers and scientific equipment. Once we start to examine the history of glass, and how it has endured over the centuries, a new portrait of the medium emerges.

Glass Compressive Strength and Tensile Strength

The compressive strength of glass is 1000 N per Sq.mm (10,197.2 Kg per Sq.cm) at 200 C temperature which is very high. It means that a load of 10 tonnes is required to break a 1 cm cube of glass.

The tensile strength of glass is significantly lower than that of compressive strength. The resistance to tensile strength (deflection) is 40 N per Sq.mm (407.88 Kg per Sq.cm) at 200 C temperatures for annealed glass and 120 to 200 N per Sq.mm (1223.66 to 2039.43 Kg per Sq.cm) at 200 C temperature for toughened glass.

Glass Young's Modulus or Modulus of Elasticity

The young's modulus (Force per unit area) of any material is a measure of its stiffness. Larger the value of young's modulus means stiffer the glass. The young's modulus of glass is 70 GPa at 200 C temperature (The young's modulus of concrete is 30 to 50 GPa at 200 C temperature).

UV STABILITY - It is a well-known fact that ozone layer is degrading. Therefore, it is necessary to find a better material which protects us from ultraviolet radiation. Glass is UV stable since it is not affected by ultraviolet radiation and hence cracks, discolouration or disintegration will not occur. It will survive long unlike materials like plasters which are not stable against UV radiation.

WHAT ABOUT HOT AND COLD CLIMATES?

One of the most common concerns we receive is how glass weathers in extreme climates. If cast glass is properly annealed, it behaves no differently than any other glass in your environment. Skyscrapers are wrapped in glass, our homes and cars are constantly exposed to the elements - cast glass memorials respond to hot and cold just like streetlights, headlights and storefront windows in your town.

Weather Resistance

In addition to being weather resistant, our glass can withstand the ravages of rain, sun, and wind. Light can be absorbed, reflected and refracted by slumped glass; this light is never magnified into a single point, rather it travels through the glass and is reflected everywhere. It has great dimensional stability as it has low thermal expansion value. (i.e. its change in volume with respect to temperature change as compared to other materials is very low.)

Weather and Rust resistance

Unlike most materials, glass is corrosion resistant, and only under certain conditions, the glass is chemically attacked. According to 'N.Papadopoulos' & 'C. A. Drosou'(Author of Influence of weather conditions on Glass Properties), the chemical composition of glass is the key factor in the interaction of glass with the environment.

Glass is fully weather resistant. It can withstand the effects of the wind, rain, or the sun and can retain its appearance and integrity in most of the given conditions. Additionally, glass does not rust. So, degrading gradually by chemicals and surrounding environment is not the case with glass.

HOW THICK WILL THE GLASS BE?

Depending upon the project, we create cast glass in all different thicknesses. Thicker glass is not necessarily stronger glass, and anything over 1.5" (38mm) will stand up against the test of time and weather. We ensure that all our headstones are 48mm thick and over with a maximum thickness of 72mm.

All our headstones meet any push test of up to 25kg requirements. There is no immediate danger presented by glass headstones.

LET'S TALK LONGEVITY

Glass headstones have been in New Zealand for over 30 years with the first created in the exact same way as we create our glass headstones by an artist called Phil Newbury. Phil taught the staff of Escape Glass how to make these and we have been following this same method of fusing glass ever since.

His original installation, known to be the first glass headstone in New Zealand was erected in 1990. He also has many other large scale outdoor projects erected around the world and has been doing so for over 60 years.

<https://www.stuff.co.nz/southland-times/news/features/127342010/a-fitting-headstone-for-a-true-eccentric>

<https://www.pressreader.com/new-zealand/the-southland-times/20130608/281582353180871>

Since the installation of the headstone for "Sam Cusack" in 1990 we have under the Escape Glass name supplied and installed around 40+ additional headstones in Council cemeteries around New Zealand with the requests for glass growing exponentially over the last 5 years.

Here is an image taken of the Sam Cusack headstone 15 years ago, 18 years after it was first installed – I am more than happy to go out to the Eastern Cemetery in Invercargill and take an updated image to show that there has been no change since this image was taken in 2007.

EXTRAS

Since the introduction of glass headstones no structure has ever shattered or broken. They are just as tough as granite in the way they stand up to stone chips from mowers etc as stated above. The only way they could be broken is through vandalism.

IN CONCLUSION

The remarkable strength, unparalleled longevity, and exceptional durability of fused slumped glass stand as a testament to its enduring quality. This intricate fusion process combines not only raw materials but also time-honored craftsmanship, resulting in a material that gracefully defies the ravages of time and the challenges of wear. With its harmonious blend of form and function, fused slumped glass showcases an inherent robustness that transcends passing trends.

The fusion of various glass layers during the slumping process imbues the final product with a robustness that is not easily matched. This resilience ensures that the glass maintains its structural integrity even under demanding conditions, making it a reliable choice for architectural marvels, artistic installations, and functional designs alike. Its ability to withstand both physical stresses and environmental factors showcases the synergy between innovation and tradition.

Moreover, the longevity of fused slumped glass is a testament to the meticulous care put into its creation. Crafted with precision and an acute understanding of materials, it stands the test of time, outlasting lesser alternatives and continuing to exude its initial allure. Its enduring aesthetic appeal, combined with its steadfast performance, solidifies its place as a timeless choice for designers, architects, and artists seeking both practicality and elegance.

As we consider the enduring legacy of fused slumped glass, we are reminded of the artistry that goes into its creation. Its durability speaks not only of its tangible strength but also of the dedication and skill of those who master the intricate fusion process. With each piece standing as a testament to the ingenuity and craftsmanship that has shaped it, fused slumped glass stands as an enduring symbol of both artistic expression and enduring reliability.



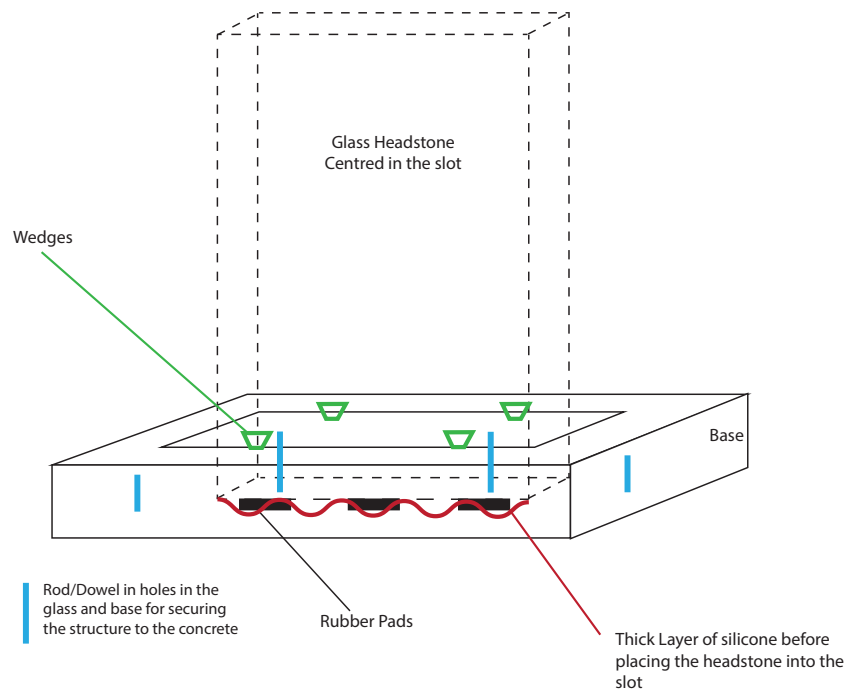
INSTALLATION

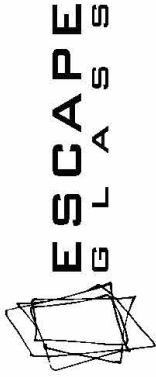
Method of fixing and securing

All monuments and plaques must be installed, removed, or reinstated to the standards set out in the current New Zealand Standards. All granite bases for glass headstones are specifically cut with a customized slot to accommodate the glass and allow for a 5mm expansion.

The headstones bases are drilled to 100mm depth and each Granite base has 2x 80mm deep dowel holes. These are drilled from the bottom. When installed the dowel will go from the Headstone into the berm and then is supported by the 100mm deep custom sized slot. The headstone is then inserted into the slot and the expansion gap is filled with V60 neutral cure glazing silicone. This allows for the natural movement and expansion of the glass without any pressure on the granite base.

This protects the glass from cracking and breaking as well as protecting it from fracturing the granite base.





Glass Headstone Installation Guide

Things you will need:

Concrete foundation
Glass headstone
Desired Base with slot for glass
Wedges x4

Rubber pads (3-4 @ roughly 40mm x 50mm)
Silicone – Black
Urethane – optional in place of silicone
Spirit level

Step one - Clear the area of any leaves and debris. If the base needs attached to a concrete foundation please head to step two, if this is not necessary please proceed to step three.

Step two - Pour the concrete foundation. All Headstones need a concrete foundation/fringe. This concrete foundation needs to be the same measurements as the base (minimum) or larger (preferred). It also needs to be level.

Step three - Position the base in the desired location. This will then need set in place on the concrete foundation with silicone or urethane. Some cemeteries/councils require dowels to be installed. Please check with your local cemetery/council first.

Step four - Place the 3 to 4 rubber pads, at least 4mm – 5mm thick, in the bottom of the slot in the base. This is to stop the headstone sitting directly on to the concrete foundation. Cover in a thick layer of silicone. This layer will be the main fixing for the glass.

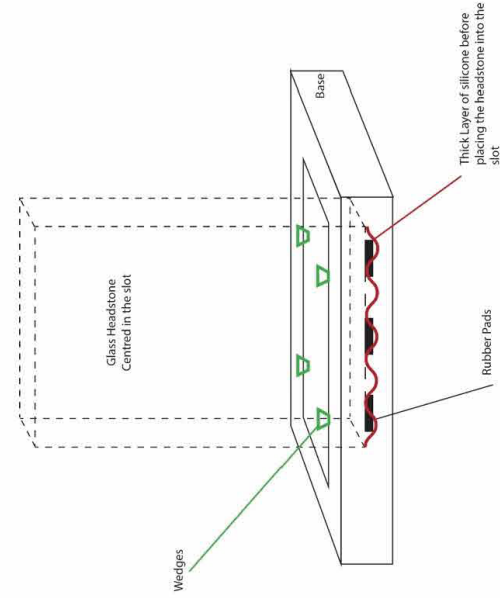
Step four - Insert the glass into the slot and centre. There should be an even clearance around all sides. Please measure to ensure the headstone is centred in the slot. Fill the surrounding sides with more silicone. Leave room at the top to allow for the wedges.

Step five - Secure with the wedges until the silicone is dried (2 wedges front and back should be sufficient) leave a clear area free from silicone around these wedges so you can remove them – this should be in place for at least 72 hours. If the weather is cold please leave longer.

Step six - Remove the wedges and fill these remaining gaps with more silicone to fully seal around the glass.

If you need to talk you through the process please just give Carey a call anytime on 0272230190

WITHOUT DOWELS



WITH DOWELS

