

## Product Name

Pro Ceramic – Ceramic Fritted Glass

## Product Line

Glass Projects **Core Range** and **Energy Range**

## Description of Product

Pro Ceramic Fritted Glass comprises of float glass to which a coloured ceramic glass frit is applied either entirely covering the whole surface of the glass on one side or in a pattern. The frit is fused to the surface of the glass in an oven to provide a striking finish in a range of patterns and colours that is extremely durable. Pro Ceramic can also be used to provide improved levels of solar control and to reduce glare. Solar Heat Gain Coefficient (SHGC) and Visible Light Transmission (VLT) values of the glass can be controlled by the percentage coverage of frit on the surface of the glass.

Pro Ceramic is a Grade 'A' Toughened Safety Glass (AS/NZS 2208) and has the same benefits of Glass Projects Pro Tuf™ Toughened Glass.

## Intended Use

Any glazing situation.

**Building types:** residential, retail, commercial, assembly buildings

**Uses:** windows, facades, shopfronts, entranceways, doors, balustrades, canopies, interior glazing, partition glazing, shower screens and doors, splashbacks etc.

**Designs:** fully framed, partially framed, and frameless glass designs.

## Product Identifier

Pro Ceramic Fritted Glass is part of the Glass Project Core and Energy Ranges.

## Relevant Building Code Clauses and Compliance

Pro Ceramic Fritted Glass supplied by Glass Projects is certified as a Grade 'A' Safety Glass manufactured according to AS/NZS 2208 Safety Glazing Materials in Buildings.

When designed, installed, and maintained in accordance with Glass Projects standard details and requirements, Pro Ceramic will comply with, or contribute to compliance of, the following performance clauses of the NZ Building Code:

### **B1 Structure**

**Clause:** B1.3.1, B1.3.2, B1.3.3, B1.3.4.

**Compliance:** Glazing with Pro Ceramic can be designed to meet project requirements in accordance with B1/AS1 clause 7.1 NZS4223.1, clause 7.2 NZS4223.2, clause 7.3 NZS4223.3 & Clause 7.4 NZS4223.4 or by specific engineering design to B1/VM1.

### **B2 Durability**

**Clause:** B2.3.1 (b).

**Compliance:** When designed, installed, and maintained in accordance with Glass Projects standard details and requirements, Pro Ceramic will satisfy the durability performance requirements for a minimum serviceability life of 15 years.

Processed glass has an in-service history of more than 50 years when used in ordinary conditions of exposure.



**C2 Fire**  
**Clause:** C4.1.2

**Compliance:** Protection from Fire - Internal Surface linings - Glass achieves Group Number 1-S to Appendix Table C1.2 as composed of glass and External Cladding Systems is non-combustible as composed entirely of glass (in accordance with definitions in NZBC C/AS1 & AS2).

**E2 External Moisture**  
**Clause:** E2.3.1, E2.3.2.

**Compliance:** Glass is impervious to water.

**F2 Hazardous Building Materials**  
**Clause:** F2.3.2 for unimpeded path of travel, F2.3.3 for use of safety glass.

**Compliance:** F2/AS1 clause 1.0 NZS4223.3. Pro Ceramic is a toughened safety glass manufactured in accordance with NZS4223.3 for human impact locations to project requirements. Safety glass is marked in accordance with NZS4223.3 clause 2.8.

**F4 Safety From Falling**  
**Clause:** F4.3.4.

**Compliance:** Pro Ceramic is a toughened glass product and can be designed in accordance with NZS4223.3 clause 21 Window glazing safeguarding a fall, and clause 22 Barriers, to the project requirements, as well as other designs by specific engineering design to B1/VM1.

### Limitations of use

- 1. Pro Ceramic Fritted Glass is readily available in the following sizes (design restrictions apply).

Process	Glass Thickness	Large x Small
Digital Print	4 mm to 19 mm	4500 mm x 2500 mm
Screen Print	4 mm to 19 mm	2600 mm x 1540 mm

Larger sized panes are available upon request and subject to longer lead time.

- 2. Pro Ceramic is not classified as fire rated glazing.
- 3. The use of toughened glass involves a relatively small risk of breakage resulting from nickel sulphide or other inclusions. Heat soaking is not mandatory but is highly recommended to reduce inclusion failures, particularly important in barriers from falling such as balustrades.
- 4. For frameless glazing and point fixed glazing application, not covered in NZS 4223, specific engineering design by Glass Projects is required.

### Design Requirements

Pro Ceramic can be designed for use in projects with the following scope.

Any design and installation that follows NZBC B1/AS1 section 7 and the following glazing standards:

NZS 4223.1	Glazing in buildings - Glass selection and glazing
NZS 4223.2	Glazing in buildings - Insulating glass units
NZS 4223.3	Glazing in buildings - Human impact safety requirements
NZS 4223.4	Glazing in buildings - Wind, dead, snow, and live actions

**Wind Zones:** All NZS 4223.4 wind zones as well as Specific Engineered Design wind pressures when designed, installed, and maintained in accordance with Glass Projects standard details and requirements.

**Exposure Zones:** All NZS 3604 exposure zones when designed, installed, and maintained in accordance with Glass Projects standard details and requirements.

Pro Ceramic is custom designed and fabricated to the requirements of each project. The following details must be confirmed by the specifier:



- Glass size
- Desired frit colour and pattern.
- Required support type or framing method.
- Project wind zone or design wind pressure.
- Any glazing performance requirements that the glass should meet including centre of glass U-value, Shading Coefficient (SC), and Visible Light Transmission as a minimum.
- Any impact or barrier loading the glass should resist.

## Installation requirements

Glazing systems utilising Pro Ceramic must be designed and glazed by Glass Projects or an approved installer.

## Cleaning & Maintenance

Care must always be taken when cleaning any glass and clean, grit free water, cleaning solutions, cloths, brushes, sponges, and squeegee products must be always used.

### **During construction**

Check weekly and clean every 1 - 2 months, or as required, during construction. Protect the glass from weld and grinding splatter, concrete and mortar splashes, and impact or scratch damage from other trades.

### **Regular maintenance**

Proprietary cleaners should be used with a soft cloth, brush, or sponge, but a mild soap or liquid detergent and warm water can work well. After washing rinse with clean water and use a clean squeegee to remove excess water.

Ensure the glass is dry and spot free. Excess water droplets will evaporate and can leave dissolved minerals on the glass that can cause surface staining particularly when a hard water supply is used.

Never use harsh solvent, abrasive, or alkaline cleaners.

Never use scrapers or razor blades to remove paint spots or sticky residue from the glass surface.

The condition of glass should be checked as part of a regular building maintenance regime and should be cleaned as soon as any build of dirt or foreign particles is noticed, but as a minimum the following is recommended.

Industrial sites – glass should be cleaned every 1 - 2 months.

Urban areas – glass should be cleaned every 3 months.

Rural areas – glass should be cleaned every 6 months.

## Samples

During the design phase, choosing the right type of glass is critical and viewing a particular glass type up close is essential to get a good understanding of its visual characteristics.

300 x 300mm glass samples are available from Glass Projects upon request. There are guidelines on how glass samples should be viewed to properly understand how different qualities of light and how different glazing methods and designs can affect a person's visual perspective of glass.

An alternative to glass samples is to view a project reference in real life. Glass Projects has an extensive range of case studies available to view on our website at [glassprojects.co.nz/projects](http://glassprojects.co.nz/projects).

Please contact Glass Projects to discuss your needs.

## Product Selection & Technical Assistance

We work closely with our clients to understand their specific needs and develop innovative design concepts that seamlessly integrate with the overall architecture of their building. Our team of sales and engineering experts specialise in custom glass design and have a deep understanding of New Zealand regulations. We are available to provide advice on glass products to suit any application.