Product Name

Pro Ultra Clear – Low Iron Glass

Product Line

Glass Project ***Core Range***

Description of Product

Pro Ultra Clear Low Iron Glass is highly transparent offering unsurpassed levels of visible light transmission (VLT). The amount of VLT varies very slightly with glass thickness.

Pro Ultra Clear Glass is annealed as standard and so is not a safety glass but can be toughened and laminated to provide a Grade 'A' safety glass (AS/NZS 2208). Refer to Glass Projects Pro Tuf Toughened Safety Glass and Pro LSG Laminated safety glass for more information.

Intended Use

Any glazing situation where high clarity is required. Pro Ultra Clear lends itself very well for use in ceramic fitted glass used in splashbacks and wall lining where maintaining the true frit colour is desired.

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 Ultra Clear Low Iron Glass is part of the Glass Project Core Range.

Pro Ultra Clear Low Iron Glass is available in toughened or laminate form as Pro Tuf and Pro LSG Grade 'A' safety glass (AS/NZS 2208) products.

Relevant Building Code Clauses and Compliance

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

Processed float 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 Ultra Clear is available as Pro Tuf Toughened Grade 'A' Safety Glass and Pro LSG Laminated Grade 'A' Safety Glass products which are manufactured in accordance with NZS4223.3 for human impact location to the project requirements. Safety glass is marked in accordance with NZS4223.3 clause 2.8.

F4 ***Safety From Falling***
Clause: F4.3.4.
Compliance: Pro Ultra Clear is available as Pro Tuf Toughened Grade 'A' Safety Glass and Pro LSG Laminated Grade 'A' Safety Glas products which 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 Ultra Clear Low Iron Glass is readily available in the following sizes (design restrictions apply).

Glass Thickness	4 mm to 15 mm
Minimum Dimension	100 mm x 100 mm
Maximum Dimension	3210 mm x 5100 mm

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

2. Pro Ultra Clear is not classified as fire rated glazing.
3. Pro Ultra Clear is not classified as safety glass and can be used is glazed areas according to NZS 4223.3 human impact safety requirements.
4. For areas where safety glazing is required, Pro Ultra Clear can be incorporated in Pro Tuf and Pro LSG Grade 'A' Safety Glass products. Refer to associated information.

Design Requirements

Pro Ultra Clear Low Iron Glass 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, used, installed, and maintained in accordance with Glass Projects standard details and requirements.

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

Pro Ultra Clear Low Iron Glass is custom designed and fabricated to the requirements of each project. The following details must be confirmed by the specifier:

- Glass size

- 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.

Typical performance data values.

Glass Thickness	VLT	VLR	U	SC
4mm to 15mm	90-91%	7-8%	5.40-5.91	1.00-1.04

(Performance data may vary. U value shown in W/m²K.)

Installation requirements

Glazing systems utilising Pro Ultra Clear 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 plashes, 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.

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.