SGP Ionoplast Interlayer

Super Clear / Ultra Clear · White Series · Solar-Control

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Document date: 10 November 2026 (Asia/Shanghai)

This catalog presents CNCGLASS SGP ionoplast interlayer, together with the mechanical and optical data and the lamination cycles we recommend. The range covers a high-transparency Super Clear / Ultra Clear grade for structural and visual work, a White series for privacy and even light diffusion, and a solar-control grade that adds thermal performance while keeping the mechanical character of an SGP-type ionoplast interlayer.

Please contact cnc@cncglass.com for pricing. Freight is quoted separately. Widths, thicknesses, and roll lengths other than those listed can be produced to order.

1. Product Schedule

The product lines below cover the current range. Additional thicknesses and grades are listed so that the full range can be requested in one place. Other specifications are available for customization. Please contact cnc@cncglass.com for pricing.

Product	Thickness / Size	EXW Price	Remarks
Super Clear SGP	Thickness: 0.76 mm Width: 1600 mm, 2000 mm, 2440 mm Liner length per roll: 100 M	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Super Clear SGP	Thickness: 1.14 mm Width: 1600 mm, 2000 mm, 2440 mm Liner length per roll: 50 M	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Super Milky White SGP (opaque, high privacy)	Thickness: 0.76 mm Width: 1600 mm, 2000 mm, 2440 mm Liner length per roll: 100 M	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Super Sandblasting White SGP (isolates shadow, medium privacy)	Thickness: 0.76 mm Width: 1600 mm, 2000 mm, 2440 mm Liner length per roll: 100 M	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Super Clear SGP	Thickness: 0.89 mm	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Super Clear SGP	Thickness: 1.52 mm	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Mist White SGP (frosted white, about 50% light and shadow transmission)	Thickness and size on request	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization
Solar-Control / Heat-Insulating SGP	Thickness: 0.76 mm	**Please contact cnc@cncglass.com for pricing.**	Other specifications are available for customization

Commercial term: EXW. Shipping is quoted separately. Please contact cnc@cncglass.com for pricing.

2. Super Clear / Ultra Clear SGP Ionoplast Interlayer



Figure 1. CNCGLASS white SGP ionoplast film on the production line, leaving the rolls.

CNCGLASS Super Clear SGP is a high-transparency ionoplast interlayer for structural laminated safety glass. The Ultra Clear optical grade is intended for work in which the interlayer should all but disappear — glass fins and ribs, walk-on floors, balustrades, skylights, and other assemblies in which several plies of glass are built up and any residual color would otherwise be obvious.

The formulation contains no plasticizer, so the film is less prone to the slow yellowing and edge separation that plasticized interlayers can show after long service. In thick multi-ply stacks — for example five or six glass layers — yellowness can still be held below 1.5, which helps structural “invisible” ribs and glass walkways keep a clean, water-white appearance. The measured optical values for the Ultra Clear grade are given in the optical table in this section; they sit alongside, and do not replace, the mechanical datasheet.

The ionoplast also bonds reliably to stainless steel and aluminum, so it is a practical choice for frameless, point-fixed, and all-glass structures in which the interlayer has to work at metal fittings as well as at the glass surface. Relative to conventional PVB, the grade offers on the order of 100 times the rigidity and about five times the strength and hardness. A thinner glass makeup can often carry the same wind load, or the original thickness can be kept and the design load raised. After breakage the laminate retains residual integrity long enough to support evacuation and to reduce the risk of a sudden collapse of the opening.

Impact performance is high and is suited to hurricane-prone facades and high-security glazing. Project-specific test evidence can be discussed when you enquire. Please contact cnc@cncglass.com for pricing.

2.1 Mechanical datasheet — Super Clear SGP (0.76 mm and 1.14 mm)

The values below are the current Super Clear mechanical datasheet and are kept exactly as quoted. Optical readings in this table are those of the mechanical datasheet; the tighter Ultra Clear optical figures follow in the next table.

Property	0.76 mm	1.14 mm
Tensile Strength (MPa)	≥ 34	≥ 34
Elongation at Break	≥ 240%	≥ 240%
Tear Strength (kN/m)	≥ 120	≥ 120
Baking Test	16H	16H
Thermal Shrinkage Rate	< 2%	< 2%
Impact Value	≥ 7	≥ 7
Transmittance	> 89%	> 88.5%
Haze	< 0.3	< 0.35
Yellowness Index	< 0.2	< 0.3

2.2 Ultra Clear optical data

The following figures are the optical data for the Ultra Clear grade and are supplied as additional product data. They are not a revision of the mechanical datasheet above. In thick stacks, yellowness can still be held below 1.5, as noted in the introduction to this section.

Property	0.76 mm	0.89 mm	1.14 mm	1.52 mm
Transmittance	> 90%	> 90%	> 89.5%	> 89%
Haze	< 0.15	< 0.15	< 0.2	< 0.25
Yellowness Index	< 0.1	< 0.1	< 0.12	< 0.12

Please contact cnc@cncglass.com for pricing.

2.3 Performance notes

- **Structural coupling and rigidity.** The interlayer has a high shear modulus. Under load it couples the glass plies so that the laminate behaves more like a single structural section, giving a load-bearing capacity well above that of a comparable PVB laminate. Combined with the rigidity and strength figures noted above, this is the basis for slimmer makeups or higher wind loads.
- **Edge stability and chemical resistance.** Edges remain closed during long outdoor exposure, including humid or salt-laden coastal air. Because the film does not rely on a plasticizer, edge bubbling, delamination, and yellowing are limited over time. This is particularly relevant for point-supported curtain walls, where edges are often left exposed.
- **Temperature range.** Strength is retained across a wide service-temperature window. In hot climates the interlayer does not soften as readily as PVB, so structural support is maintained.
- **Optical quality.** The Ultra Clear grade is produced for very low yellowness, low haze, and high luminous transmittance, including in thick multi-ply stacks, as listed in the optical table. The aim is a nearly invisible interlayer in fins, ribs, and walkways.
- **Impact and residual integrity.** The laminate absorbs impact energy and, after fracture, continues to stand in place so that occupants have time to move away from the opening. The grade is used on hurricane-prone facades and in high-security glazing. Project-specific test evidence can be discussed when you enquire.
- **Adhesion to metal.** Bond strength to stainless steel and aluminum supports frameless all-glass details and point-fixed hardware, not only glass-to-glass laminates.

2.4 Production, samples, and applications

Production and inspection, sheet texture and sample stacks, laminated glass in the workshop, packed rolls and export crates, and finished laminated-glass close-ups are shown below in that order.

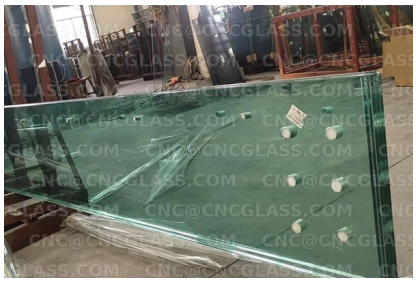


Figures 2–4. White SGP film on the production line: take-up, in-line inspection, and web handling.



Figures 5–7. Sheet texture (left) and stacked Super Clear and White series samples.





Figures 8–10. Laminated glass in the workshop: long lites, thick multi-ply stacks, and a point-fixed panel.




Figures 11–12. Foil-wrapped rolls on a pallet, and export crates prepared in the warehouse.





Figures 13–15. Finished laminated-glass close-ups in clear and frosted / white appearances.

3. White Series SGP Ionoplast Interlayer

The CNCGLASS White series uses the same ionoplast platform, offered in three grades that differ in how much light and shadow they pass. The series is intended for privacy glazing, partitions, skylights, and decorative laminated glass in which an even, glare-reduced wash of light is wanted without a clear view through the pane.

3.1 Grades

1. Super Milky White SGP (opaque, high privacy). This grade does not transmit light or shadows; nothing of the scene behind the glass is read through the pane. Standard supply is 0.76 mm, widths 1600 mm, 2000 mm and 2440 mm, and 100 M per roll. Please contact cnc@cncglass.com for pricing. Other specifications are available for customization.

2. Super Sandblasting White SGP (isolates shadow, medium privacy). Light passes through, but shadows and objects behind the glass are isolated and do not read as silhouettes. Standard supply is 0.76 mm, with the same standard widths and 100 M per roll. Please contact cnc@cncglass.com for pricing. Other specifications are available for customization.

3. Mist White SGP (frosted white). A softer, intermediate grade that transmits about 50% of incident light and shadow, giving a veiled, even wash rather than a fully opaque or a fully translucent look. Please contact cnc@cncglass.com for pricing.

3.2 Advantages and technical features

- **Structural strength.** Strength is about five times that of ordinary PVB, and rigidity is about 100 times that of PVB. After the glass is broken the laminate still carries residual load, which helps keep the opening in place.
- **Edge stability.** Long outdoor exposure does not produce edge delamination or yellowing.
- **Privacy and even light diffusion.** The series screens views while spreading light uniformly, cutting harsh shadows and glare.
- **Weather and extreme temperature.** The grade has passed a 135°C bake test and a −30°C low-temperature impact test, and remains stable under those conditions.
- **Consistent manufacture.** Film is produced under a single, integrated process from raw material through the finished roll, so color and gauge stay consistent from batch to batch.
- **Custom widths.** Widths can be supplied up to 4300 mm to suit large curtain-wall and facade panels.
- **Low-anisotropy / low stress-pattern technology.** The process is designed to reduce the visual distortion and stress marks that can appear in large laminated lites.

4. Solar-Control / Heat-Insulating SGP Ionoplast Interlayer

CNCGLASS solar-control SGP adds a functional additive system to the ionoplast so that the film keeps SGP-level mechanical performance while taking on a thermal role. Near-infrared energy is absorbed or reflected, which lowers the cooling load on the building, without a trade-off in the structural strength expected of an SGP-type interlayer. The grade is intended for energy-conscious facades, skylights, and other green-building glazing in which solar heat gain must be managed.

Please contact cnc@cncglass.com for pricing.

4.1 Specification (0.76 mm)

Item	Value
Film thickness	0.76 mm
Thermal shrinkage	< 2%
Radiation resistance (200 h)	Pass
Visible transmittance	≥ 70%
UV rejection	≥ 90%
Total IR rejection	≥ 85%
TSER (total solar energy rejection)	≥ 50%
SHGC (solar heat gain coefficient)	0.238
Shading coefficient, SC	0.274

5. Laminating SGP Glass in an EVA Vacuum Oven

The figures below are based on a makeup of 6 mm glass + 0.76 mm SGP + 6 mm glass. If you laminate a thicker interlayer or thicker glass, keep the same temperatures and extend the holding time of both stages by 10–30 minutes.

1. EVA ovens are not all identical; some adjustment on your own line will be needed.
2. Vacuum pressure: above 101.
3. **Low-temperature stage:**

   Cold vacuuming for 5 minutes.

   10 minutes heating up to 65°C.

   Holding at 65°C for 30 minutes.
4. Cook time for 6 mm and 8 mm glass: 3.5 hours, generally at 135°C.
5. Always only one piece per bag. Do not stack or place multiple pieces in one bag.

6. Autoclave Heating Cycle for SGP Laminated Glass

1. **Laminating room.** Temperature: 22℃ – 28℃. Humidity: 18% – 28%.
2. **Rolling.** The glass surface temperature after rolling should be 63±8℃.
3. **Autoclave.** Temperature: 135℃ (do not exceed 137.8℃). Pressure: 180–200 psi (12–14 bar). Time: 60 minutes (can be longer). Cooling speed: 3℃/min.

7. How to Order

If you wish to place an order, or to request pricing for any unlisted thickness, width, roll length, or grade, please send us an email. We will confirm availability, lead time, and packing with the quotation.

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