

CNCGLASS

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TECHNICAL NOTE

Comments on SGP Film for Laminated Glass Over Traditional PVB

By Peter Lin

High-performance interlayers are frequently compared with conventional polyvinyl butyral (PVB) when laminated glass must carry structural load, retain residual strength after breakage, or hold stiffness across a wider temperature range. This technical note restates Peter Lin's practical comments on so-called "SGP film" versus traditional PVB, clarifies public naming and chemistry where the original wording needs audit, and notes ongoing progress of Chinese PVB and EVA interlayer products—without inventing numeric strength or laboratory test values that are not in the source.

CNCGLASS · 1. Naming and Chemistry — SGP / SentryGlas®

In trade conversation, "**SGP film**" is commonly used as shorthand for **SentryGlas Plus** (legacy product naming). The original note described SGP film as a kind of **specialty modified PVB interlayer film**.

Public manufacturer literature (Kuraray / formerly DuPont) presents authentic SentryGlas® as an ionoplast (ionomer) interlayer—an ethylene–methacrylic-acid copolymer with ionic interactions—not a modified PVB resin. "SentryGlas Plus" / "SGP" is legacy terminology; Kuraray has clarified that authentic products are branded SentryGlas® (and related SG™ / SGX™ designations), and that third-party "SGP" labels should not be assumed equivalent. This note therefore keeps the source's practical performance claims while correcting the chemistry framing.

CNCGLASS · 2. Claimed Performance Advantages vs Traditional PVB

Relative to conventional PVB interlayer film, the source attributes the following modified / high-performance properties to SGP-class film (qualitative claims only; no numeric multipliers are added):

- 1. Laminated-glass strength.** Glass strength after lamination is described as better than with other PVB film.
- 2. Stiffness and creep resistance.** Stiffness and creep resistance are described as better than with other PVB film—relevant where long-duration load and residual stiffness matter.
- 3. Temperature performance.** Temperature performance is described as better than with other PVB film, supporting use where interlayer softening at elevated temperature is a concern.

Taken together, these points frame a structural-performance advantage over traditional PVB interlayer film in applications that demand higher laminate stiffness, better creep control, and more stable behaviour with temperature. Exact design values must come from the interlayer supplier's current datasheet and project-specific engineering—not from this commentary.

CNCGLASS · 3. Automotive Safety Laminated Glass Themes

The source states that SGP-class film can meet requirements associated with **automotive safety laminated glass**, including:

- 1.** Impact resistance from external objects.
- 2.** Ensuring minimal head trauma for a passenger that strikes the windshield.
- 3.** Other related safety considerations for laminated automotive glazing.

These themes mirror classic laminated-windshield safety goals—containment after impact and energy management at head contact—without substituting for OEM or regulatory test protocols. No invented impact energies, HIC values, or pass/fail numbers are stated here.

CNCGLASS · 4. Representative Tests Highlighted in Source

SGP-class film is described as performing well in the following test categories (names retained from source; no fabricated numeric results):

1. **Pressure test.** Assessing laminate response under applied pressure / load.
2. **Three-point bending test.** Evaluating flexural behaviour of the laminated glass build-up.
3. **Post-glass-breakage test.** Checking residual integrity after glass fracture.
4. **Temperature stability test.** Observing interlayer / laminate behaviour across temperature.

When quoting these tests to customers, attach the applicable standard method and measured results from a qualified laboratory or the film manufacturer. This note intentionally does not invent MPa, N, °C, or pass criteria.

CNCGLASS · Illustration — Safety Laminated Glass After Impact

Product illustration (archive image; watermarked cnc@cncglass.com). Old on-image title/logo overlays were softened before watermarking:



Figure 1. Example of safety laminated glass after impact (fragments retained by the interlayer). High-stiffness interlayers are often discussed for residual strength and post-breakage integrity.

CNCGLASS · 5. Structural Advantage vs Traditional PVB

Overall, the source concludes that SGP-class film **demonstrates significant structural performance advantages** over traditional PVB interlayer film worldwide—especially where stiffness, creep resistance, temperature stability, and post-breakage behaviour are decisive.

For architectural and specialty glazing, that framing typically points buyers toward ionoplast / high-stiffness interlayer options when thinner glass, longer spans, or residual strength after breakage are design drivers. Project engineers should still compare current datasheets, edge-seal practice, and process capability (autoclave vs vacuum lamination) for the specific film grade.

CNCGLASS · 6. Progress of Chinese PVB and EVA Interlayers

The source also notes that some **China PVB manufacturers** continue to improve modification of PVB film properties. PVB film made in China has become **highly modified in recent years**.

In parallel, **EVA interlayer film made in China** has made great progress in structural performance properties and is increasingly considered to **replace PVB film in some exterior and interior applications**.

For CNCGLASS customers, the practical takeaway is competitive choice: high-stiffness ionoplast options where structural residual strength is mandatory; improved PVB where cost and established autoclave process dominate; and progressive EVA grades for vacuum-bag / oven lamination in exterior and interior safety glazing where process fit and structural targets align. Selection remains application-specific.

CNCGLASS · Closing

SGP-class / SentryGlas®-family interlayers are discussed in the market for laminated-glass strength, stiffness and creep resistance, and temperature performance versus traditional PVB, with automotive safety themes and representative pressure, bending, post-breakage, and temperature-stability tests. Chemistry and trademark wording should follow current manufacturer guidance (ionoplast, not “modified PVB”). Meanwhile, Chinese PVB modification and EVA structural progress continue to expand practical alternatives for exterior and interior laminated glass.

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