Brand: CNCGLASS

Company: CNC Ucolin Interlayer Technology Co., Ltd.

Address: SHENZHEN, GD, CHINA

Peter Lin | cnc@cncGlass.com | WhatsApp/Mobile +86 15013829504 | WeChat wecan365 | www.cncglass.com

TECHNICAL NOTE

How to Choose EVA Interlayer for Laminated Glass: A Practical Selection Guide

By Peter Lin

CNCGLASS · Wrong film choice shows up after delivery

A common shop belief is that once the glass itself is good enough, almost any interlayer will do. That belief is expensive. In a laminated stack the interlayer decides retention after breakage, long-term edge appearance, and whether optics stay clear under sun, rain, and heat. Day-one clarity is not the same as field durability.

Many processors recognize this pattern: the laminate leaves the furnace looking clean, yet months later the site reports edge whitening, fogging, or yellowing on exposed outdoor edges. The glass plies are usually not the root cause. The mismatch is often an indoor-oriented or under-stabilized EVA used where outdoor crosslinking, moisture resistance, and UV packages were required—or a grade whose flow and gel timing never matched the vacuum curve.

For architects specifying safety glass and for factories selling yield and reputation, film selection is a risk decision. The right CNCGLASS EVA grade raises first-pass yield and opens decorative, smart-glass, and outdoor builds. The wrong grade multiplies remakes, claims, and brand damage. This note explains how to choose with plant-level criteria rather than brochure slogans.

CNCGLASS · What EVA interlayer is in a laminated stack

EVA (ethylene-vinyl acetate) for glass lamination is not a simple sticky tape. Quality CNCGLASS EVA is formulated as a crosslinkable thermoset system. During the heat hold, molecular chains form a three-dimensional network. After cure the interlayer does not remelt like an ordinary thermoplastic glue; the network supports heat resistance, fragment retention, and edge stability when process and grade are matched.

A basic build is glass + EVA + glass. Inserts—textiles, mesh, paper, metal foils, or PDLC smart film—sit between EVA layers. That thin transparent sheet is what delivers impact retention, strong UV blocking when formulated for it, acoustic damping contribution, and the freedom to laminate decorative or switchable cores that autoclave PVB lines handle less easily.

CNCGLASS · Clear EVA: KPIs that matter beyond day-one look

When you evaluate a clear EVA sample, do not stop at whether it looks transparent on the table. Ask whether optics, gel, adhesion, and flow will still protect the laminate after outdoor aging and after your furnace cycle. Four practical KPIs guide CNCGLASS clear grades:

Transmittance and haze

Visible light transmittance for high-clarity CNCGLASS clear EVA typically targets above about 90%, with haze kept very low (often well under 0.3% on film-level checks when process is correct). Cloudy film becomes a dusty-looking laminate no matter how good the glass.

Crosslinking level

Outdoor durability leans on gel fraction. Crosslinking at or above about 85% after a proper cure hold is a common target for weatherable clear grades. Low gel leaves the network soft against heat, humidity, and UV-driven yellowing.

Adhesion to glass

Peel strength must be high enough that broken fragments stay attached. CNCGLASS clear grades are developed for strong glass peel when cleaning and vacuum timing are correct; treat laboratory peel as a floor, not a substitute for boil and humidity checks on production coupons.

Flow for inserts and texture fill

Meshes, fabrics, and wires need enough melt flow to wet texture and displace air without uncontrolled squeeze-out. Choose a CNCGLASS flow class that matches insert depth and furnace ramp—standard flow for flat clear builds, higher flow when deep weave or complex inserts trap air.

CNCGLASS · CNCGLASS EVA grade families (generic naming)

Not every EVA roll serves the same job. CNCGLASS organizes selection around application families rather than competitor series names:

Outdoor extra-clear EVA

High-clarity, high-crosslink clear film for façades, railings, vehicle glass, and multi-ply safety laminates that see sun and weather. Prioritize UV package, gel target, low haze, and stable peel after boil/humidity screening.

Smart-glass / PDLC-compatible EVA

Grades tuned for switchable film stacks in offices, meeting rooms, hotels, and display cases. Focus on electrical compatibility, adhesion around busbars and film edges, optical clarity in both clear and privacy states, and cycle life under repeated switching. Lower peak heat or longer soft-stage vacuum may be required to protect the PDLC core.

Color and functional EVA

Frosted white, milky white, black, and tinted films for privacy partitions, feature walls, and design glass. Confirm color stability under UV, opacity targets, and whether the grade still meets safety retention when used as the structural interlayer—not only as a decorative sheet.

Item	Outdoor extra-clear (typical)	Higher-flow clear (insert-friendly)
Thickness options (mm)	0.38 / 0.76 (common)	0.38 / 0.76 (common)
Width capability	Wide rolls for architectural sheets	Wide rolls for architectural sheets
Visible light transmittance	> ~90%	> ~90%
Haze (film / good process)	Very low	Very low
UV blocking (280–380 nm)	High (often ≥99% when formulated)	High (often ≥99% when formulated)
Crosslinking target after cure	≥ ~85%	≥ ~85%
Glass adhesion focus	High peel for outdoor edges	Strong peel with easier texture fill
Processing note	Balanced flow for flat clear stacks	Faster wet-out for mesh/fabric/inserts
Typical uses	Curtain wall, guardrail, transport, multi-ply safety	Same outdoor uses plus deep-texture inserts

Exact numbers follow the CNCGLASS data sheet for the chosen thickness and lot. Use the table as a selection map, then lock setpoints on your furnace with coupons.

CNCGLASS · Scenario checklist before you pick a roll

Most field failures start as selection mistakes. Work through this checklist before ordering:

- Outdoor versus indoor: Direct sun and weather demand outdoor extra-clear with high gel and UV package. Do not save film cost by putting indoor-oriented EVA on a curtain wall—yellowing and edge claims erase any savings.
- Exposed edges: Frameless balcony glass, shower doors, and coastal openings see moisture at the perimeter. Prefer hydrophobic, hydrolysis-resistant CNCGLASS EVA and good edge practice; moisture resistance is a reason many plants choose EVA over PVB in wet zones.

- Inserts and PDLC: Mesh, fabric, wire, or dimming film needs adequate flow and a soft-stage vacuum long enough to clear trapped air. Consider insert-friendly or carefully validated lower-peak profiles so the core is not damaged by an aggressive cure spike.
- Structural demand: If the opening needs high post-break stiffness or point-supported structural glass, compare EVA against ionoplast options; EVA remains strong for many safety and decorative builds but is not a universal substitute for every structural ionoplast detail.

CNCGLASS · Vacuum process habits that protect a good film

Even the correct CNCGLASS grade fails if temperature, time, and vacuum are out of sequence. Most EVA laminates run in a vacuum furnace or silicone-bag line. A reliable pattern many plants refine is:

- Cold vacuum first: Pull a full vacuum before significant heat so air leaves while the film is still mobile.
- Staged heat: Hold a soft stage near about 60 °C so the film relaxes and releases gas, then ramp into a cure hold near about 130 °C for crosslinking.
- Cool before open: Bring the stack below about 60 °C before breaking vacuum or opening the chamber, reducing sudden shrink that pulls edge bubbles.

Exact setpoints follow stack thickness, glass type, and the grade data sheet. The principle stays constant: de-air while soft, gel while held, cool under control.

CNCGLASS · Shop pain points: bubbles, haze, overflow

Bubbles

Usual causes: short vacuum, damp glass, blocked bag channels, or flow that does not match insert depth. Actions: dry and clean glass, keep vacuum paths open with proper edge sealing practice, extend soft-stage vacuum, and pick a CNCGLASS flow class suited to the insert.

High haze

Usual causes: under-temperature cure, rushed cool-down that crystallizes poorly, or a film whose optical package never matched clear architectural needs. Actions: use a high-clarity CNCGLASS clear grade, complete the gel hold, and cool in a controlled ramp rather than a shock open.

Edge overflow / squeeze-out

Usual causes: melt index too aggressive for the heat curve, or temperature overshoot. Actions: move to a grade with more stable melt viscosity at cure, tighten furnace uniformity, and avoid unnecessary peak overshoot once gel has started.

CNCGLASS · EVA versus PVB versus ionoplast — decision table

PVB and ionoplast remain important. The question is which chemistry fits moisture, equipment, decoration, and structural demand for this opening:

Property	CNCGLASS EVA	PVB	Ionoplast
Moisture at edges	Generally strong hydrophobicity; favored in wet or coastal zones when grade and edge are correct	More hygroscopic; edge whitening risk if humidity control and sealing are weak	Good moisture behavior in many structural builds
Typical equipment	Vacuum furnace / silicone bag (non-autoclave path)	Often nip + autoclave	Typically autoclave; high flatness demand
Decorative / PDLC inserts	High compatibility when flow and soft vacuum are planned	Possible but less natural for many fabric/mesh stacks	Limited decorative freedom versus EVA for many insert styles
Post-break structural stiffness	Medium — suitable for many safety laminates	Lower stiffness than ionoplast for the same build	Very high — preferred for demanding structural glass
Cost and access	Strong cost efficiency for vacuum lines	Autoclave capital and moisture control raise total cost	Highest material cost; justified when structure needs it

CNCGLASS · QC tests to request and run

Buying decisions should rest on measurable results, not roll appearance alone. Ask CNCGLASS—and verify in your lab—for:

- Peel / adhesion tests on glass coupons from your wash line.
- Boil test (for example two hours in boiling water) watching for blisters or delamination—still a practical screen for gel and water resistance.
- UV aging with yellowing index tracking to estimate outdoor color shift.
- Haze and transmittance after your full furnace cycle, not only on virgin film.

CNCGLASS · How to judge an EVA supplier

Film markets mix traders and true manufacturers. Selection criteria that protect plants:

- Manufacturing depth: clean production, formulation control, and an in-house lab beat pure trading desks when defects appear.
- Batch consistency: clear EVA color and gel should not drift lot to lot if you run automated recipes.
- Process support: when bubbles appear, you need furnace advice within hours—not only a new shipment.
- Certification path: ISO quality systems and relevant glazing certifications (as required by your markets) reduce project friction.

CNCGLASS (CNC Ucolin Interlayer Technology Co., Ltd.) supplies EVA interlayer film with grade guidance and vacuum-laminator coaching so selection and process stay aligned.

CNCGLASS · Where EVA laminated glass is heading

- Still higher clarity: outdoor extra-clear packages pushing haze down while protecting UV resistance.
- Tighter smart-glass pairing: dedicated PDLC-compatible EVA becoming standard on switchable partitions.
- Cleaner chemistry expectations: lower VOC and documentation packages demanded by many European and North American projects.

CNCGLASS · Conclusion

Choosing EVA is a balance among clarity, weatherability, furnace friendliness, insert needs, and cost. Film cost is a small share of the project; failure cost is not. Match outdoor extra-clear, smart-glass, or color/functional CNCGLASS grades to the real exposure and insert plan; lock vacuum staging and gel hold; then prove the stack with peel, boil, and UV checks before volume production.

For grade recommendations, furnace window coaching, and sample rolls, contact CNCGLASS.

CNCGLASS · Contact

Brand: CNCGLASS

Company: CNC Ucolin Interlayer Technology Co., Ltd.

Address: SHENZHEN, GD, CHINA

Contact: Peter Lin

Email: cnc@cncGlass.com

WhatsApp / Mobile: +86 15013829504

WeChat: wecan365

Website: www.cncglass.com