

CNCGLASS

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TECHNICAL NOTE / CASE STUDY

Case Study: Bubbles Around EVA Interlayer Film Laminated Glass Edges

By Peter Lin

Edge bubbles after EVA lamination often mean the interlayer at the perimeter did not fully fill the glass gap—commonly from film stretch/shrink, insufficient film overhang, or excess melt flow that thins the edge. This case study records how Glazier F resolved edge bubbles on annealed 6 mm + 6 mm EVA laminates by correcting lay-up practice and lowering laminating temperature.

CNCGLASS · Customer Situation

Glazier F asked how to solve bubbles on the laminated glass edges. The shop was following the same CNC processing instructions (time and temperature) for EVA interlayer film, but edge bubbles remained.

Glass build-up: 6 mm + 6 mm, annealed (not tempered).

Interlayer: super clear EVA (EVAFORCE SUPER+).

Symptom: bubbles around the laminated glass edges after processing.

CNCGLASS · Diagnosis

Based on the customer photos, the EVA film at the edges was not enough to fully fill the gap between the two glass panes. The EVA film had **shrunk and leaked**, leaving edge voids that appeared as bubbles.

When pre-laminated stacks are prepared with stretched film, the interlayer can pull back after cutting; combined with melt flow under vacuum and heat, the perimeter bond line thins and air or voids show as edge bubbles. Industry troubleshooting also links excessive edge melt-out (too hot / too long) to lighter or starved edges—so lay-up overhang and temperature both matter.

CNCGLASS · Corrective Actions

Peter Lin recommended the following process corrections:

1. Do not stretch the EVA film during pre-lamination lay-up

When preparing the pre-laminated glass, do not pull the EVA film with too much force. Stretched film shrinks after cutting and can leave the edge under-filled.

2. Cut EVA film about 2 mm wider than the glass

Cut the EVA film approximately **2 mm wider** than the glass so enough interlayer remains to fill the glass gap at the perimeter.

3. Reduce laminating temperature if edge leaking persists

To reduce leaking (edge melt-out), try reducing laminating temperature based on the situation and the film grade process window.

Public EVA process guidance likewise notes that too-high temperature or too-long heat can squeeze melted EVA from the edges under vacuum, thinning the perimeter and inviting edge bubbles. Adjust within the supplier window; do not invent a fixed vacuum pressure or hold time without a trial on your oven and stack.

CNCGLASS · Outcome

Glazier F reported that the EVA interlayer was not stretched, and laminating temperature was reduced to **115 °C**. The EVA laminated glass then worked correctly: the bubble problem on the laminated glass edges was solved.

Note from the customer: there is printing on the glass, so the laminate does not look super transparent—this is unrelated to the edge-bubble fix.

Peter Lin confirmed that it was good the bubble problem was solved.

CNCGLASS · Practical Process Note

For similar annealed EVA stacks, keep three checks together: (1) lay film flat without tensile stretch; (2) leave a small film overhang (on the order of about 2 mm beyond the glass, as used in this case) so the melt can fill the edge gap; (3) if edges still overflow or thin, step down temperature within the film's recommended window and confirm with a short trial panel. Maintain vacuum through cool-down until the interlayer is firm enough that air cannot rush back into the edges—timing depends on your oven and stack, so qualify locally rather than copying another line's vacuum figures.

CNCGLASS · Closing

This case shows that edge bubbles on EVA laminated glass can persist even when time and temperature seem “on recipe,” if the film is stretched or the edge is under-filled. Correcting lay-up overhang and moderating temperature resolved the issue for Glazier F. For further process questions on EVA laminated glass edges, please contact us.

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