

CNCGLASS

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TECHNICAL NOTE

How to Avoid Delamination When Edging Laminated Glass

By Peter Lin

When fabricators edge EVA-film laminated glass too soon after the laminating oven, or grind with excess heat and aggressive feed, the glass–EVA bond at the perimeter can open as edge delamination. This note restates the practical controls that protect the edge: a full cool-down before secondary processing, generous water cooling during edging, careful feed with a fine wheel, and reliable EVA adhesion quality.

CNCGLASS · Problem

Some laminated glass manufacturers face edge delamination when they edge laminated glass made with ethylene-vinyl acetate (EVA) interlayer film.

The open question for the shop floor is how to avoid that edge opening during grinding and polishing.



Figure 1. Safety laminated glass after impact — fragments retained by the interlayer. Edge delamination during edging is a local loss of that glass–EVA bond at the perimeter; cooling time, wet cooling, careful feed, and film adhesion quality all protect the edge.

CNCGLASS · Reasons and Solutions

1. Cool for 24 hours after pull-out from the EVA glass laminating oven before edging

Do not edge the laminated glass until the laminated glasses have been cooled for **24 hours** after being pulled out from the EVA glass laminating oven.

Edging while the laminate is still warm can reduce edge adhesion and open the perimeter (edge delamination / degumming). Allow the unit to reach a stable shop temperature and leave a full cool-down window of 24 hours before secondary edge grinding or polishing.

2. Edging heat at the edges — use more water cooling while grinding

When edging, **some heat** will be created at the edges, which can harm EVA film adhesion, so please use **more water to cool the heat** when edging the laminated glass.

Prefer continuous wet edge grinding with adequate coolant at the wheel–glass contact. Keep the worked surface wet through the pass, then rinse and wash promptly so grinding slurry does not dry on the glass. After washing, dry the edges; prolonged standing moisture at a laminated edge is undesirable for long-term edge appearance and adhesion.

3. Edge slowly and carefully

Please edge **slowly and carefully**.

Use a fine-grained grinding wheel and take light, repeated passes. Avoid coarse wheels and large stock-removal (heavy “cutting”) settings that overheat the edge, raise micro-crack risk, and stress the glass–EVA interface.

4. Poor EVA film quality / weak glass–film adhesion

If the EVA film interlayer is not of good quality, the adhesive bond between the EVA film and the glass surface may be weak, and it is then easy to delaminate when edging.

Select a stable EVA grade with verified adhesion for architectural lamination, keep film within the manufacturer’s stated usable life, and confirm glass cleanliness before lay-up. Weak cure or contamination will show first at the edge under grinding load.

CNCGLASS · Additional Good Practices for Edge Integrity

Where the process allows, complete glass edging before EVA lamination. Post-lamination grinding is then unnecessary, and water cannot wick into exposed decorative inserts or a fresh edge bond.

Before grinding a laminated unit, carefully trim excess EVA squeeze-out at the perimeter with a sharp knife. Do not tear or stretch the excess film, which can pull on the edge bond.

If the laminate includes decorative inserts that readily absorb water (for example coarse fibre, fabric, or paper), prefer edging the glass before lamination. Post-lamination wet grinding can wet those inserts and later contribute to edge delamination.

CNCGLASS · Shop-Floor Checklist

1. Wait a full 24 hours after oven pull-out before edging or polishing.
2. Use continuous water cooling at the edge; rinse and dry after wet grinding.
3. Edge slowly with a fine wheel and light passes — no heavy stock removal.
4. Confirm EVA grade adhesion / usable life and clean glass before lay-up.
5. Prefer pre-lamination edging when the order allows; trim squeeze-out before grinding.

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