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TECHNICAL NOTE

SGP Ionoplast Interlayer Laminated Glass Bake Test per ASTM C 1914-21: Heat Durability, Edge Bubble Check, and Specimen Results for Structural Safety Glazing

By Peter Lin

CNCGLASS · Why bake testing matters for SGP laminated glass

Buyers and glazing fabricators often ask whether an SGP ionoplast interlayer laminated glass build-up can hold together under sustained heat without edge bubbling, interlayer discoloration, or loss of laminate integrity. A controlled bake exposure is one practical way to answer that question before glass leaves the factory floor for façades, canopies, balustrades, and other structural safety glazing uses.

This article restates laboratory bake-test observations on CNCGLASS SGP ionoplast interlayer laminated glass in plain language for sales engineers and buyers. It is a technical reading note—not a laboratory certificate layout, and not a substitute for project-specific specification review.

Tech note (public method context): ASTM C 1914 covers bake and boil procedures used to stress laminated glass and then visually judge edge defects, bubbles, cracks, and color change. Bake exposure is typically chosen when the concern is dry heat stability of the interlayer and glass–film bond rather than immersion. The numbers below follow the specimen campaign described in this note; they are not generalized acceptance limits for every laminate design.

CNCGLASS · Product and specimen

Product under discussion: SGP ionoplast interlayer laminated glass, fabricated as a clear structural safety laminate.

Build-up (as tested)

5 mm clear tempered glass + 0.76 mm clear SGP ionoplast interlayer + 5 mm clear tempered glass. The finished laminate thickness for this specimen set was 10.76 mm.

Specimen geometry and quantity

Three square specimens, each 300 × 300 × 10.76 mm, were prepared for the bake campaign. Samples were without edge film wrap, without decorative inserts, and without colored glaze—so the visual check focuses on the ionoplast bond line and glass edge zone.

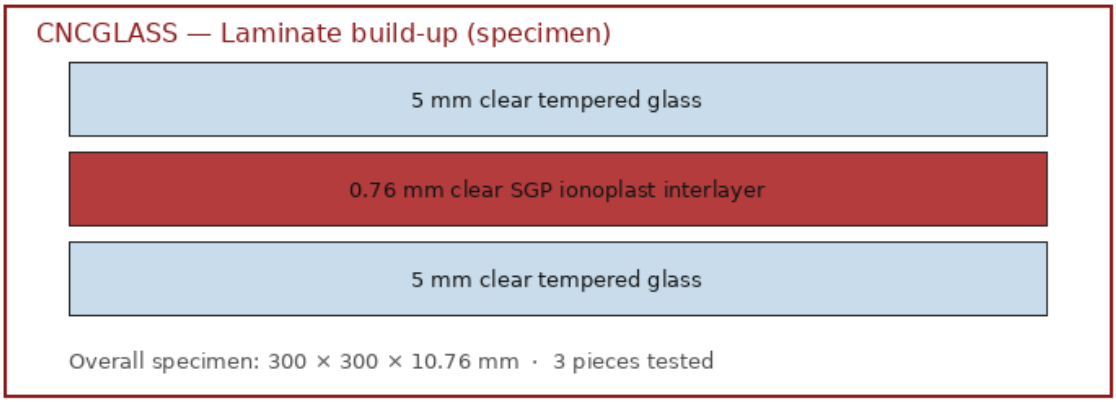


Fig. 1 — Hand sketch of the tested CNCGLASS SGP laminate build-up.

CNCGLASS · Bake method and how results are judged

Method

Test item: bake test. Method cited: ASTM C 1914-21, Standard Test Methods for Bake and Boil Testing of Laminated Glass Specimens were held in a 100 °C oven for 16 hours, then inspected against the judgment rules summarized below.

Judgment focus (plain summary)

- Glass cracking may occur; cracking alone does not automatically fail the set.
- If cracks stay within about 12 mm of any edge and no bubbles form in the zone beyond that edge band, the specimen can still qualify.
- Bubbles that appear beyond 12 mm from the edge, together with cracking beyond that band, indicate a fail.
- Any discoloration after bake must be recorded; discoloration is treated as a fail condition.
- If any one of the three specimens in the set fails, the whole set is judged as fail.

Tech note (public method context): The 12 mm edge allowance reflects a practical recognition that edge zones see the highest moisture and stress gradients; interior bubble-free appearance after bake is the stronger indicator of interlayer heat stability for architectural use.

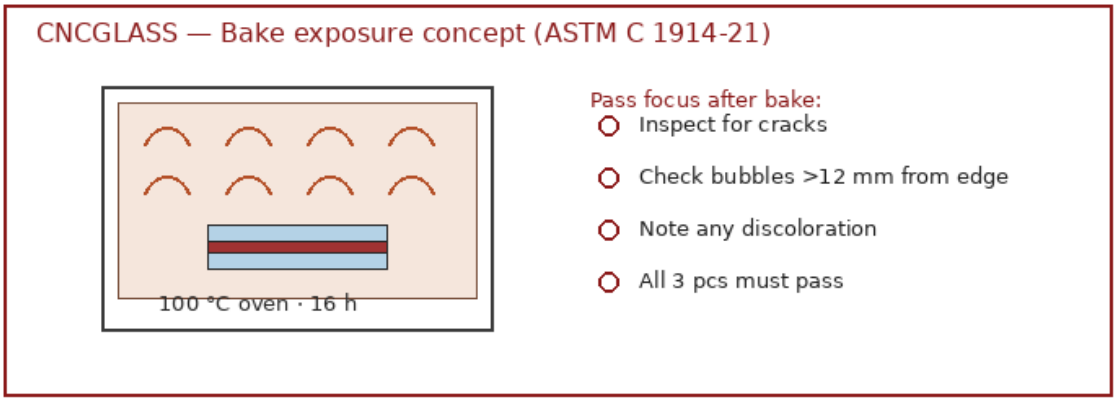


Fig. 2 — Hand sketch of the bake exposure idea and visual pass checks.

CNCGLASS · Observed results

Testing window for this specimen set: early December 2023 (oven work on 6–7 December 2023; samples had been received at the end of November 2023). After the 100 °C / 16 h bake, each of the three specimens showed the same visual outcome:

Specimen	Cracks	Bubbles beyond ~12 mm edge zone	Discoloration / judgment
No. 1	None observed	None observed	None · Complies
No. 2	None observed	None observed	None · Complies
No. 3	None observed	None observed	None · Complies

Set conclusion

Individual-item and overall conclusion: complies. The submitted SGP ionoplast interlayer laminated glass specimens met the ASTM C 1914-21 bake requirements applied in this campaign—no cracks, no bubbles in the critical interior edge zone, and no discoloration on any of the three pieces.

CNCGLASS · What this means for glaziers and buyers

Heat-hold confidence for clear SGP laminates. A clean bake result supports conversations about dry-heat edge stability when CNCGLASS SGP ionoplast interlayer is laminated between clear tempered plies at the thickness shown here.

Edge quality still matters on site. Laboratory coupons are square, glaze-free, and insert-free. Real façades need careful edge finishing, sealant compatibility, and storage discipline so field edges do not introduce moisture paths the coupon never saw.

Specify the full stack, not only the film name. Always write glass thickness, tempering, interlayer gauge (here 0.76 mm), and target overall thickness (here 10.76 mm) into RFQs so bake or boil verification—if required—matches the sold build-up.

Use bake data together with project codes. ASTM C 1914 bake results help demonstrate interlayer heat behavior; they do not replace impact, structural, or local code testing demanded by the building authority.

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