

CNCGLASS

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TECHNICAL NOTE

Properties of EVA Film Glass Laminating Machine

How to Check Key Machine Features Before Purchase or Setup

《EVA 夹层玻璃炉设备性能要点》

By Peter Lin

CNCGLASS · 1. Purpose — What to Check on an EVA Laminating Oven

This checklist merges two overlapping CNC briefings on how to judge an EVA film glass laminating machine before purchase or factory setup. It focuses on beds/layers, heating power and location, circulating-fan uniformity, silicone vacuum bag ports and seal, vacuum pump type and capacity, temperature detector placement, and dual EVA/PVB machine claims — as equipment features that affect outdoor and indoor EVA laminate quality.

Use it as a buyer / setup checklist beside a live machine trial, not as a substitute for your own oven commissioning and outdoor-clear or decorative EVA process validation.

CNCGLASS · 2. Beds / Layers Inside the Machine

- Ask how many beds (layers) the oven provides. Some makers supply a single-bed machine; others offer two or more laminating beds.
- Choose bed count for your glass size mix, daily throughput, and whether outdoor safety and indoor decorative jobs will share the same line.

More beds can raise capacity, but only if heating uniformity, vacuum capacity, and bag integrity keep every layer within process window.

EVA GLASS LAMINATING OVEN BEDS COMPARISON

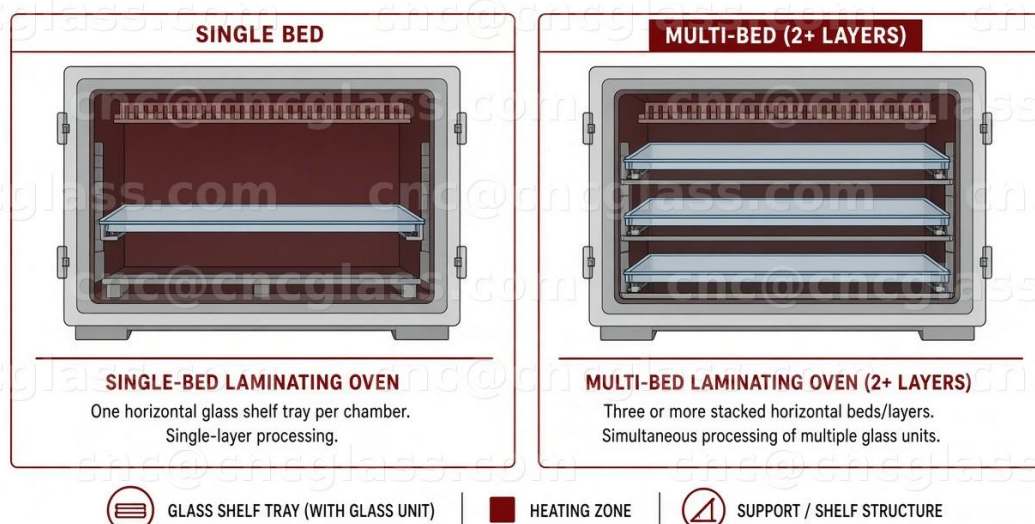


Figure 1 — Single-bed vs multi-bed (2+ layers) EVA glass laminating oven: choose bed count for your capacity and glass size mix.

CNCGLASS · 3. Heating Pipes — Location & Power

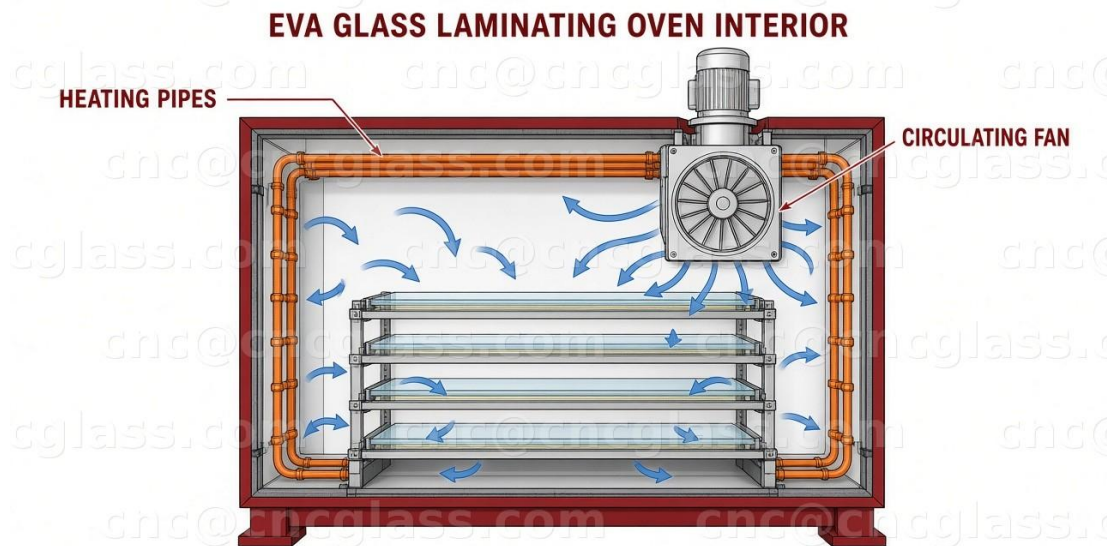
- Confirm where the heating pipes are installed and the rated power per pipe / bank.
- Source typical heating-pipe power cited: **2400 W** (written as 2400 w in the source).
- If heating power is too low for the chamber and bed load, cycle time lengthens and production efficiency drops.
- If heating power is too high or poorly distributed, local overheating makes bubbles more likely in the laminated glass.

Treat 2400 W as a source-typical figure for many small/medium pipe banks — not a universal standard. Match total heat capacity to oven volume, bed count, glass thickness, and outdoor EVA hold requirements; verify with a loaded temperature map.

CNCGLASS · 4. Circulating-Fan Uniform Heating

- Check whether the oven uses well-proportioned circulating-fan heating so chamber air is stirred across beds.

Even airflow helps keep temperature more uniform inside the oven — important for consistent EVA melt and cure across large sheets and multi-bed loads. Avoid treating any single fan layout as automatically “best”; validate with multi-point probes on a loaded cycle.



CLEAN TECHNICAL CUTAWAY – EVEN HEAT DISTRIBUTION VIA CIRCULATING FAN

Figure 2 — Heating pipes and circulating-fan airflow: even chamber temperature supports consistent EVA curing across beds.

CNCGLASS · 5. Silicone Vacuum Bag — Ports & Seal

- Inspect vacuum-hole / port location on the silicone bag and how the bag is sealed during laminating (clamp, zipper, or equivalent).
- Ports must stay open under vacuum (mesh / fabric over holes helps stop the upper sheet from sealing them shut). Perimeter seal leaks are a common root cause of trapped air and edge bubbles.

SILICONE VACUUM BAG FOR GLASS LAMINATING

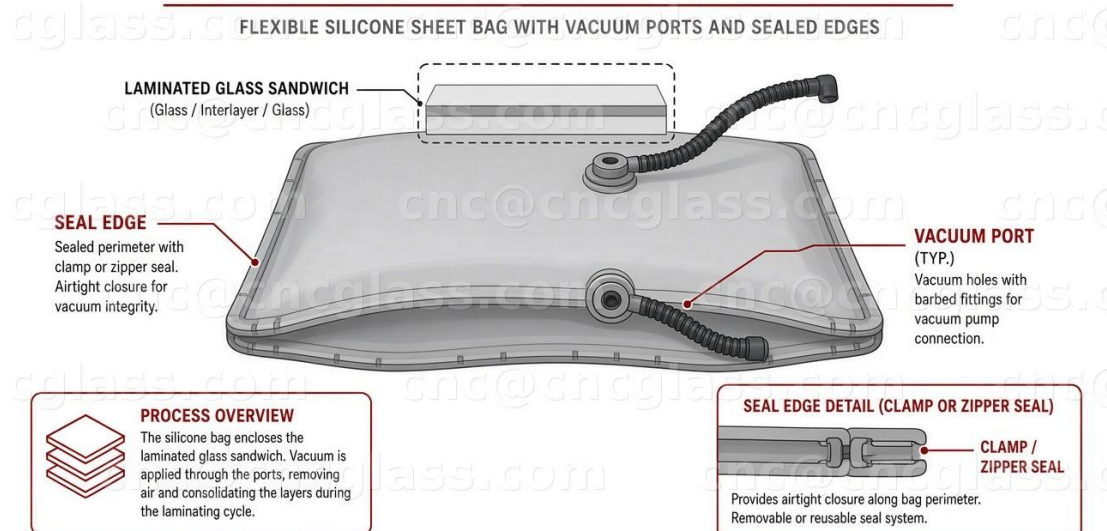


Figure 3 — Silicone vacuum bag: vacuum port location and perimeter seal integrity during laminating.

CNCGLASS · 6. Vacuum Pump — Type & Capacity

- The vacuum system strongly affects whether air remains in the laminate. Common cooling types on laminating pumps: water-cooled and oil-cooled.
 - Confirm that vacuum capacity is high enough for your bag volume, number of beds, and leak-check hold before heat-up.
- For outdoor clear safety EVA, steady deep vacuum through heat and cool-down matters as much as peak nameplate vacuum. Ask for a loaded bag leak test, not only an empty-chamber reading.

CNCGLASS · 7. Temperature Detector Placement

- Ask where the detector is placed: on the silicone-bag surface, or inside the bag near the glass.
- Many machines place the detector on the bag surface. That reading can differ from the real laminated-glass surface temperature.

Silicone-bag heat lag means chamber air or bag-surface readouts are not the same as glass surface temperature — the same caution used in outdoor safety EVA process notes (hold by glass surface, not by air setpoint alone). Calibrate your process with a probe on or in the glass stack when setting outdoor clear or thick decorative builds.

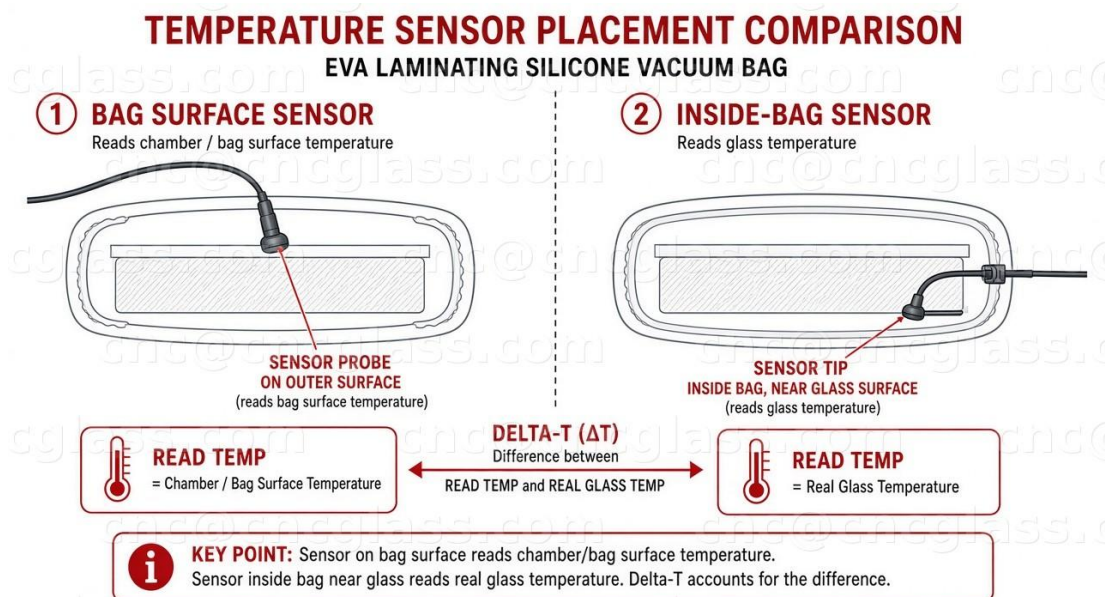


Figure 4 — Temperature detector placement: bag surface vs inside bag near glass — read temperature vs real glass surface ΔT .

CNCGLASS · 8. Dual EVA / PVB Machines (Equipment Claim)

- Some China glass-laminating manufacturers offer machines said to laminate with both EVA film and PVB film on the same equipment.

Treat dual EVA/PVB capability as an equipment-maker claim to verify on trial runs. It does not mean CNC recommends autoclave PVB as the primary route for CNC outdoor EVA customers, nor that every dual machine matches a dedicated outdoor EVA vacuum-bag process window.

Dual EVA+PVB machine = equipment capability claim, not CNC recommending autoclave PVB as primary for outdoor EVA customers.

CNCGLASS · 9. Why These Features Matter for Outdoor / Indoor EVA Quality

- Outdoor clear safety laminates (railings, canopies, facade) show haze and bubbles clearly in daylight — heating uniformity, vacuum integrity, and true glass temperature control are quality gates.
- Indoor decorative / colored builds still need stable vacuum and even heat so inserts, fabrics, and tinted EVA do not trap air or over-cure locally.

- Before acceptance: run a loaded trial with your EVA grade, map temperature across beds, leak-check bags, and keep sample boards for edge and bubble review after cool-down.



Figure 5 — Typical outdoor safety laminate output from a well-set EVA vacuum production line — balcony railing and entrance canopy glazing.

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