



Laminated Safety-Glass Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real laminated safety-glass production line equipment.

approved sample market gate	defined range launch scope	performance test release gate	batch records traceability
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Prepared for investment planning in Afghanistan and regional export markets. Final specifications, pricing, civil works, and utility loads require supplier quotation and site survey.

Executive Summary

Produces laminated safety glass from cleaned flat glass and PVB/EVA interlayers through clean-room assembly, de-airing, vacuum bag or nip-roll treatment, autoclave curing where specified, trimming, optical inspection and protected packing.

Why this project fits Afghanistan

- Confirm an installed sample and applicable performance standard.
- Launch with a defined product family and documented process settings.
- Keep material and release records for each batch.

Sanaatchi delivery scope

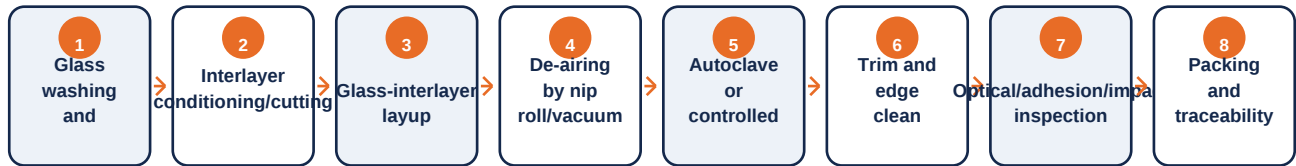
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning
- International logistics, customs documentation, operator training, spare parts, and after-sales support

Recommended configuration

Begin with one qualified glass/interlayer family and the correct clean handling route. Validate adhesion, bubbles, moisture control, optical quality, impact/penetration performance and autoclave recipe with the target standard before commercial supply.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Laminated safety glass	Glass/interlayer thickness, optical quality, edge finish, adhesion, bubble level, impact/penetration performance, UV exposure and safety classification	Façades, windows, skylights, balustrades, security glazing and architectural contractors

Supplier scope, glass compatibility, site utilities and acceptance criteria must be confirmed before purchase.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Glass washer and clean assembly room	Prevents inclusions and contamination	Cleanliness/moisture control
2	Interlayer cutter/layup table	Builds aligned laminate stack	PVB/EVA handling conditions
3	Nip roll or vacuum system	Removes trapped air	Bubble-free prelaminate
4	Autoclave/cure system	Bonds laminate permanently	Pressure/temperature cycle
5	Safety-glass laboratory	Releases laminated product	Optical/adhesion/impact test

Equipment models are indicative and will be matched to the selected capacity, local raw-material tests, available utilities, and preferred automation level.

Reference Equipment Gallery



Made-in-China supplier reference: real laminated safety-glass production line equipment.



Made-in-China supplier reference: second real machine configuration for laminated safety-glass production line.

Images are supplier references for configuration discussion; final equipment appearance and model may differ.

Plant, Raw Materials & Utility Requirements

Raw materials

- Cut flat glass, qualified PVB/EVA interlayers, clean-room consumables, release materials, packaging, edge-trim tools and autoclave seals/spares

Utilities & infrastructure

- Stable industrial power, clean covered glass storage and protected handling routes
- Guarded machinery, glass-breakage procedures, PPE, maintenance plan and critical spares

Quality, safety and environmental controls

- Control clean-room temperature/humidity and interlayer storage before layup
- Check bubble level, edge alignment, optical quality and interlayer adhesion
- Test impact/penetration behaviour and declared safety classification on representative products

A final factory layout must reserve safe forklift routes, maintenance clearances, raw-material segregation, finished-goods storage, fire protection, ventilation, and future expansion space.

Indicative Investment & Implementation Plan

LOW-ENTRY CONFIGURATION

Laminated glass depends on clean interlayer handling and controlled bonding. Visible bubbles or weak adhesion are safety failures, not cosmetic defects.

Component	Indicative range	Notes
Clean-room layup and de-airing	US\$80k-250k	One qualified laminate route
Autoclave, trimming and test systems	US\$150k-500k	Safety/quality scope
Utilities, installation and spares	US\$70k-220k	Material trials included
Indicative total	US\$300k-970k	Building and glass stock excluded

Implementation sequence

Phase 1	2-5 weeks	Confirm product specification, representative raw material, buyer, capacity, site and utilities
Phase 2	3-7 weeks	Run supplier trials with the buyer material and freeze the balanced machine, tooling and utility scope
Phase 3	8-22 weeks	Manufacture or refurbish, inspect, document and ship the contracted equipment
Phase 4	3-12 weeks	Install, commission, train operators and pass material-specific acceptance tests

Ranges are planning targets for a low-cost entry configuration, exclude land, and remain subject to confirmed capacity, supplier quotation, freight, duties, exchange rates and site conditions.

Next Steps & Contact Information

Recommended next steps

- Confirm target products, hourly output, and packaging formats
- Test representative raw materials and document quality requirements
- Complete site survey covering electricity, water, fuel, drainage, roads, and warehouse space
- Request comparable technical and commercial quotations from shortlisted suppliers
- Finalize financing, logistics, installation, training, and spare-parts plan

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Research and image references

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