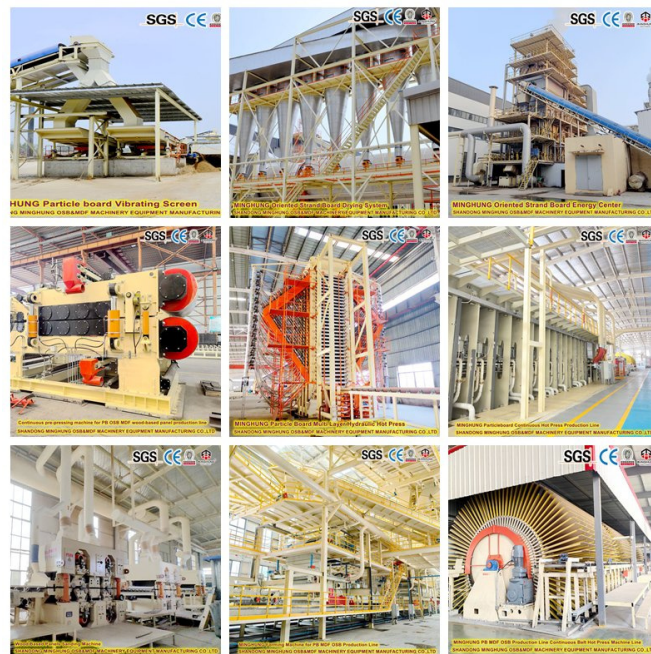




# Plywood & Laminated-Board Factory

Complete Turnkey Business Proposal



Made-in-China supplier reference: real plywood & laminated-board factory equipment.

|                                          |                                           |                                   |                                           |
|------------------------------------------|-------------------------------------------|-----------------------------------|-------------------------------------------|
| <b>bankable study</b><br>investment gate | <b>confirmed feedstock</b><br>supply gate | <b>EPC scope</b><br>delivery gate | <b>quality laboratory</b><br>release gate |
|------------------------------------------|-------------------------------------------|-----------------------------------|-------------------------------------------|

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

Strategic plywood and laminated-board manufacturing that peels or slices verified veneer, dries and grades it, applies adhesive, lays up panels, hot-presses, trims, sands, grades and packs boards for construction, furniture and packaging.

### Why this project fits Afghanistan

- This is a strategic plant, not a low-entry equipment package.
- Bankable feedstock, utility, permit, market, EPC and financing evidence is required before selection.
- Operate only with an independent laboratory, defined quality release and preventive-maintenance program.

### 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

Proceed after confirming legal veneer/log supply, species and recovery trials, adhesive availability, boiler/veneer-drying energy, emissions and fire safety, panel standards, buyer mix and specialist plywood technical support.

## Manufacturing Process & Product Portfolio

### Integrated process flow



### Target products

| Product                      | Typical specification                                                                                                                             | Primary market                                                                                                            |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Plywood and laminated boards | Veneer species, face/back grade, ply count, thickness, glue class, panel size, moisture, sanding quality, structural/decorative grade and packing | Furniture, doors, formwork, construction, vehicle bodies, packaging, cabinet workshops and building-material distributors |

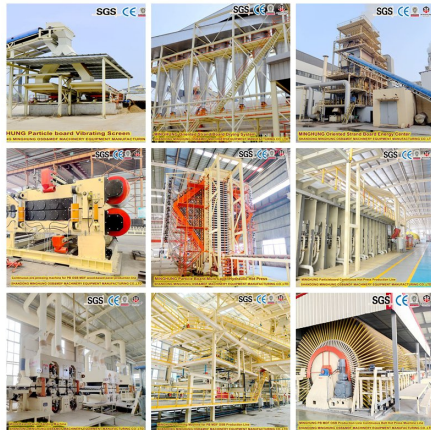
Final capacity, process, resource quality, utilities, permit conditions, emissions, acceptance test and commercial terms require independent engineering review before any order.

## Core Equipment Schedule

| Step | Equipment                           | Function                          | Indicative parameter           |
|------|-------------------------------------|-----------------------------------|--------------------------------|
| 1    | Log conditioning and veneer peeling | Produces controlled veneer sheets | Species and recovery           |
| 2    | Veneer drying/grading/repair        | Prepares usable plies             | Moisture and defects           |
| 3    | Adhesive mixing and lay-up          | Builds panel construction         | Glue class and ply orientation |
| 4    | Hot press and conditioning          | Cures laminated board             | Pressure, time and bond        |
| 5    | Trimming, sanding and final grading | Releases sellable panels          | Thickness and face quality     |

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 plywood & laminated-board factory equipment.



Made-in-China supplier reference: second real machine configuration for plywood & laminated-board factory.

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

## Plant, Raw Materials & Utility Requirements

### Raw materials

- Legally sourced logs or veneer, urea/melamine/phenolic adhesive according to glue class, fillers/hardeners, repair patches, sandpaper, boiler fuel, packaging, water-treatment chemicals and laboratory consumables

### Utilities & infrastructure

- Bankable electricity/fuel/water plans, process cooling and treatment, plant fire safety, laboratory, covered stores and qualified operation team
- Environmental permits, emissions control, waste route, maintenance workshop, critical spares and site-specific safety systems

### Quality, safety and environmental controls

- Validate legal fibre/veneer source, species yield, drying and adhesive trials, boiler energy, fire safety, glue-class standard, buyer panel sizes and cash cycle before procurement
- Control veneer thickness, moisture, defects, adhesive spread, lay-up orientation, press curve, panel thickness, bond, sanding, face grade and moisture conditioning
- Test moisture, thickness, glue-line bond, bending, delamination/boil resistance where specified, face quality, dimensions and packaging protection

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

Plywood economics are driven by veneer recovery, glue quality and a consistent buyer-grade mix. The project must not be based on unverified log supply or only catalogue press capacity.

| Component                                               | Indicative range | Notes                                                     |
|---------------------------------------------------------|------------------|-----------------------------------------------------------|
| Log conditioning, peeling and veneer handling           | US\$18m-65m      | Log size and veneer recovery                              |
| Drying, grading, adhesive, lay-up and presses           | US\$30m-110m     | Glue class and panel output                               |
| Sanding, laboratory, boiler, utilities and installation | US\$15m-55m      | Quality and energy scope                                  |
| Indicative strategic project total                      | US\$63m-230m     | Forest assets, land, finance and working capital 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

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### 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

- solid-engineered-wooden-doors
- modular-kitchen-cabinets