



Integrated Cotton Weaving, Dyeing & Finishing Mill

Complete Turnkey Business Proposal



Made-in-China supplier reference: real integrated cotton weaving, dyeing & finishing mill equipment.

24-48 looms phased weaving screen	1 fabric family controlled launch	100% cotton launch composition	90-180 three-shift workforce
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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

A large strategic textile mill converting approved cotton yarn into one woven cotton-fabric family through yarn receiving, warping, sizing, drawing-in, rapier or air-jet weaving, greige inspection, singeing and desizing where applicable, continuous or batch bleaching/dyeing, washing, stentering, finishing, inspection, testing, rolling and packing. It does not include spinning, printing or garment sewing unless separately engineered.

Why this project fits Afghanistan

- Afghan cotton and regional yarn supply can support higher-value fabric conversion.
- A single fabric construction and finish sharply reduces yarn, dye and quality complexity.
- Wet processing is viable only with engineered water, steam and full effluent treatment.
- Fabric width, shade consistency, shrinkage and colour fastness decide buyer acceptance.

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

Screen one 100% cotton greige-to-finished fabric family first, such as plain dyed shirting or sheeting, with 24-48 looms and a matched wet-processing range. The feasibility study must validate yarn availability, fabric demand, steam, water, effluent treatment, dye-house laboratory, chemical management, finishing quality and off-take. Start with one colour palette and one finish; printing and broad fashion ranges are later phases.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Finished woven cotton shirting or sheeting fabric	Construction, width, mass, shade, tensile/tear strength, shrinkage, pilling, colour fastness, residual chemicals and roll length	Qualified Afghan and regional garment, bedding and uniform buyers

Weaving and wet finishing must be engineered as one quality chain. The EPC bidder must guarantee the nominated fabric construction, loom efficiency, shade process, water/steam use, chemical recovery, effluent load, stenter output and test methods. Acceptance uses nominated yarn and checks fabric construction, width, mass, defects, tensile/tear, skew, shrinkage, pilling, shade, wash/rub/light fastness, residual chemistry and roll inspection.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Warping, sizing and drawing-in preparation	Builds stable warp beams for the selected construction	One yarn and width family
2	Rapier or air-jet weaving looms	Produces controlled greige fabric	24-48 loom screen
3	Greige inspection and repair system	Finds defects before wet processing	Four-point or buyer method
4	Dyeing, washing and stenter range	Applies stable shade and finish	One colour/finish family
5	Textile laboratory, roll inspection and effluent plant	Releases fabric and controls wastewater	Mandatory wet-process scope

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 integrated cotton weaving, dyeing & finishing mill equipment.



Made-in-China supplier reference: second real machine configuration for integrated cotton weaving, dyeing & finishing mill.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Buyer-approved cotton yarn by count, twist, strength and contamination limits
- Validated dyes, auxiliaries, enzymes and finishing chemicals
- Roll cores, protective wrap, labels, cartons and pallets

Utilities & infrastructure

- Stable three-phase electricity with verified connected load
- Guarded machinery, lockout, ventilation and fire protection
- Covered segregated raw-material and finished-goods storage
- Maintenance tools, safe lifting and critical spare parts
- Continuous steam, soft/process water, compressed air and controlled humidity
- Chemical store, automatic dosing, fume capture and full textile-effluent treatment
- Fire-protected yarn/fabric storage and quality laboratory

Quality, safety and environmental controls

- Release yarn by count, strength, contamination and package quality
- Monitor size pickup, loom efficiency, defects and greige construction
- Control dye recipe, liquor ratio, temperature, pH and washing
- Test width, mass, tensile, tear, shrinkage, pilling and skew
- Test shade, wash/rub/light fastness and residual chemicals
- Inspect rolls, metreage, labels and lot traceability

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

The lowest responsible strategic phase makes one cotton construction and finish with complete effluent treatment. Spinning, printing, garment sewing and many colours are separate phases.

Component	Indicative range	Notes
Warping, sizing, preparation and 24-48 looms	US\$2.8m-8m	One cotton construction
Dyeing, washing, stenter and finishing	US\$3m-9m	One colour/finish route
Utility, lab, inspection and effluent systems	US\$2m-6m	Mandatory wet processing
Civil, installation, freight and commissioning	US\$2m-6m	Buyer trials required
Indicative strategic project total	US\$9.8m-29m	Land, yarn stock and finance 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

Sanaatchi Industrial Vision Group

Afghanistan Office: +93 779 819 820 | info@sanaatchi.com

China Office: +86 159 5171 6867 | china@sanaatchi.com

Website: www.sanaatchi.com

Research and image references

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