

Cotton Greige-Fabric Weaving Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real cotton greige-fabric weaving line machinery.

4 looms starter weaving set	180-230 cm screened reed width	160-450 rpm economy rapier range	12-20 entry operators
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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 medium-industrial weaving plant converting released warp and weft cotton yarn into undyed greige fabric through yarn receiving, warp-package creeling, sectional or direct warping, sizing where required, beam drawing-in or tying, shuttleless rapier weaving, loom inspection, mending, fabric inspection, metering, rolling and bale packing. Wet finishing and dyeing are separate projects.

Why this project fits Afghanistan

- Local yarn can be converted into greige cloth for finishers and garment supply chains.
- Rapier looms accept a broader yarn and construction range than a single high-speed specialization.
- One fabric construction lowers warp preparation, reed and inventory complexity.
- Outsourced sizing can reduce wet-process investment at the first stage.

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

Start with one stable plain or twill construction and a contracted greige-fabric buyer. Screen one sectional warper, outsourced sizing initially where practical, four economical 180-230 cm rapier looms, drawing-in tools, compressor, loom humidification and one inspection/rolling machine. Add looms only after warp-break and efficiency data prove the preparation system.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Cotton greige fabric	One buyer-approved weave, width, ends/picks, GSM, tensile, defects and roll length	Dyeing/finishing mills and garment manufacturers
Greige twill expansion	Separate reed, heald, warp and construction plan	Workwear or home-textile finishers after Phase 1

A loom quotation excludes much of the line. Warping quality, sizing recipe, beam dimensions, reeds, healds, drop wires, compressors, humidity and fabric inspection determine performance. Acceptance must use the specified yarn and weave and measure loom efficiency, warp/weft stops, defects, width and GSM.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Yarn creel and sectional warper	Builds controlled warp sections and beams	One launch construction
2	Sizing route	Strengthens warp for weaving where required	Outsource first or install after study
3	Drawing-in and tying tools	Prepares warp through drop wires, healds and reed	Manual entry system
4	Four rapier looms	Insert weft and form greige fabric	180-230 cm selected width
5	Weft accumulators and compressor	Stabilize yarn delivery and pneumatic functions	Matched to loom configuration
6	Humidification and lint extraction	Controls yarn behavior and housekeeping	Room design by yarn trials
7	Fabric inspection and rolling machine	Grades, measures and forms dispatch rolls	Illuminated defect map
8	Weaving laboratory	Checks construction and physical properties	Buyer test methods

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 cotton greige-fabric weaving line machinery.



Made-in-China supplier reference: second real industrial configuration for cotton greige-fabric weaving line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Released cotton warp and weft yarn by count, twist, strength and lot
- Warp beams, weaver beams and buyer-approved paper tubes
- Sizing material only if installed and approved
- Reeds, healds, drop wires, labels, wrap and loom spares

Utilities & infrastructure

- Stable three-phase electricity with transformer, power-quality and motor-starting study
- Central dust or lint extraction with fire-safe collection and housekeeping
- Controlled temperature and humidity suited to the confirmed fibre, yarn or fabric
- Dry covered raw-material and finished-product storage with lot traceability
- Compressed air, process water, steam and wastewater treatment where the selected process requires them

Quality, safety and environmental controls

- Verify yarn count, strength, twist, evenness and package condition
- Control warp length, tension, section build and sizing pickup
- Record loom efficiency and warp/weft stops by machine
- Inspect ends/picks, weave, width, GSM, bow/skew and defects
- Test tensile, tear and shrinkage route with the finishing buyer
- Grade every roll and maintain yarn-to-fabric 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

Lowest entry weaves one construction on four economy rapier looms and outsources warp sizing. Wet finishing, dyeing, building and yarn working stock are excluded.

Component	Indicative range	Notes
Sectional warper and beam handling	US\$35k-90k	One construction launch
Four economy rapier looms	US\$45k-130k	Price varies greatly by speed and width
Inspection, compressor and humidification	US\$20k-55k	Essential support systems
Electrical, installation, freight and spares	US\$35k-90k	Reeds and loom wear parts
Indicative installed project total	US\$135k-365k	Sizing plant, building and yarn excluded

Implementation sequence

Phase 1	3-6 weeks	Confirm product, buyer specification, feedstock, capacity, site and utility basis
Phase 2	3-8 weeks	Run representative material and product trials and freeze the complete equipment list
Phase 3	8-24 weeks	Manufacture or refurbish, inspect and ship the approved equipment scope
Phase 4	4-16 weeks	Install, commission, train and pass contracted performance and quality 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

- <https://lenado.en.made-in-china.com/product/cSVEdBNUrRz/China-Shuttleless-Cotton-Fabric-Making-Machine-Rapier-Loom-with-Quality-Part.html>
- <https://qdtongda.en.made-in-china.com/product/LTzpbNICnXcP/China-Tongda-Flax-Linen-Cotton-Viscose-Fabric-Rapier-Loom.html>