



Integrated Cotton Spinning Mill

Complete Turnkey Business Proposal



Made-in-China supplier reference: real integrated cotton spinning mill equipment.

10k-25k spindles phased entry screen	Ne 20/1 one carded count example	1 cotton class controlled feed	110-210 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 mill converting classed Afghan ginned cotton into one ring-spun yarn count through bale laydown and blending, blowroom opening and cleaning, carding, draw-frame passages, optional combing for the selected quality, simplex roving, ring spinning, automatic winding, humidification, waste recovery, yarn testing, conditioning and packing. A ring frame by itself is not an integrated spinning mill; cotton ginning remains a separate upstream operation.

Why this project fits Afghanistan

- Afghan cotton can retain substantially more value when cleaned, spun and sold to defined yarn specifications.
- One carded count reduces fibre, drafting, twist and inventory complexity at launch.
- Humidification, cotton quality, contamination control and power stability decide spinning performance.
- A mill needs buyer-approved yarn trials and professional maintenance, not simply a low machine price.

Sanaatchi delivery scope

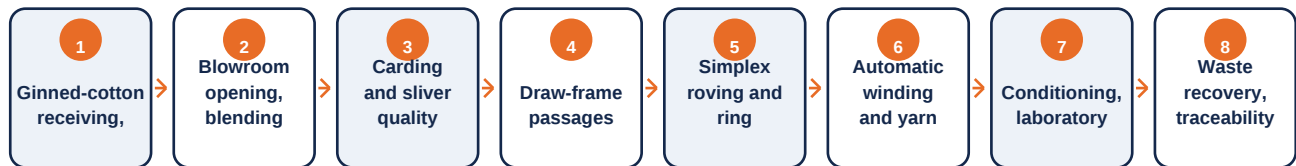
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

Screen a phased 10,000-25,000 spindle carded-yarn mill before committing to a larger plant. Begin with one commercially proven count such as Ne 20/1, independently tested ginned cotton, coherent blowroom-to-winder equipment, humidification, standby-power plan, cotton/yarn laboratory, fire-protected bale store and confirmed yarn offtake. Add combing, finer counts and weaving only after stable carded-yarn trials and buyer demand.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Carded ring-spun cotton yarn	Declared count, twist, strength, elongation, evenness, hairiness, contamination, package build and moisture regain	Qualified Afghan and regional knit, weaving and sewing-thread buyers

Spinning capacity must be quoted by count, cotton properties, spindle speed, efficiency and waste-not spindle count alone. The supplier must trial representative ginned cotton and declare HVI/AFIS limits, trash and short-fibre management, power, humidification, maintenance spares and quality guarantee. Acceptance measures cotton class, waste, sliver/yarn evenness, count, twist, strength, elongation, thick/thin places, neps, hairiness, contamination, package quality and downstream knitting or weaving performance.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Bale laydown, blowroom and cleaning train	Blends and removes trash from classed cotton	One controlled cotton class
2	Carding and draw-frame system	Forms and levels spinning sliver	Count-specific preparation
3	Optional combing and simplex roving	Improves selected quality and prepares roving	Only if buyer quality requires
4	Ring frames and automatic winders	Spins and clears the agreed yarn count	10k-25k spindle screen
5	Humidification, waste recovery and yarn laboratory	Controls fibre behaviour, safety and buyer release	Three-shift continuous duty

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 spinning mill equipment.



Made-in-China supplier reference: second real machine configuration for integrated cotton spinning mill.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Classed ginned Afghan cotton with independent HVI/AFIS results
- Cones, labels, cartons, pallets and required spinning consumables
- Card clothing, cots, aprons, rings, travellers and critical electrical spares

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
- Engineered humidification, cotton-dust extraction and fire-protected bale/yarn storage
- Stable high-quality electricity, backup generation and compressed air
- Professional maintenance workshop, cotton/yarn laboratory and trained three-shift team

Quality, safety and environmental controls

- Class cotton for micronaire, length, strength, trash, colour, moisture and contamination
- Record bale mix, blowroom waste and carding settings
- Control sliver evenness, roving count and ring-frame parameters
- Test yarn count, twist, strength, elongation, evenness and hairiness
- Inspect contamination, package build, moisture and lot traceability
- Approve knitting or weaving trials with nominated buyers

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 credible strategic mill makes one carded yarn count from classed ginned cotton. Combing, fine counts, weaving, land, ginning and working-capital inventory are separate phases.

Component	Indicative range	Notes
Bale handling, blowroom, carding and drawing	US\$2.5m-6m	Phased 10k-25k spindle basis
Roving, ring spinning and winding	US\$4m-11m	One carded yarn count
Humidity, waste, laboratory and fire systems	US\$1.2m-3.5m	Continuous mill support
Civil, electrical, freight, installation and commissioning	US\$2.5m-7m	Professional mill setup
Indicative strategic project total	US\$10.2m-27.5m	Land, working capital and ginning 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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