



White-Cement Manufacturing Plant

Complete Turnkey Business Proposal



Made-in-China supplier reference: real white-cement manufacturing plant equipment.

confirmed scope investment gate	representative trial acceptance	site-ready implementation	quality record 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

A strategic white-cement plant processing high-purity limestone, kaolin/clay, gypsum and controlled fuels through raw-material beneficiation, controlled raw meal, low-iron clinkerisation, cooling, grinding, quality laboratory, packing and emission systems.

Why this project fits Afghanistan

- Confirm the precise customer product, target machine or plant flow before procurement.
- Approve representative trials, measured outputs and critical safety/quality requirements before release.
- Document specifications, operating settings, inspections and maintenance responsibilities.

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 only after geological and chemical evidence confirms long-term low-iron raw materials and a bankable market/off-take plan. White cement requires much tighter impurity, kiln atmosphere, refractory, fuel, cooling, grinding and product-colour control than ordinary grey cement.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
White cement	Named national/international standard, whiteness index, clinker chemistry, strength class, setting, fineness, bag weight and market-specific colour requirement	Architectural precast, terrazzo, tile adhesive, grout, decorative products, facade contractors and regional building-material markets

Supplier scope, source materials, utility loads, acceptance test, installation, spare parts and operating responsibility must be confirmed before purchase.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	High-purity raw-material preparation	Controls low-iron feed	Chemistry and traceability
2	Raw meal/grinding system	Creates homogeneous kiln feed	Fineness and impurity
3	White-clinker kiln line	Forms low-colour clinker	Temperature/atmosphere
4	Cooling, grinding and silos	Preserves colour and fineness	Whiteness and residue
5	Laboratory/packing/emissions system	Releases compliant product	Strength, colour and dust

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 white-cement manufacturing plant equipment.



Made-in-China supplier reference: second real machine configuration for white-cement manufacturing plant.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Verified low-iron limestone, kaolin/clay and gypsum, approved corrective materials, fuels, refractories, grinding media, bags, laboratory reagents and critical kiln spares

Utilities & infrastructure

- Stable three-phase electricity, protected material/finished-product storage, calibrated quality-control instruments and appropriate process ventilation
- Documented maintenance, critical spares, site safety procedures and product-specific environmental controls

Quality, safety and environmental controls

- Complete raw-material drilling, chemistry, reserves, process design, off-take, permits, water/power/fuel and experienced EPC diligence before commitment
- Control Fe_2O_3 and trace impurities, raw-meal homogeneity, kiln atmosphere, clinker cooling, contamination, grinding, whiteness, strength and pack segregation
- Use an accredited laboratory for chemistry, whiteness, strength, setting, soundness and fineness; monitor continuous emissions and product 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

White cement is not grey cement with a different bag. It is viable only where low-iron raw materials, colour control, fuel, laboratory capability and premium off-take are proven.

Component	Indicative range	Notes
Quarry/raw preparation and low-iron raw meal	US\$20m-65m	Deposit and beneficiation dependent
White-clinker kiln, cooling and emission control	US\$45m-140m	Core strategic process
Grinding, packing, laboratory and utilities	US\$15m-50m	Quality and dispatch scope
Indicative strategic project total	US\$80m-255m	Land, mine development, 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

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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