

School & Construction Chalk Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real school & construction chalk production line equipment.

8,000-12,000 pcs/h moulder basis	1 white recipe controlled launch	2-4 moulds entry machine	4-7 entry 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 micro/workshop moulding line producing one school-writing chalk or one construction-marking chalk recipe from qualified Afghan gypsum or calcium carbonate through fine screening, controlled dry dosing, low-shear mixing with water and approved binder, vacuum de-airing where needed, multi-cavity mould filling, setting, assisted demoulding, rack drying, trimming, breakage/dust/writing tests and box packing. The two uses require separate recipes and labels.

Why this project fits Afghanistan

- Afghan gypsum and calcium-carbonate resources can support local chalk conversion.
- A moulding workshop has low power and modest space needs.
- Schools and construction trades offer separate repeat markets.
- Breakage, writing feel, dust and ingredient safety matter more than headline piece count.

Sanaatchi delivery scope

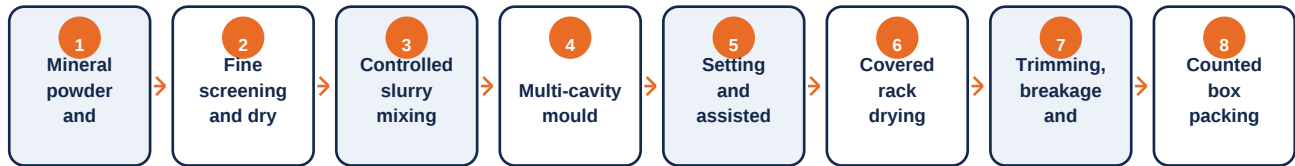
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

Launch one white school chalk recipe with a two- or four-mould rotary machine, small screened powder hopper, mixer, controlled water dosing, demould tray, covered drying racks, edge-finishing screen and simple packing. Validate low dust, smooth writing and safe ingredient limits; do not call ordinary gypsum sticks dustless without measured tests.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
White school-writing chalk	Dimensions, mass, whiteness, strength, writing smoothness, erasing, dust generation, moisture and ingredient limits	Afghan schools, training centres and stationery distributors

School chalk and construction marking chalk are not automatically the same product. Supplier acceptance measures mould cycle, fill consistency, demould damage and true output after rejects. Product testing covers dimensions, piece mass, moisture, drop/break strength, board marking, erasing, hand feel, measurable dust generation, colour transfer and restricted metals or additives.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Fine powder screen and weighing bench	Controls mineral feed and recipe	One white grade
2	Small slurry mixer and water doser	Creates repeatable mould feed	Batch controlled
3	Rotary two- or four-mould chalk machine	Fills, sets and demoulds sticks	8,000-12,000 pcs/h
4	Demould trays and covered drying racks	Cures chalk without contamination	Weather-protected
5	Edge-finishing and counting tools	Removes flash and controls pack count	Guarded dust extraction
6	Chalk test and box-packing station	Releases writing performance	Retained lot sample

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 school & construction chalk production line equipment.



Made-in-China supplier reference: second real machine configuration for school & construction chalk production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Qualified fine gypsum or calcium-carbonate powder
- Clean water and a validated low-dose binder system
- Approved pigment only for a separately tested coloured grade
- Printed small boxes, master cartons and labels

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
- Dry covered curing room or low-temperature dryer
- Local extraction at powder screening and finishing
- Cleanable food-free workshop with handwashing

Quality, safety and environmental controls

- Test mineral identity, whiteness, fineness and moisture
- Control powder, water and binder dose
- Record mould cycle and demould rejects
- Verify dimensions, mass, dryness and break strength
- Test writing, erasing and measurable dust
- Check count, label, code and carton drop performance

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 entry is one white school-chalk recipe with natural rack drying. Coloured, construction and certified low-dust grades are separate developments.

Component	Indicative range	Notes
Screen, mixer and water dosing	US\$2k-6k	One recipe
Two- or four-mould machine and racks	US\$4k-12k	Covered drying
Finishing, test and packing tools	US\$2k-6k	Manual entry
Freight, setup and spare moulds	US\$2k-5k	Pilot batches
Indicative installed low-entry total	US\$10k-29k	Building and raw stock 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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