

Tile-Adhesive Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real tile-adhesive production line equipment.

1-2 t/h screened starter output	20-25 kg launch bag size	1 formula initial adhesive	6-10 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 small/medium specialty dry-mix line producing cementitious tile adhesive from released dry graded sand, cement, calcium-carbonate filler and precisely dosed redispersible polymer, cellulose ether and approved functional additives. The process includes dry storage, calibrated major and micro batching, high-uniformity low-shear mixing, finished buffering, dust-controlled valve-bag filling, coding, palletizing, retention samples, bond-performance testing and dry storage. It does not produce liquid or epoxy adhesive.

Why this project fits Afghanistan

- Local sand, cement and filler can supply most of the product mass.
- Factory dosing makes polymer and cellulose additions more consistent than site-mixed bonding mortar.
- One tile/substrate claim keeps validation and warranty exposure controlled.
- Adhesion claims require laboratory and field evidence; the machine supplier cannot provide the final formula guarantee.

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 economy cementitious adhesive for one common ceramic tile and substrate, formulated by a qualified dry-mix technologist. Screen a 1-2 t/h cell with sand/cement/filler scales, a locked 1-20 kg micro-dosing booth, 1,000 L ribbon mixer, finished bin, dust collector, 20-25 kg valve packer and a laboratory capable of open time, slip, tensile adhesion and water/heat conditioning. Imported additives must be budgeted as working capital.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Economy cementitious tile adhesive	Defined tile and substrate, water demand, pot life, open time, slip and tensile adhesion before/after conditioning	Residential ceramic-tile installers and distributors
Improved adhesive expansion	Separate polymer level, tile size and conditioning tests	Only after laboratory and site validation

Tile-adhesive performance depends on sand distribution, cement, polymer, cellulose ether, water dosage, tile absorption, substrate preparation and curing. Acceptance uses the final formula and named tile/substrate and measures batching accuracy, mixer uniformity, density, water demand, pot life, open time, slip and tensile adhesion after standard, water, heat and other contracted conditioning.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Dry sand/cement/filler scales	Meters major ingredients accurately	Recipe-specific batching
2	Locked micro-additive booth	Controls expensive low-dose polymer and cellulose	1-20 kg calibrated range
3	Low-shear ribbon mixer	Distributes powders without damaging additives	1,000 L entry batch
4	Enclosed screw/elevator transfer	Moves mix with low segregation	Dust-contained route
5	Finished-product buffer bin	Feeds packer consistently	Anti-bridging design
6	Pulse dust collector	Contains cement, silica and polymer dust	Dosing/mixing/packing extraction
7	Valve packer and check scale	Fills 20-25 kg adhesive bags	Recorded net weight
8	Tile-adhesive laboratory	Tests application and tensile adhesion	Named standards and conditioning

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 tile-adhesive production line equipment.



Made-in-China supplier reference: second real machine configuration for tile-adhesive production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Dry graded low-clay sand, released cement and calcium-carbonate filler
- Qualified redispersible polymer powder and cellulose ether
- Only formulation-approved starch ether, defoamer or other additives
- Moisture-barrier valve bags, pallets, wrap, labels and mixer/filter spares

Utilities & infrastructure

- Dry humidity-controlled ingredients and finished-goods warehouse
- Stable three-phase power and compressed air
- Dust extraction and respirable-silica protection
- Laboratory mixing, tile/substrate conditioning and tensile-pull equipment
- Secure temperature-controlled storage for costly imported additives

Quality, safety and environmental controls

- Release every sand, cement, filler and additive lot
- Dual-check micro-additive weights and lot numbers
- Control charge sequence, mixer fill, time and residue
- Verify batch uniformity and bag weight
- Test pot life, open time, slip and tensile adhesion
- Retain samples and investigate every field complaint by batch

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 cell buys dry graded sand, makes one tested economy adhesive and retains micro-dosing and bond laboratory controls. Sand dryer, building, imported additives and working capital are excluded.

Component	Indicative range	Notes
Major/micro batching and 1,000 L mixer	US\$13k-32k	One formula basis
Buffer, dust collection and valve packer	US\$8k-20k	20-25 kg bags
Adhesion laboratory and utilities	US\$7k-18k	Essential product validation
Freight, installation, formula trials and spares	US\$7k-18k	Dry-sand input basis
Indicative installed low-entry total	US\$35k-88k	Building, additives 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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