

Brick Making Production Line

Complete Turnkey Business Proposal



Automatic interlocking clay-brick press reference

4,500-8,000 bricks per shift	3-5 core operators	7.5-25 kW forming section
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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

This proposal outlines a modular automatic brick production plant for interlocking compressed-earth blocks or fired clay bricks. The recommended first phase emphasizes locally available soil, clay, sand and cement, controlled dosing, hydraulic forming, low labor demand and replaceable molds. A fired-clay configuration can be added where market volume and fuel economics justify dryers and a tunnel kiln.

Why this project fits Afghanistan

- Rapid housing and commercial construction creates recurring demand for walling units.
- Local soil and aggregates can reduce dependence on imported finished materials after laboratory validation.
- Interlocking products can reduce mortar use and accelerate construction.
- Replaceable molds allow hollow, solid, paver and interlocking formats from one production base.

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

Automatic hydraulic interlocking-brick line with mixer, conveyor, 16 MPa press, interchangeable molds and palletized curing; designed around 4,500-8,000 pieces per 8-hour shift.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Interlocking soil block	Typical 300 x 150 x 100 mm	Housing and boundary walls
Hollow masonry block	Custom mold and wall thickness	Residential and commercial
Solid clay brick	Fired option with dryer and kiln	General construction
Paving block	Colored or natural finish	Roads, yards and landscaping

Representative soil must be screened for clay fraction, plasticity, moisture and compressive-strength behavior. For compressed-earth products, cement commonly acts as a stabilizer and curing replaces firing. Fired-clay projects require a separate dryer, kiln, emission-control study and significantly larger capital envelope.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Soil crusher and screen	Break lumps and control feed size	Matched to local soil
2	Aggregate bins	Store and proportion soil, sand and stabilizer	2-4 compartments
3	Pan or twin-shaft mixer	Homogenize dry ingredients and water	JQ350 class or larger
4	Belt conveyor	Transfer prepared mix	Variable speed
5	Hydraulic brick press	Compact material in replaceable molds	16 MPa; 7-10 s cycle
6	Mold sets	Create selected brick geometries	Hardened replaceable tooling
7	Pallet conveyor	Move green bricks without deformation	Automatic indexing
8	Curing area	Maintain moisture for stabilized products	7-28 day plan
9	Stacking system	Handle cured bricks	Manual or robotic
10	QC equipment	Check dimensions and compression	Scale, caliper, compression tester

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



Automatic interlocking clay-brick press reference



Hydraulic forming equipment and feed system



Finished-product and mold configuration reference

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Tested clay or lateritic soil
- Sand or stone fines as formulation requires
- Portland cement for stabilized blocks
- Clean process water
- Pigments and additives for specialty products

Utilities & infrastructure

- Three-phase power sized after equipment selection
- Process and curing water storage
- Covered raw-material preparation area
- Level production floor and forklift access
- Dust extraction at crushing and screening

Quality, safety and environmental controls

- Incoming soil grading, moisture and plasticity checks
- Batch records for water and stabilizer ratios
- Dimensional and visual checks each production lot
- Compressive-strength testing after defined curing ages
- Machine guarding, lockout and dust-control procedures

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

Afghanistan entry case: economical Chinese equipment, locally fabricated noncritical items, local civil works and labor, phased automation, and land excluded. Optional automation can be added after sales are established.

Component	Indicative range	Notes
Core machinery	US\$12k-45k	Entry Chinese mixer, press, molds and basic conveyors
Local civil works and utilities	US\$8k-25k	Simple local shed, floor, wiring and curing area
Freight, installation, training	US\$8k-25k	Containerized equipment and remote support where practical
Working capital	US\$8k-20k	Materials, pallets, labor, testing and launch stock
Low-entry project total	US\$36k-115k	Land excluded; manual handling can reduce the starting cost

Implementation sequence

Phase 1	2-4 weeks	Soil tests, capacity definition and supplier comparison
Phase 2	4-8 weeks	Commercial agreement, layout and utility engineering
Phase 3	6-12 weeks	Machine manufacture and civil preparation
Phase 4	3-6 weeks	Shipping and customs clearance
Phase 5	2-4 weeks	Installation, trials, training and market launch

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

- Made-in-China - Shandong Henry HR2-10 automatic interlocking clay brick line: <https://brickmachine.en.made-in-china.com/product/VXDQgedKXaUP/>
- Made-in-China - Shandong Weida QTC2-10 clay brick line: <https://wedamachine.en.made-in-china.com/product/IBiQCNVcfKRP/>