

Rock-Wool Insulation Factory

Complete Turnkey Business Proposal



Made-in-China supplier reference: real rock-wool insulation factory equipment.

1 density/size controlled launch	5-15 t/day rock melt screen	fibreised insulation method	70-140 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 strategic insulation plant melting tested basalt/rock and approved additives, then fibreising, applying binder, collecting and curing fibres, cutting boards or rolls, facing where specified, packing and releasing density, thickness and thermal-performance grades.

Why this project fits Afghanistan

- Local basalt may support insulation fibre after chemistry and melt trials.
- Melt stability, fibre quality and binder curing govern thermal and fire performance.
- Furnace gases, dust and binder emissions need engineered controls.

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 one board or roll density/size first only after validating basalt chemistry, furnace energy, fibreising controls, binder emissions treatment, dust collection, curing oven, fire testing and construction-buyer demand.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Rock-wool boards or rolls	Density, thickness, thermal conductivity, compressive strength, water absorption and fire classification	Afghan construction contractors, HVAC suppliers and insulation distributors

Selection requires a site-specific feasibility study, representative material trials and documented acceptance testing for this exact line.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Rock preparation and melt furnace	Prepares molten mineral feed	Tested basalt chemistry
2	Fibreiser and collection chamber	Creates mineral wool fibre mat	Controlled fibre diameter
3	Curing oven, cutter and facing line	Sets and sizes insulation	One board/roll family
4	Emission treatment and laboratory	Protects environment and verifies grade	Dust/binder/fire testing

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 rock-wool insulation factory equipment.



Made-in-China supplier reference: second real machine configuration for rock-wool insulation factory.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Tested basalt/rock, approved binder, oils, facings and packaging
- Furnace refractories and spare fibreising components

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
- High-temperature fuel/electric furnace, cooling water, compressed air and powerful dust extraction
- Binder-emission treatment, fibre collection, hot-zone guarding and fire protection

Quality, safety and environmental controls

- Test rock chemistry and melt consistency
- Control fibre diameter, binder dosage, oven cure and board density
- Verify thickness, thermal conductivity, water absorption, compressive strength and fire class

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

This is a controlled high-temperature, emission-managed plant; a single insulation grade is the only responsible entry configuration.

Component	Indicative range	Notes
Rock preparation, furnace and fibreising	US\$6m-15m	One insulation family
Collection, curing, cutting and packing	US\$4m-10m	Board/roll forming scope
Emission controls, utilities and installation	US\$5m-12m	Environmental core
Indicative strategic project total	US\$15m-37m	Land, fuel reserve 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

- <https://www.alibaba.com/showroom/rock-wool-production-line.html>
- https://www.made-in-china.com/products-search/hot-china-products/Rock_Wool_Production_Line.html