

Waste-Tire Rubber-Crumb Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real waste-tire rubber-crumb production line equipment.

300-500 kg/h entry tire feed	1-4 mm launch crumb grade	2 products crumb plus steel	12-18 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 medium industrial ambient tire-recycling line converting controlled passenger and truck tires into clean graded rubber crumb, recovered steel and separated textile through receiving and fire-safe storage, bead removal or primary cutting, low-speed shredding, rasping and steel liberation, magnetic separation, granulation, fibre air separation, screening and recirculation, dust collection, bagging and purity, size, moisture and bulk-density tests.

Why this project fits Afghanistan

- Waste tires are a visible local environmental and fire hazard.
- Recovered steel and crumb create two saleable streams.
- A 1-4 mm grade can supply a separate rubber-tile plant after qualification.
- Buyer purity and size specifications must be secured before machinery selection.

Sanaatchi delivery scope

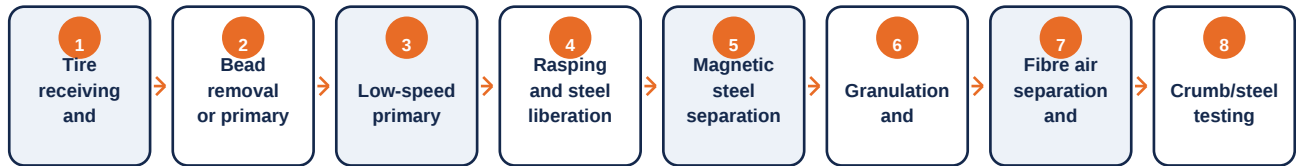
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

Launch a 300-500 kg/h ambient line producing one 1-4 mm crumb grade from passenger and light-truck tires, with pre-shred inspection, shredder, rasper, granulator, multi-stage magnets, fibre classifier, screens, return loop and dust/fire controls. Confirm a tile, sports-surface or modifier buyer before purchase. Pyrolysis, devulcanization and OTR tire processing are separate projects.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Clean tire-derived rubber crumb	1-4 mm distribution, steel and textile contamination, moisture, bulk density, rubber content and packaging	Rubber tile and approved surface-product manufacturers
Recovered tire steel	Buyer-defined rubber contamination and bale/container format	Licensed steel recyclers

Headline throughput varies with tire type, bead removal, feed size and final mesh. Acceptance processes a weighed mixed lot and reconciles crumb, steel, textile, dust and loss. It verifies rate, kWh/t, blade wear, size distribution, moisture, bulk density and steel/fibre contamination. Tire storage, hot-work control, spark detection, dust extraction and fire-water separation are core plant scope.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Bead remover/cutter and infeed	Prepares safe controlled tire feed	Passenger/light truck
2	Low-speed twin-shaft shredder	Reduces whole tires to chips	300-500 kg/h
3	Rasper and magnetic separators	Liberates and removes steel	Multi-stage magnets
4	Granulator and return loop	Produces 1-4 mm crumb	Screen controlled
5	Fibre classifier and dust collection	Removes textile and airborne fines	Fire-safe system
6	Crumb laboratory and packing	Releases purity and size	Buyer protocol

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 waste-tire rubber-crumb production line equipment.



Made-in-China supplier reference: second real machine configuration for waste-tire rubber-crumb production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Controlled passenger and light-truck waste tires
- Bags, liners, labels and steel collection containers
- Replacement knives, screens, magnets, bearings and dust filters

Utilities & infrastructure

- Stable three-phase electricity with verified connected load
- Ventilation, fire protection, guarded drives and lockout procedures
- Dry segregated raw-material and finished-goods storage
- Maintenance workshop, lifting tools and critical spares
- Isolated fire-zoned tire yard with drainage and firefighting water
- Central dust extraction, spark control and housekeeping
- Licensed route for textile fluff, dust and nonconforming waste

Quality, safety and environmental controls

- Weigh and classify every tire lot
- Reconcile crumb, steel, fibre, dust and process loss
- Measure throughput, energy and blade wear
- Sieve crumb and measure moisture/bulk density
- Test steel and textile contamination
- Inspect fire/dust controls and trace all outputs

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

A small line is still an industrial recycling plant with steel/fibre separation, dust and fire systems. A standalone tire shredder is not a clean crumb production line.

Component	Indicative range	Notes
Cutting, shredder and conveyors	US\$75k-165k	300-500 kg/h entry
Rasper, magnets, granulator and screens	US\$95k-230k	1-4 mm route
Fibre/dust, fire and laboratory systems	US\$45k-125k	Mandatory controls
Freight, installation and spares	US\$55k-140k	Knife/screen package
Indicative installed project total	US\$270k-660k	Land, building and tire inventory 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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