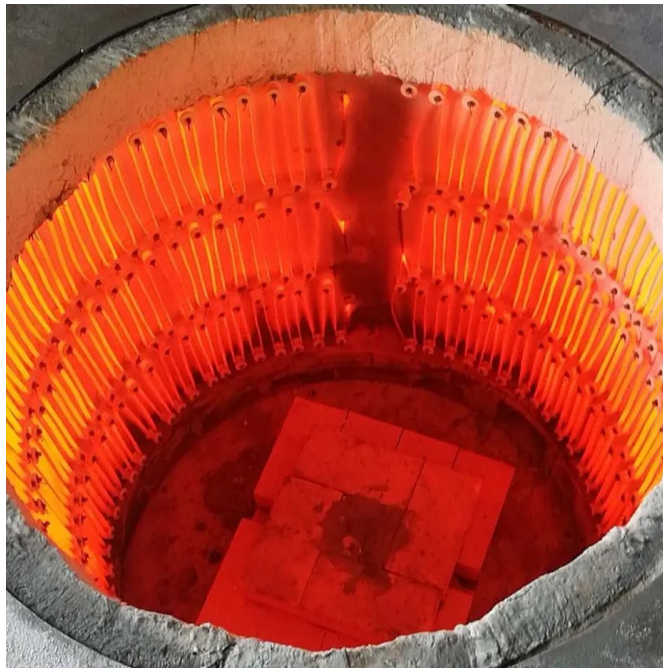


Annealed Binding-Wire Production Line

Complete Turnkey Business Proposal



Made-in-China supplier reference: real annealed binding-wire production line equipment.

1.0-1.6 mm starter wire range	1 recipe launch anneal cycle	8-20 h batch heat/cool basis	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 heat-treatment and converting line producing soft black binding wire from purchased hard-drawn low-carbon wire through coil receiving and chemistry/diameter inspection, controlled recoiling into furnace-compatible carriers, batch loading, oxygen-limited pot or bell annealing, programmed heating/soak/cooling, unloading and oxide inspection, tensile/elongation and bend testing, rewinding into merchant coils or cutting into tie bundles, weighing, packing and lot traceability. Drawing wire rod, pickling and galvanizing are separate upstream scopes.

Why this project fits Afghanistan

- Construction crews need soft, consistent wire for tying reinforcement without brittle breaks.
- Buying hard-drawn wire avoids a high-power drawing/descaling line at entry.
- Batch annealing can serve one diameter while local demand and furnace utilization are proven.
- Annealing atmosphere, temperature uniformity and controlled cooling govern softness and scale.

Sanaatchi delivery scope

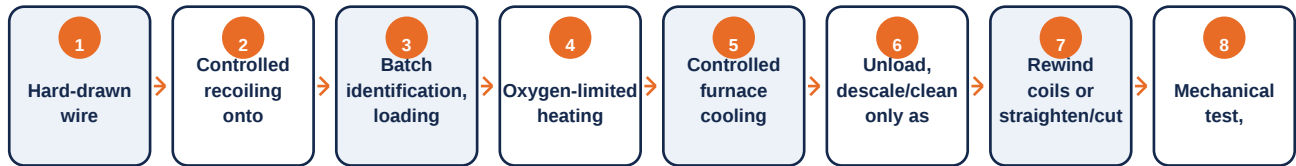
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

Recommended configuration

For the lowest credible entry, buy hard-drawn SAE1006/1008-class wire at one diameter, typically 1.0-1.6 mm, and install one supported oxygen-limited batch pot/bell furnace with furnace carriers, controlled thermocouples and recorded recipes, plus recoiler, merchant-coil rewinder or straight-cut/bundle cell and tensile/elongation tools. Do not buy a complete 5.5-8 mm wire-rod drawing line until scale, descaling and several hundred kilowatts of power are justified.

Manufacturing Process & Product Portfolio

Integrated process flow



Target products

Product	Typical specification	Primary market
Black annealed binding-wire coil	One diameter, tensile-strength range, elongation, bend softness, coil mass, surface/scale and oil limits	Rebar contractors and building-material merchants
Pre-cut tie-wire bundle	Same released wire cut to one buyer length with count/mass and safe ends	Construction crews seeking ready-to-use ties

Annealed wire is a heat-treated product, not merely black wire. Supplier trials must use the contracted hard-drawn chemistry and coil geometry. Acceptance maps furnace temperature, atmosphere/oxygen control, soak and cooling; then tests diameter, tensile strength, elongation, reverse bend, wrap, surface scale, decarburization where relevant, coil memory, break rate and tying performance. Furnace combustion gases and hot loads require engineered controls.

Core Equipment Schedule

Step	Equipment	Function	Indicative parameter
1	Input/recoiling machine and furnace carriers	Builds uniform furnace-compatible coils	One wire diameter
2	Batch pot or bell annealing furnace	Softens drawn wire under controlled atmosphere	Recorded heat/soak/cool cycle
3	Burner/electric controls and thermocouples	Controls temperature and atmosphere	Mapped furnace uniformity
4	Cooling and safe load-handling system	Prevents uncontrolled oxidation and burns	Rated carriers/lift
5	Merchant-coil rewinder or cut/bundle cell	Forms buyer packages	One launch format
6	Wire mechanical laboratory	Tests tensile, elongation, bend and wrap	Calibrated buyer method

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 annealed binding-wire production line equipment.



Made-in-China supplier reference: second real machine configuration for annealed binding-wire production line.

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

Plant, Raw Materials & Utility Requirements

Raw materials

- Purchased hard-drawn low-carbon steel wire by chemistry and diameter
- Protective atmosphere or controlled combustion fuel as furnace design requires
- Coil ties, bags, labels and pallets
- Thermocouples, burner parts, bearings and rewinding spares

Utilities & infrastructure

- Furnace fuel or high electrical load with engineered safety systems
- Three-phase power for handling and converting equipment
- Ventilated heat-resistant furnace bay and exclusion zone
- Rated coil lifting, carriers and protected cooling area
- Combustion/exhaust monitoring, fire protection and dry finished store

Quality, safety and environmental controls

- Release steel chemistry, diameter, tensile and incoming coil condition
- Identify every batch and position mapped thermocouples
- Record heating, soak, atmosphere and cooling curve
- Inspect scale, overheating, under-anneal and coil sticking
- Test tensile strength, elongation, bend/wrap and tying performance
- Calibrate coil/bundle weight and retain lot traceability

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 sub-US\$50k listing usually omits furnace controls, carriers, emissions, testing or installation. The lowest credible plant buys hard-drawn wire and anneals one diameter. Wire drawing/pickling, building and working stock are excluded.

Component	Indicative range	Notes
Recoiling, carriers and handling	US\$10k-28k	Purchased drawn-wire route
Supported batch annealing furnace and controls	US\$35k-95k	Capacity/fuel dependent
Rewinding/cutting, laboratory and packing	US\$8k-24k	One product format
Exhaust, freight, installation and spares	US\$12k-36k	Furnace safety scope
Indicative installed low-entry total	US\$65k-183k	Wire-rod drawing, building and wire 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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