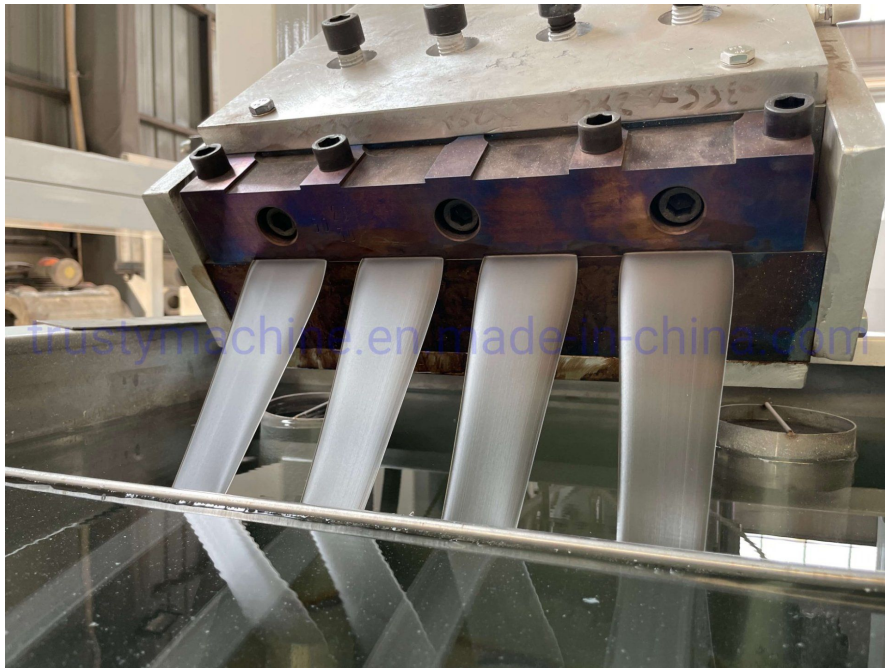


# PET Strapping Production Line

Complete Turnkey Business Proposal



*Made-in-China supplier reference: real pet strapping production line equipment.*

|                                       |                                   |                                      |                                |
|---------------------------------------|-----------------------------------|--------------------------------------|--------------------------------|
| <b>12-16 mm</b><br>launch strap width | <b>50-80 kg/h</b><br>entry output | <b>1 strand</b><br>controlled launch | <b>7-11</b><br>entry workforce |
|---------------------------------------|-----------------------------------|--------------------------------------|--------------------------------|

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 precision extrusion line converting qualified clean recycled PET bottle flake into industrial packing strap through sorting and metal removal, crystallization and deep dehumidifying, metered feeding, vented extrusion with continuous melt filtration and melt pump, one- or two-strand die forming, water quench, staged infrared reheating and orientation drawing, embossing, heat setting, controlled cooling, accumulator winding and tensile, elongation, camber and weld-joint testing.

### Why this project fits Afghanistan

- PET bottle flake can become higher-value industrial packaging.
- Local strap serves bricks, stone, cotton, timber and logistics users.
- A single strand controls drying and draw quality at entry scale.
- Breaking load, elongation, camber and weld efficiency determine machine performance.

### Sanaatchi delivery scope

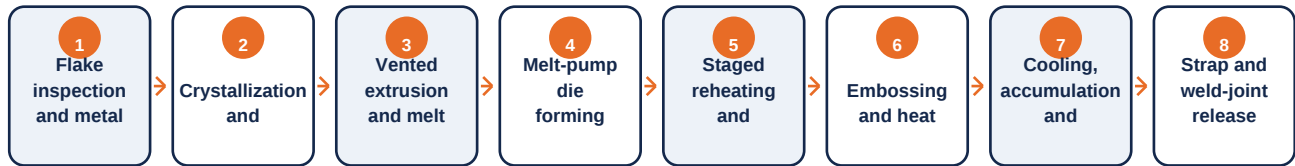
- Factory setup planning, supplier pre-qualification, and technical comparison
- Complete production-line and individual equipment supply
- Factory layout, utilities, civil-work coordination, installation, and commissioning
- Raw-material sourcing, trial-batch qualification, and repeat supply planning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

#### Recommended configuration

Launch one 12-16 mm machine-grade strap on a single-strand 50-80 kg/h line using washed hot-washed PET flake with controlled PVC, moisture and intrinsic-viscosity limits. Include crystallizer/dehumidifier, vented extruder, continuous filter, melt pump, staged drawing/heat setting, embossing, automatic winder and strap laboratory. A bottle-washing plant is separate unless the feed is already qualified.

## Manufacturing Process & Product Portfolio

### Integrated process flow



### Target products

| Product                          | Typical specification                                                                              | Primary market                                     |
|----------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Machine-grade recycled PET strap | Width, thickness, mass/metre, breaking load, elongation, camber, surface, coil and weld efficiency | Brick, stone, cotton, timber and logistics packers |

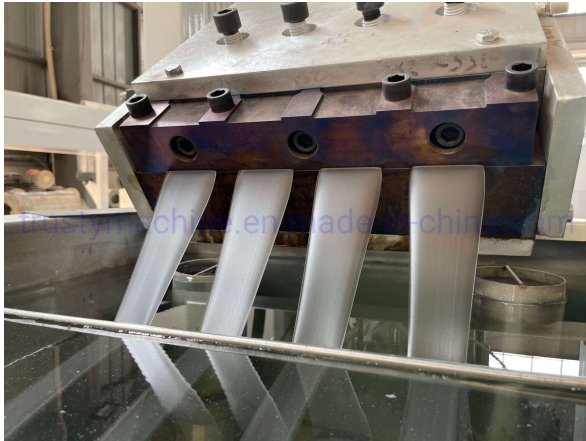
PET hydrolyses when wet and is intolerant of PVC contamination. Acceptance uses the contracted flake for a sustained run, records moisture, IV, filter pressure, output and draw ratio, and tests dimensional variation, mass/metre, straight tensile strength, elongation, split resistance, camber, coil build, friction and heat-weld joint efficiency on the buyer strapping tool.

## Core Equipment Schedule

| Step | Equipment                                 | Function                                    | Indicative parameter |
|------|-------------------------------------------|---------------------------------------------|----------------------|
| 1    | Crystallizer and dehumidifying dryer      | Prevents PET sticking and hydrolysis        | Low-moisture feed    |
| 2    | Vented PET extruder and continuous filter | Plasticizes flake and removes contamination | 50-80 kg/h           |
| 3    | Melt pump and single-strand die           | Stabilizes strap dimensions                 | 12-16 mm             |
| 4    | Drawing, embossing and heat-setting train | Develops strength and dimensional stability | Recipe controlled    |
| 5    | Accumulator and automatic winder          | Builds uniform machine coils                | Tension controlled   |
| 6    | Strap laboratory and welding tool         | Verifies strap and joint performance        | 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 pet strapping production line equipment.*



*Made-in-China supplier reference: second real machine configuration for pet strapping production line.*

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

## Plant, Raw Materials & Utility Requirements

### Raw materials

- Hot-washed PET bottle flake with declared PVC, moisture, colour and IV
- Approved colour/masterbatch and processing additive
- Cores, wraps, labels and filter screens

### 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
- Closed-loop cooling water and dry compressed air

### Quality, safety and environmental controls

- Test incoming moisture, PVC contamination and IV
- Monitor drying dew point and residence time
- Record filter pressure, melt pressure and output
- Gauge width, thickness, mass/metre and camber
- Test breaking load, elongation and split resistance
- Test friction, coil unwinding and weld-joint efficiency

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 plant uses qualified hot-washed flake and one strap strand. Bottle sorting/washing, multiple widths and multi-strand high-speed equipment are excluded.

| Component                                | Indicative range | Notes                                         |
|------------------------------------------|------------------|-----------------------------------------------|
| Drying, extrusion, filter and melt pump  | US\$58k-120k     | 50-80 kg/h single strand                      |
| Drawing, heat set, embossing and winding | US\$38k-85k      | Machine-grade strap                           |
| Laboratory, cooling and air              | US\$15k-38k      | Joint testing included                        |
| Freight, installation and spares         | US\$20k-48k      | Flake trial included                          |
| Indicative installed low-entry total     | US\$131k-291k    | Bottle wash line, building and flake 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

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### 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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