



PET RECYCLING LINE

From Bottle to Flake to Food-Grade Pellet — Complete PET Recycling Solutions

A PET Recycling Line is a synchronized series of machines that converts used PET (polyethylene terephthalate) bottles and packaging waste into clean recycled flakes or food-grade-quality recycled pellets, ready to re-enter manufacturing as new bottles, polyester fiber, packaging film, sheet, strapping, or injection-molded products. By combining de-baling, sorting, label removal, crushing, multi-stage cold-and-hot caustic washing, float-sink density separation, drying, vacuum decontamination, single-screw extrusion, filtration, IV-enhancing solid-state polycondensation, and underwater pelletizing into one seamless production flow, a modern PET line removes the glues, residues, PVC, paper labels, and PP/PE caps that would otherwise compromise pellet quality — delivering the purity required by demanding downstream applications including bottle-to-bottle food-grade manufacturing.

Torontech proudly offers a comprehensive PET recycling portfolio covering every level of investment, throughput, and pellet-quality requirement. The Plastic PET Bottles Washing and Pelletizing Line is the complete turnkey solution — integrating pre-treatment, caustic cleaning, multi-stage post-washing, drying, vacuum loading, 5-layer reactor processing, single-screw extrusion with melt pump and online viscosity measurement, and automatic underwater pelletizing — engineered for high-grade applications including fiber, film, and injection molding. The PET Bottle Washing Line is the dedicated flake-production platform with mechanical label remover, disk separator, caustic hot washer (1-2% NaOH at 70-90 °C, ~4.07 m³ chamber), high-speed friction washer, and centrifugal dewatering — delivering CE/CSA/TUV/SGS/ISO-compliant flakes ready for polyester fiber spinning. The PET Waste Recycled Plastic Pelletizing Machine adds SSP IV-enhancement technology for consistent food-grade-quality pellet output. And the LSP Series PET Plastic Recycling Machine Line with Polymerization System is the flagship — using cutting-edge Liquid State Polycondensation (LSP) technology to handle diverse feedstock from bottles to fabric fibers and produce a wide spectrum of high-value outputs.

Close the PET Loop with Torontech

Every recycled PET pellet that leaves a high-quality PET recycling line is a small but real victory for the circular economy — virgin plastic that didn't have to be produced, fossil-fuel feedstock that stayed in the ground, and post-consumer waste that didn't end up in a landfill, river, or ocean. But that promise is only delivered when the recycling line is engineered for the cleanliness, IV stability, and operational reliability that food-grade and fiber markets demand. The recyclers and beverage-industry leaders who consistently deliver world-class rPET are the ones equipped with PET recycling lines built for capacity, automation, food-grade decontamination, and rigorous quality control — and the Torontech PET recycling portfolio gives you exactly that.

Whether you are launching a new bottle-to-bottle facility, expanding a polyester-fiber recycling operation, processing diverse PET waste streams with LSP polymerization technology, or commissioning a complete turnkey PET washing and pelletizing line, Torontech has the platform engineered to meet your exact needs. Equip your facility with the PET recycling solutions trusted by recyclers, beverage companies, and circular-economy operators worldwide.

APPLICATIONS

Applications in Industries

- **Bottle-to-Bottle Food-Grade Recycling** — Production of food-grade rPET pellets for new beverage bottles via SSP IV-enhancement, enabling up to 100% bottle-to-bottle technology under EFSA/FDA-style recycling protocols.
- **Polyester Fiber & Textile Industry** — Clean PET flakes spun into polyester staple fiber for fleece, carpet, automotive textiles, non-wovens, and apparel — the largest single market for recycled PET globally.
- **Sheet & Film Extrusion** — Stable rPET pellets for thermoformed trays, blister packaging, A-PET / G-PET sheets, and food-contact film production.
- **Packaging Strapping** — Production of durable PET strapping bands for logistics, palletization, and industrial bundling applications.
- **Injection Molding & Compounding** — PET pellets for molded parts — caps, containers, housings, engineering components — and PET compounds for advanced material applications.

- **Municipal & Industrial Waste Management** — Large-scale PET reclamation facilities, deposit-return systems, MRF operators, and beverage-industry circular-economy programs.
- **Diverse Feedstock Recovery** — LSP polymerization technology recovers value from PET film, sheet, perforated waste, fabric fibers, polyester cloth, and waste silk — well beyond traditional bottle streams.

FEATURES

Why Choose Torontech for Your PET Recycling Needs

With more than two decades of experience supplying advanced industrial equipment to recyclers, beverage-industry partners, and circular-economy operators across more than 60 countries, Torontech delivers premium PET-recycling performance backed by global engineering and turnkey-installation expertise.

Four Purpose-Built Platforms — One Trusted Source

From the standalone PET Bottle Washing Line for high-volume flake production, through the dedicated SSP Pelletizing Machine, to the complete turnkey Washing & Pelletizing Line, and the flagship LSP Polymerization System — Torontech offers a coordinated portfolio that matches every PET feedstock, throughput, and end-application requirement to a purpose-built solution.

Food-Grade Quality with SSP & LSP Technology

Torontech PET lines incorporate Solid State Polycondensation (SSP) IV-enhancement on the Pelletizing Machine and cutting-edge Liquid State Polycondensation (LSP) on the flagship Polymerization System — delivering the stable, controlled Intrinsic Viscosity (IV) values required for food-grade bottle-to-bottle recycling, even when feedstock IV and moisture vary.

Premium Engineering & SUS304 Construction

Every wet-contact component uses SUS304 stainless steel; label removers feature 42-blade rotary cutters (378 teeth) plus 180-piece fixed-blade arrays (1080 teeth); caustic hot washers operate at 70–90 °C with insulating rock-wool jackets; high-speed friction washers run at 1200 rpm. Schneider, ABB, and LS electrical components ensure stable, reliable operation.

International Standards Compliance

Every Torontech PET washing line meets CE, CSA, TUV, SGS, and ISO standards, with safety-interlock-controlled touchscreen operation — ensuring your installation is workplace-safe, regulator-ready, and audit-defensible from day one.

Turnkey Solutions, Global Support & Cost-Effective Value

Torontech provides complete turnkey delivery — custom design drawings, technical specifications, on-site installation by qualified engineers, operator and engineer training, and detailed instruction manuals — backed by offices and authorized partners across the USA, Canada, UAE, KSA, GCC, EU, India, APAC, Africa, and Latin America. Premium PET-recycling performance at a transparent, competitive price point.

TECHNICAL SPECIFICATIONS

Product Comparison Table

Product	Key Process Stages & Specs	Output & Applications
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PET Bottles Washing & Pelletizing Line (Complete Turnkey)	End-to-end line: belt de-baler → trommel → manual sorting → pre-wash → crusher → label remover → caustic cleaning (with renewal) → multi-stage hot post-washer → drying → vacuum loader/sliding gate → 5-layer reactor → single-screw extruder → backflush screen changer → melt pump → online melt-viscosity measurement → automatic underwater pelletizing → packing. Float-sink + sifter for labels & caps; automatic waste management	Food-grade & high-quality recycled PET pellets ready for fiber, film, sheet, injection molding, strapping; integrates vacuum + SSP IV-increasing technology
PET Bottle Washing Line (Standalone Flake Production)	Label remover (15 kW + 5.5 kW suction; 42 rotary blades / 378 teeth; 45×4 fixed blade sets / 1080 teeth — no flake waste, no water) → pre-washer (SS304, Ø1500 × 6000 mm) → disk separator & bouncing screen → bottle sorting → manual sorting → wet crusher → friction washer → caustic-soda hot washer (carbon-steel outer / SS304 inner / rock-wool insulation, ~4.07 m³, 1-2% NaOH, 70-90 °C) → high-speed friction washer (30 kW, 1200 rpm) → centrifugal dewatering → vibrating sieve drying. CE/CSA/TUV/SGS/ISO; Schneider, LS, ABB electrical control with safety interlock	Clean PET flakes ready for polyester staple fiber spinning or downstream pelletizing; sortable by color (clear, blue, green) on customer specification
PET Waste Recycled Plastic Pelletizing Machine (SSP)	Single-screw extrusion with vacuum technology + SSP (Solid State Polycondensation) IV-enhancement; stable IV value control despite variations in feedstock IV & moisture content; uniform particle size, no powder, consistent final viscosity	Bottle-to-bottle (up to 100%) food-grade pellets; sheet & film extrusion; injection molding (caps, containers, housings); strapping production; closed-loop circular recycling
PET Plastic Recycling Machine Line with Polymerization System (LSP Series)	Cutting-edge Liquid State Polycondensation (LSP) technology; Spray Cooling Vacuum Exhaust Device; Multi-screw Large Area Vacuum Exhaust Extruder; full Intrinsic Viscosity (IV) control; processes PET film, sheet, scrap, perforated waste, fabric fibers, polyester cloth, waste silk and more	High-value applications: new PET bottles, PET fiber, packaging strips, films, pellets — diverse outputs from single feedstock; energy-saving with stable quality



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