



Polyester Staple Fiber Production Line Supplier  
Pioneer of Polyester Staple Fiber Production Technology



## PROJECTS

S/N	From	Product	Capacity	Company	Country
1	2004-05	PSF Production Line	30 ton/day	Hangzhou Anshun Pettechs Co., Ltd.	China
2	2005-08	PSF Production Line	30 ton/day	Thienquan Industry Corp.	Vietnam
3	2006-08	PSF Production Line	20 ton/day	Baoding Guangshun Co., Ltd.	China
4	2006-09	PSF Production Line	60 ton/day	Zhejiang Boretech Co., Ltd.	China
5	2007-07	PSF Production Line	40 ton/day	Zhejiang Anshun Pettechs Co., Ltd.	China
6	2009-09	POY Production Line	20 ton/day	Shiva Textfabs Limited	India
7	2009-07	PET SSP Production Line	9 ton/day	Shiva Textfabs Limited	India
8	2010-01	PSF Spinning Production Line	20 ton/day	Unitec Fibres Pvt. Ltd.	India

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We wish you to be our next cooperator!



### ZHEJIANG BORETECH CO.,LTD.

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■ AGENT ■



POLYESTER STAPLE FIBER PRODUCTION LINE SUPPLIER

PIONEER OF POLYESTER STAPLE FIBER PRODUCTION TECHNOLOGY





## ENTERPRISE CONCEPT

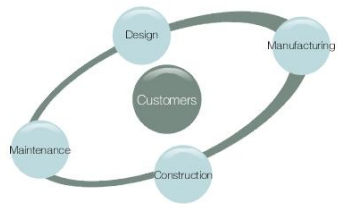
For contributing responsibility of environmental protection for our earth on purpose, we began to recycle PET bottles since 1991 as our lifework; our environmental protection business was started therefore. After 20 year's effort, we complete three primary developments one after another.

\*We recycle waste PET bottles without any further pollution, produce the best quality PET flakes and supply the material to various high grade downstream applications such as polyester filament, thermal forming sheet, bottle blowing, etc.

\*We produce sundry types of customized recycled polyester staple fiber (PSF) with maximized energy saving and minimized waste discharging. And we also coordinate with our customer to develop innovative downstream products.

\*We transform our own production technology into practical production system. By supplying PET bottle washing line and PSF production line and providing engineering planning and management supervision, we help the investors to practice the project with minimized risk and mistake.

Due to limitation of transportation distance and domestic regulation for PET bottle recycling, we concentrate on supplying recycling equipment and engineering. We expect to develop together with the worldwide PET bottle recyclers and dedicate to save energy for our environment.



We provide one-stage service which includes availability analysis, on-site inspection, process design, equipment manufacture, installation supervision and starting up with following purposes.

\*Provide the system design which saves customer's building space with reasonable route.

\*Provide automation of the line as much as possible according to customer's budget for avoiding human error.

\*Propose the most economized budget to improve the existing recycling system of customers.

## BORETECH'S HISTORY

**1991** Set up the PET bottle recycling plant which is specialized in manufacturing high quality PET flakes

**1994** Hangzhou Anshun Pettechs Fibre Co., Ltd." registered in Fuyang City, Zhejiang ,China, to Producing high-grade recycle polyester staple fiber (PSF).

**2000** Set up Jiaxing Guangshun Fiber Pettechs Fiber Co., Ltd." in Pinghu City, Zhejiang , transfer Taiwanese technology to recycle Chinese waste PET bottles and providing the raw materials of PSF

**2002** Total imported PET materials quantity reached 60,000 MT/year, and also became the biggest materials importer of Shanghai port that year

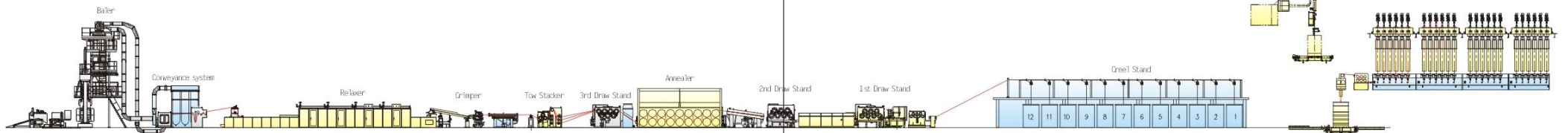
**2004** Set up the Zhejiang Boretech Co., Ltd." , specializing for PET bottle recycling, provide equipment manufacture and engineering service of PET bottle washing line and PSF production line, pelletizing, SSP, PET thermal forming based on turnkey basis.

**2011** More than 50 PET bottle recycling lines and PSF production lines provided by BORETECH are running in the world. Total recycling capacity is more than 500,000 MT/year.



## HOW TO CONFIGURE POLYESTER STAPLE FIBER LINE FOR MAKING 1.4D FIBER WITH HIGH TENACITY AND LOW ELONGATION FOR SPINNING USE

To make high quality 1.4D fiber with high tenacity and low elongation, we should take care of raw material quality, machinery stability, and process parameters. PET bottle flakes produced by BORETECH are mostly used for recycled POY. It definitely has perfect performance for fiber making. On basis of our years' experience in recycled fiber making, the humanistic fiber machinery configured by us caters to the requirement to make spinning fiber, we also own a strong technical team and after sales department to provide our customer the best service.



### PET Flakes Quality Standard

Number	Item	Unit	Standard
1	PVC Content	PPM	≤ 100
2	PP/PE/Impurity/Metal Content	PPM	≤ 100
3	Total Impurity Content	PPM	≤ 200

### Fiber Quality Standard

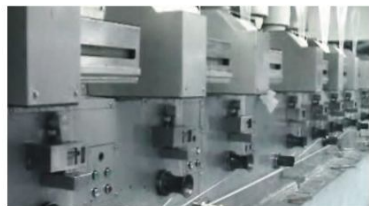
Item	Unit	index
Fineness	dtex	1.56 ± 0.1
Tenacity	CN/dtex	≥ 5.5
Tenacity Variation	%	≤ 15
Elongation	%	≤ 30
Fused Fiber	mg/100g	≤ 10
Over Length Fiber	mg/100g	≤ 5
Shrinkage	%	≤ 7

### Estimated Plant Parameters

Capacity	Power(KW)	Required Area(M2)	Manpower
10Ton/Day	1400	2000	15
25Ton/Day	1800	2300	17
40Ton/Day	2500	2500	17
50Ton/Day	2900	2800	17
60Ton/Day	3000	2800	17
100Ton/Day	5200	4500	20

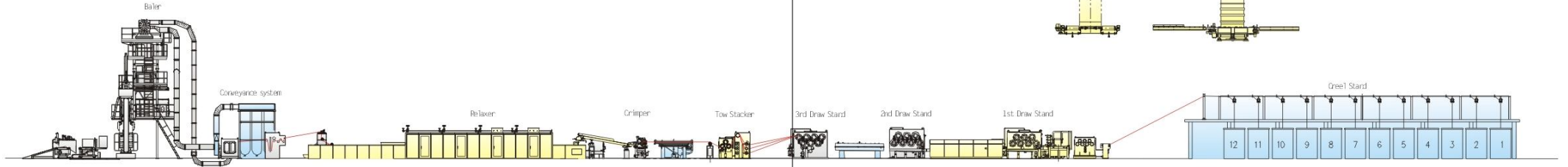
### Production Consumption Table

Capacity	Electrical consumption/ton (KWH)	Water Consumption/Ton (Ton)	Steam Consumption/ton (kg)
10Ton/Day	900	1.2	800
25Ton/Day	750	1.6	800
40Ton/Day	630	2	1000
50Ton/Day	610	2	1200
60Ton/Day	500	2	1200
100Ton/Day	450	2	1200



## FLEXIBLE FIBER LINE FOR HOLLOW FIBER, CONJUGATED FIBER AND SPINNING FIBER.

Factors influencing the quality of fiber, mainly raw materials, equipment, technology, to produce a good high strength and low elongation fiber 1.4D is started from the three factors, the company's bottle washing machine cleaning tablets currently used for the production of POY filament. Through years of experience in chemical production equipment, we are equipped with synthetic human strength, producing smooth, I engaged in chemical research and production for many years, with a strong technical force of the team and after-sales department, we sincerely ask you to provide the best quality Service!



### PET Flakes Quality Standard

Number	Item	Unit	Standard
1	PVC Content	PPM	≤200
2	PP/PE/Impurity/Metal Content	PPM	≤200
3	Total Impurity Content	PPM	≤200

### Fiber Quality Standard

Item	Unit	index
Fineness	dtex	7.8 ± 0.5
Tenacity	CN/dtex	≥3
Elongation	%	≤30
Fused Fiber	mg/100g	≤100
Over Length Fiber	mg/100g	≤20
V1	cm <sup>3</sup> /g	≥170
V2	cm <sup>3</sup> /g	≥60
V3	cm <sup>3</sup> /g	≥130
Elasticity	%	≥60

### Estimated Plant Parameters

Capacity	Power(KW)	Required Area(M2)	Manpower
10Ton/Day	1400	2000	15
25Ton/Day	1800	2300	17
40Ton/Day	2500	2500	17
50Ton/Day	2900	2800	17
60Ton/Day	3000	2800	17
100Ton/Day	5200	4500	20

### Production Consumption Table

Capacity	Electrical consumption/ton (KWH)	Water Consumption/Ton (Ton)	Steam Consumption/ton (kg)
10Ton/Day	860	1.2	800
25Ton/Day	680	1.6	800
40 Ton/Day	600	2	9000
50Ton/Day	550	2	1000
60Ton/Day	480	2	1000
100Ton/Day	450	2	1000

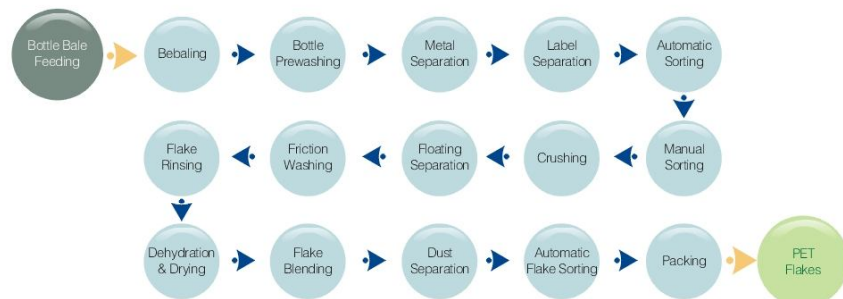


## HOW TO PRODUCE THE HIGH QUALITY PET BOTTLE FLAKES

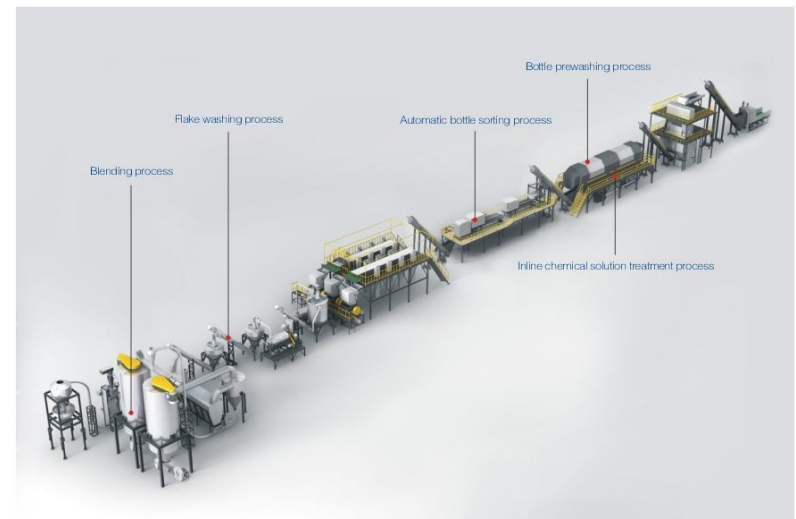
High quality material is the most important factor for producing high quality polyester staple fiber and all kinds of downstream products. The quality of the PET flakes is better, the downstream products is more close to the native material. We cumulate 20 years' experience to develop one set of method about collecting material ,manufacturing technology, factory manage and sales market, It can help customer to win at the beginning.

Production technology is the key for producing high quality PET flakes, our PET bottle washing line adopt the design of modularization, we can depend on the different material' s characteristic and customer' s budget to do adjustment.

### PRODUCTION PROCESS IS AS FOLLOWS (CAN BE FLEXIBLY ADJUSTED): PET Bottle Washing Line Process Flowchart



The key point of waste plastics recycling is how to remove impurities as much as possible. The impurity includes environmental pollutants, the original plastic products with other materials, and even different colors PET container. Why the recycled PET materials is different from other material, the main reason is that the total impurity content of high-quality PET material is limited to be less than 100ppm (one- millionth). How to achieve this target economically and efficiently is the main goal of the process designer. The production procedure designed by us is able to achieve it. By mastering characteristic of various contaminants, we create different functional process section for removing each contaminant specially and get the result of purifying PET flakes.



## POY PRODUCTION LINE (USE PET BOTTLE FLAKES AS RAW MATERIAL)

### Production of Proposed Production Line

The line is designed for production recycled POY filament with size 100~300 dtex by using PET bottle flakes as raw material.

### Primary Features

- Use continuous drying which can save lots of energy.
- Use LTM type pin screen rod & continuous melt double-stage filter to ensure stable quality and low consumption.
- We have upward-assemble & downward-assemble high pressure self-sealing rectangle or cup components for choosing.
- We various kinds of winding head with different function and price for choosing.
- We can redesign the line according to client's existing plant and help the client to turn to recycled POY production for decreasing material & production cost.
- Capacity: minimum 10 ton/day or multiple of it.

