

RECYCLED FIBER USED IN SHANYING PAPER



Jie SONG (MSc)
 Technical Director, Paper-making BU

Shanying Paper, Mr. Jie Song has been working for Shanying Paper Plc. since 2011. Has rich experience in Recycled Fiber and Paper-Making technology. Led and Participated in many Paper Mill set-up projects and is currently responsible for Paper production technology for Paper-making Business Unit in Shanying Paper Plc.



I. Company profile

Anhui Shanying Paper Industry Co.,Ltd. was founded in 1957,It was successfully listed on Shanghai Stock Exchange in 2001.In 2013,the Company was restructured with Ji'an Group Co.,Ltd. realizing

great-leap-forward development through powerful combination.Now It boasted an annual yield of 3.5 million tons paper and 1.2 billion m² cardboard and paper carton,ranking top within the industry in terms of scale.

Industrial Structure

The Company strive to build a modern,environment-friendly, sustainable and internationally competitive papermaking & packaging enterprise, and make an effort to implement the vision of ‘Leading recycling economy,Promoting paper culture’.

Papermaking

Mill	Paper Machine	Capacity/year	Main Products
Ma'anshan Paper Mill	PM1;PM2; PM3;PM5; PM6	1,850,000 t	Kraft liner; News print; Linerboard; Corrugating medium
Ji'an Group	PM11;PM12; PM13;PM15	1,650,000 t	Kraft liner; Linerboard; Corrugating medium; Coated white top kraft liner



Most of the equipment are bought from Valmet,Voith,KBC and Andritz. The GSM range is 50 to 250,Maximum width is 7920mm, The highest speed is 1600m/min.

Shanying Paper is the only one company in China, which sets recycled paper papermaking, packaging and logistics in the integral whole.

Packaging



Intelligent and efficient packaging equipment, Implement custom production for customers.



II. The fiber raw material in Shanying

	Import Waste paper	Local Waste paper	Wood Pulp	Total
Ji'An Group	1,201,600 t	57,350 t	700 t	1,775,800 t
Ma'anshan Paper Mill	1,453,100 t	747,500	17,000 t	2,217,600t
Total	2,654,700 t	1,321,000 t	17,700 t	3,993,400 t

We used 3.9934 million tons of fiber raw materials in 2016,including imported 2.6547 million tons of waste paper,accounted for 66.48%.The local waste paper 1.321 million tons,accounted for 33.08%,And 17,700 tons of wood pulp,accounted for 0.44%.

Comprehensively,waste paper accounted for 99.56% of the total amount of fiber materials in the production.

Advantages of Cycle Link

- We have two papermaking mills,including 9 paper machines.We need about 2.7 million imported waste paper a year.Stability of aggregate demand,trade,coupled with the parent company--Shanying Paper abundant capital support,Cycle Link has long-term cooperation of imported waste paper suppliers.
- In order to ensure the quality of waste paper,we has strict inspection and claim process,It has played a good role in promoting for from the recycling source control .

The Inspection Standard for Import Waste Paper

Sort	Commodity	Commodity define	The standard of Inspection			Remark
			Moisture	out-throws	Impurity	
OCC	US12#	Consists of double-sorted corrugated containers,generated from supermarkets and/or industrial or commercial facilities,having liners of test liner or kraft.Material has been specially sorted to be free of boxboard,off-shore corrugated,plastic,and wax	≤12%	≤2%	≤1.5%	Out-throws:paper tube,newspapers,magazines,coated paper,ash bottom whiteboard,tectorial paper,gilt paper,deep dyed pulp papers,egg carton,etc. Impurities:plastic,cans,tetra pak,wax paper and other non-paper,etc
	US11#	Consists of corrugated containers having liners of either test liner or kraft.	≤12%	≤5%	≤1.5%	
	JP11#	Consists of corrugated containers having liners of either test liner or kraft.	≤12%	≤5%	≤1.5%	
	E90/10 AU11#	Consists of corrugated containers having liners of either test liner or kraft.Generated from domestic and commercial use of waste paper.Brown mainly,and the amount of coating material must be controlled within the predetermined range.	≤12%	≤10%	≤1.5%	
Deinking	37# (SOP)	Consists of paper,as typically generated by offices,containing primarily white and colored groundwood-free paper,free of unbleached fiber.May include a small percentage of groundwood computer printout and facsimile paper.sop contains no less than 90%,light paper contains no more than 5%	≤12%	≤5%	≤1.5%	out-throws:coated paper,OCC,color paper,etc; Impurities:plastic,cans,tetra pak,wax paper and other non-paper,etc.
	10# (OMG)	Old Magazines:Made by bleached pulp or bleached jute pulp.Consists of baled coated magazines,catalogues and other similar printed materials.May contain a small percentage of uncoated news type paper.The proportion of uncoated black and white newspaper may not exceed 3%,Can not contain colored pulp.	≤12%	≤4%	≤1.5%	out-throws:The proportion of uncoated black and white newspaper may nbot exceed 3%,The proportion of OCC,paper tube,ash bottom whiteboard,coated paper,etc.may not exceed 1% Impurities:plastic,cans,tetra pak,wax paper and other non-paper,etc.
	US8# (ONP)	Consists of sorted,fresh newspapers,not sunburned,and other acceptable papers.This grade is to be relatively free from magazines and contain not more than the normal percentage of rotogravure and colored sections.Ratio og black & white is not below 60%.High quality waste paper,such as magazines,and office papers,are not claimed	≤12%	≤2%	≤1.5%	out-throws:OCC,ash bottom whiteboard,deep dyed pulp papers,egg carton,etc; Impurities:plastic,cans,tetra pak,wax paper and other non-paper,etc.

The Inspection Standard for Import Waste Paper

Sort	Commodity	Commodity define	The standard of Inspection			Remark
			Moisture	out-throws	Impurity	
Deinking	40# (SWL)	Consists of uncoated, printed or unprinted sheets, shaving, guillotined books, and cuttings of white groundwood-free ledger, bond, writing, and other paper which has similar fiber and filler content	≤12%	≤2%	≤1.5%	out-throws: coated paper, OCC, color paper, etc; Impurities: plastic, cans, tetra pak, wax paper and other non-paper, etc.
	E-A9	The mixture of newspapers and magazines, the proportion of magazines than 30%. High quality waste paper, such as SOP is not claimed	≤12%	≤2%	≤1.5%	out-throws: The materials without the pulp; Impurities: plastic, cans, tetra pak, wax paper and other non-paper, etc.
	A2、 Mix	By a variety of different quality of paper and cardboard mixed, contains newspaper, magazines, brochures, grey and brown cardboard, egg carton, white office paper, colour paper, printing paper, envelopes, catalogues and telephone directories, etc. A very small amount of new and old OCC.	≤12%	The material without the pulp	≤1.5%	
	JP3#	Mixed composition of waste paper with different quality. The waste paper is supplied through selection and packing	≤12%	The material without the pulp	≤1.5%	



Qualified



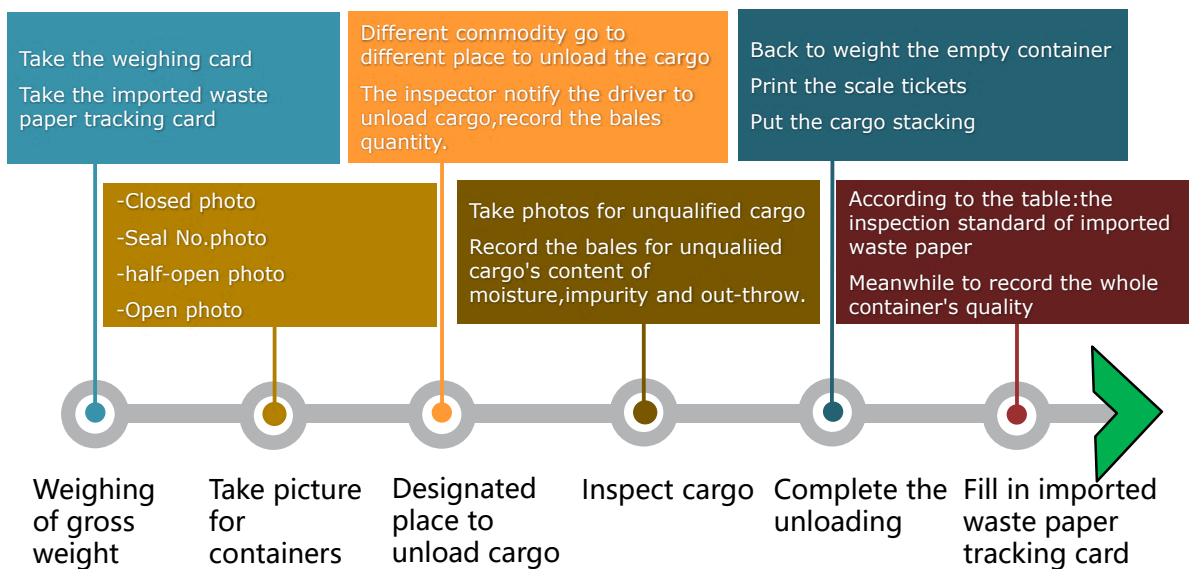
Color coated paper



OCC

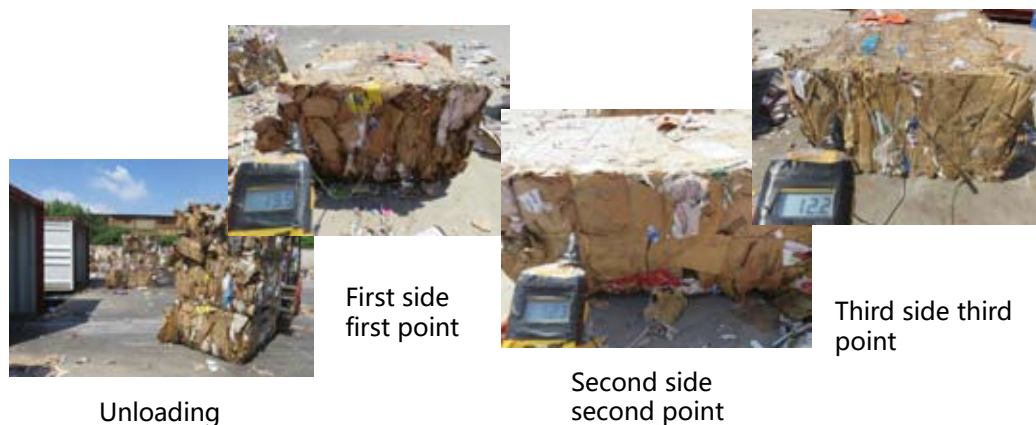


III. The inspection flow chart of import waste paper



Mosisture Detection

Remove the bales which were wet to the waiting zone. The inspector choose three point in three side. (Try to choose the average moisture point)



IV. Properties of waste paper in papermaking

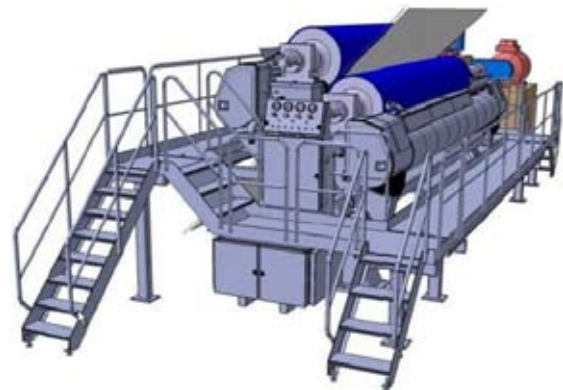
Comparison of the different OCC

Sort	Advantage	Weakness
AOCC	High strength, Clean,	Expensive, Lower L value
EOCC	cheaper, Higher L value	Dirty, Quality discrepancy
JOCC	Clean, Less Impurity	Strength is lower than AOCC

Difficulty of using Waste paper In production Intensity of paper production

SOLUTION

Starch,
Dry-Strength Resins
and another Chemicals;
Surface sizing



Solid waste from production

Waste plastics : Come from the pulper, We built a plastics plant and a granulation plant. Waste plastics is used for granulation after cleaning. And the fiber from the cleaning is back to the pulp line.

Rejects : Come from the screen and cleaner. Most of them we use as raw material for corrugated medium. And others we increase the dryness up to 45% through press screw. Then sent to power plant burning.