
Stone Paper Project Feasibility Report

■ Appr 20 Million RMB invested, you will own:

Complete equipment for stone Paper;
Plant structure design and building guidance;
Declarable the great support from government ;

■ Appr 20 Million RMB invested by businesses, you will achieve:

Invested cost will be regained in one year;
Producing value will be above 100 Million RMB;
Yearly profit will be above 20 Million RMB;
Product sales will be protected by regional scope;
Strongly support from governmental industrial policy;

Stone Paper Project extremely appropriate for:

Industrial innovation and upgrading of the traditional paper industry;
Leading tech development of regional energy saving, emission
reduction, innovation environmental protection;
Pushing regional economy rapid growth and industry chain
development ;
Utilizing and exploring local resource, to promote local economy
diversified development .

Advantage

Product profit: > 2000 ¥ /Ton (Traditional paper : 300-100 ¥ /Ton)

Producing cost: 1/3-1/2 of traditional paper making

Producing environment: Cleaning and safely production process
(without acid and alkali treatment) ;

Working labor: Quantity 1/10 of traditional paper making;

Working site: 1/10 of traditional paper making ;

Producing process: Full-automatic computer controlling;

Waste balance: Full-automatic edge waste recycle and treatment ;

Water supply: No need water treatment for full process (whiten, washing),so
no need to build water waste pool

Producing steam: No need steam treatment for full process, so no need to
build boiler;

Producing material: No need wood pulp, no need waste paper treatment,
above 80% raw materials with calcium carbonate .

Stone Paper Profit Analysis

Item	Content	Remark
Invest capital	20 Million RMB — including final products equipment, raw materials producing equipment, coating equipment,winder,embossing equipment and partly lab testing equipment	Not including floating capital, plant and office site.
Capital regained	1 ~ 1.5 year	
Production cost	1000—3000 ¥/Ton (1/2-1/3 of traditional paper)	Different application, different formula
Product retail price	5000—10000 ¥ Ton	Different price(materials and formula) following different use object

Equipment output	4000—6000Ton/Year (Unit) (4000Ton/Year suggested)	Up to different thickness of paper
Yearly output value	37.50—60 Million /Year (Unit)	Output value for per unit
Sales profit	2000—3000 ¥ /Ton	EXW (No including terminal sales profit)
Yearly gross profit	13-19.5 Million (Per unit)	According to wholesale price
Sales profit tax	6.375 -10.20 Million (per unit)	According to 17% VAT
Industry chain expand (1)	Environment protection wallpaper industry (Export processing industry)	Water proof, mildew proof, breathable, coining , excellent printing effect – high additional value
Industry chain expand (2)	One-off environment protection tableware, shopping bag,drink cup (mainly export- oriented)	Montanic bamboo powder, wood powder waste use.
Industry chain expand (3)	Outdoor products	
Industry chain expand (4)	Building materials industry, ceramic tile, insulated wall plate	the use of Mountain bamboo powder, waste wood flour
Industry chain expand (5)	Special papers--fluorescent paper , magnetic paper, winding packing paper, iron paper, thermal paper, sensitive paper etc.	
Industry chain expand (6)	Special printing industry development. Such as printing paper, writing paper, cigarette paper, news paper, and decorating paper	
Industry chain expand (7)	Effective use of mountain and processing industry development of mountain resources -- economy chain extension	Mineral resources,Wood, bamboo waste;rice straw powder in rural areas can make full use of mineral resources in the mountains

Equipments

Invested capital: Appr 20 Million /Set ;

Equipment Volume: LX W X H=30MX8.5MX8M

Output: 500-800KG/H

Paper' s Thickness range: 0.08—0.3MM (Sheet: 0.3MM-1.2MM)

Edge waste treatment: Automatic recycle, automatic crush, automatic filling .

Operation control: Automatic computer control ,automatic monitoring, automatic transfer, automatic close loop .

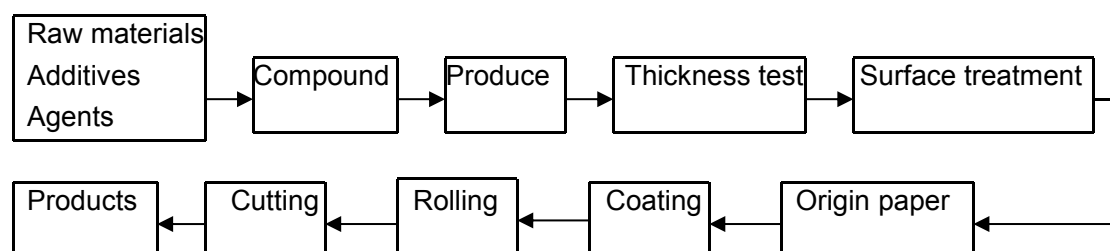
Producing course : Cleaning producing ,non-pollution, non-dust, non-waste , raw materials automatic filling .

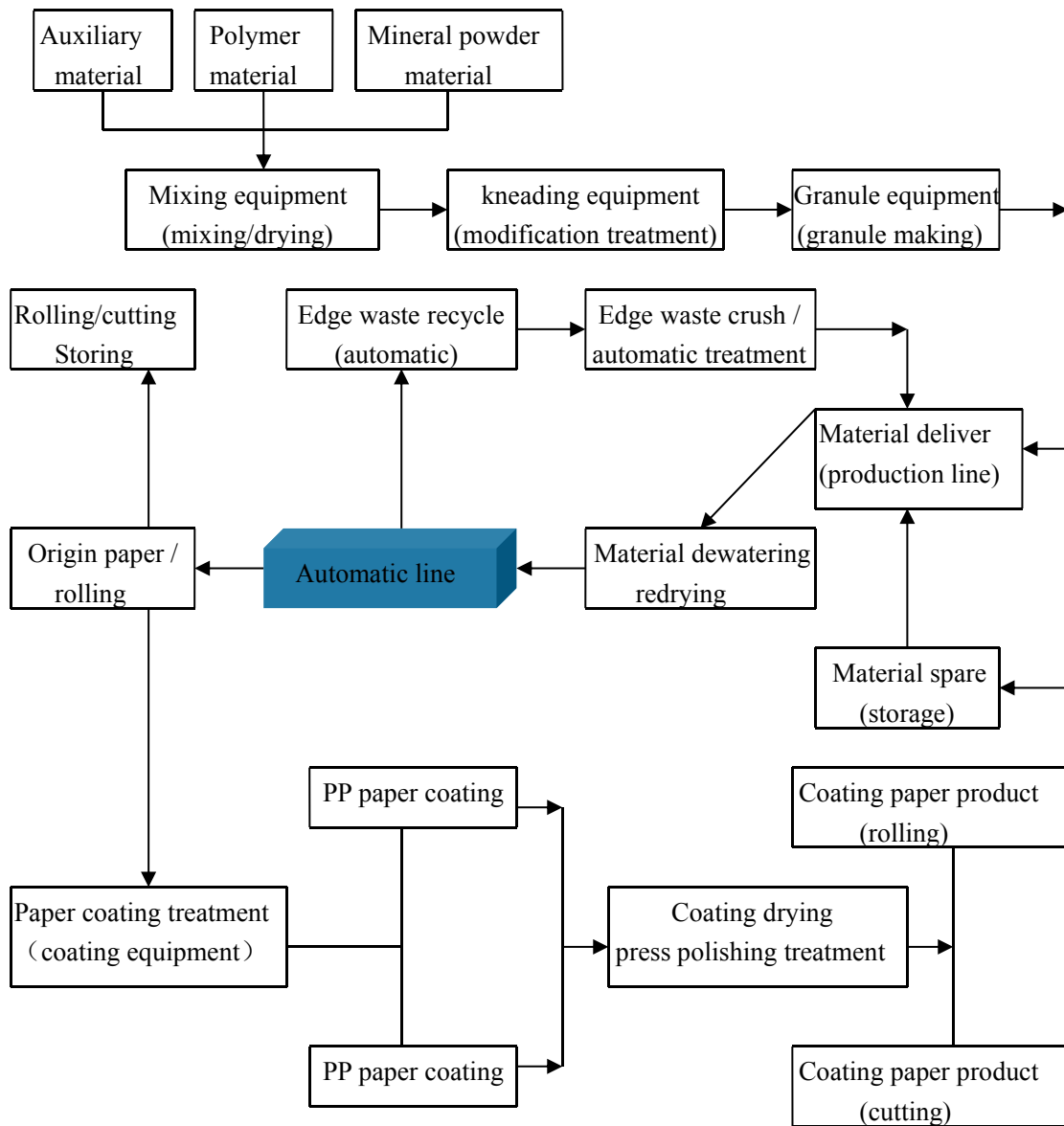
Operation labors : Quantity 15 - 30 /3-shift/set

Stone paper producing feature:

- 1, Producing without : wood and pulp, boiler and steam , water treatment .
- 2, No tree felling, no water resource pollution , no air environment destroy.
- 3, Small working site space, clean production environment , saving energy and protecting environment to products.

Producing Process Flow Chart





Origin paper producing equipments including :

List-1: Main equipments -

SN	Item	Specification	Unit	Qty
1	Multi-extruder	DH-SPPM-75/125-1600	Unit	1

2	Extruder control system	Made in China (Imported)	Set	1
3	Die head and filter unit	Made in China (Imported)	Unit	1
4	Thickness meter on line	French	Unit	1
5	Stretcher on line	TINCOO	Unit	1
6	Rolling, guiding unit	TINCOO	Set	1
7	Electric treatment unit	Made in China (Imported)	Unit	1
8	Automatic ratio loading system	Made in China (Imported)	Set	1

List-2: Main equipment (Accessory)

SN	Item	Specification	Unit	Qty
1	Air compressor	6m3/min	Unit	1
2	Water supply	40Ton /cycle water	Set	1
3	Electric supply	To be decided	Unit	1

Equipment for raw material making including:

List-3: Material making equipment list (Supplied) :

SN	Item	Specification	Unit	Qty
1	Forklift	3T	Unit	1
2	Hydraulic carrying vehicle	2T	Set	1
3	Twin screw granulation machine	65mm	Set	1
4	Kneading machine	100L	Unit	1
5	High cold mixing machine	200/500L	Set	1

Origin paper coating equipment including:

(additional supply and purchase)

List-4: Coating and other equipments: (Optional) :

SN	Item	Specification	Unit	Qty
1	Coating unit	To be decided	Set	1
2	Calender	TINCOO	Set	1
3	Cutting unit	To be decided	Set	1

Raw materials --

Raw materials for producing stone paper are mainly calcium carbonate filling with small quantity polymer and auxiliary materials mixing , water treatment unnecessary in this process.

1. Inorganic raw materials:

- A、 CaCO₃ (Density-650—1250)
- B、 Talc (Density -500—1000)
- C、 TiO₂ (Density-500)
- D、 Coal ash powder (Density-200—500)

2. Organic raw materials:

- E、 HDPE (Original or recycle)
- F、 LDPE
- G、 LLDPE
- H、 PP (Original or recycle)

3. Filling materials:

- I、 Stearic acid
- J、 Wax
- K、 Others

4. Coating materials :

- a) PVA
- b) CaCO₃ (Density -1000—1500)
- c) Latex / Emulsion
- d) Others

5. Other materials :

-
- a) Chitosan
 - b) Wood powder
 - c) Bamboo powder
 - d) Straw powder
 - e) Iron ore powder

Technology

Technical Support:

Including formula support, technical process support, raw materials producing technical support , testing technical support, operators training support ,etc.

Testing devices: (partly supplied, others optional)

Including:

List-5: Main lab testing units :

SN	Item	Unit	Qty
1	Paper & Paper board Thickness tester	Unit	1
2	Whiteness tester	Set	1
3	Paper board Anti-compression tester	Unit	1
4	Horizontal computer tension tester	Unit	1
5	Glossmeter	Unit	1
6	Paper board folding meter	Set	1
7	Paper tearability meter	Unit	1
8	Printing adaptation meter	Set	1
9	Paper cutter		
10	E-type paper tension tester		
11	Paper board Stiffness meter		
12	Paper board compression test meter		
13	Smoothness meter		
14	Multi-function paper quantometer		

Papers type:

1. PP paper (Origin paper, coated paper)
2. PE paper (Origin paper, coated paper)
3. Winding packing paper
4. CaCO₃ - stone paper
5. Talc -stone paper
6. Coal ash- stone paper
7. Wood - stone paper
8. Bamboo- stone paper
9. Iron-stone paper
10. Straw – stone paper (Straw, rice husk etc- ≥ 200 -Density)
11. Others special papers

Producing

Working Plant Invested: (Supplied by buyer)

Including:

1. Paper producing plant 1600 m² (standard plant- floor height 9 m)
2. Raw materials treatment plant 100 m² (standard plant – floor height 6 m)
3. Products plant 500 m² (standard plant – floor height 6 m)
4. Testing lab room 30 m²

Working capital investment: not less than 5 million for raw materials, office, etc.
(enterprises to prepare themselves)

Producing output budget:

1. Raw materials producing: 1000KG/H
2. Origin papers producing: 500-800KG/H

Energy consumption (sharing):

Water: Mainly used for cooling, science research and domestic water.
Most utility works construction can use the existed conditions. Water for equipment is from circulating cooling water system, circulating water flowing

20Ton/h. filling water 1.2 Ton/h. Total quantity 8600 Ton/Year.

Electric : Installation power of this project : 950-1000KW , including auxiliary equipment and main equipment installation power.

List-6: Utilities conditions supply :

SN	Item	Unit	Qty
1	Power	Ten thousand Degree /Year	300
2	Water	Ten Thousand Degree/Year	0.86

Working capital invested : > = 10 Million for raw materials, office etc (Supplied by buyer)

Features

1. Electric saving: 280kwh power can be saved for 1 ton stone paper production compared with the traditional fiber paper production .

2 . Water saving : The stone paper production course actually is modification working course. Small quantity cooling water is recycled during this period. So, much water consumption is saved. Compared with the traditional fiber paper , 110-130 ton fresh water can be saved for 1 ton stone paper producing. It is a special contribution to relax the nervous water resource situation.

3. Working plant saving: Stone paper production is a course of no-water, no-steam, no-wood pulp . Stone powder ,resin and small quantity additives as its raw materials. It is very different from the traditional paper making plant which needs heavy equipment, large storage space for woods and other plant fiber materials. Working area is only 1/10 of the traditional paper making plant.

4. Environment pollution reduction: Much waste water discharge during the traditional paper making course, which will spend big capital for its

non-skilled clearing technology and harmful to social environment.. Only cooling water in the barrels is needed for stone paper production, no any environment pollution. So stone paper production is also a project with environment protection project.

Products Comparative Analysis (1)

Name Content	Chrome paper	Stone paper
Raw materials	Wood pulp, wastepaper, straw pulp	Polythene (HDPE) and function master batch (CaCo3)
Technical process	Based on blanching chemical wood-pulp, then coating and press polishing on the surface, quantity of poisonous water discharge.	Calendering process, no three wastes during whole producing course.
Appearance	Pure white and smooth for surface, very light.	Pearl white for surface, elegant and grace feature.
Performance	Excellent moisture proof friction , tensile strength, air permeability and non transparency, high gloss and stick slip. But non damp proof, acid-bases, rot and deform easily.	Non-toxic, non-harm, water proof, damp proof. Anticorrosion, anti insect, fold easily, oil stain resisting, friction resistant, acid-bases resistant, non deformation, smooth surface, physical and mechanical performance. excellent than normal papers.

Compare between Stone Paper and Traditional Paper (2)

	Stone Paper	Traditional paper	Remark
Equipment price	< 20 million	> 100 Million	
Plant area	1/10 of traditional paper	10 times of stone paper	
Boiler & steam	Unnecessary	Necessary	Traditional paper making needs to build boiler and steam
Raw material	Mainly for CaCo ₃ and stone powder, Materials mostly made in China.	Wood, pulp, waste paper etc, most for imported .	
Water	No need	100-300 Ton Water/Ton paper producing	Quantity water wasted during the traditional paper producing .
Labor	1/5-1/8 of traditional paper	5-8 times than stone paper	Automatic computer control for stone paper producing process .
Producing cost	1/3-1/2 of traditional paper	2-3 times than stone paper	
Product Profit	>= 2000 ¥ /Ton	100 ¥ /Ton	
Air pollution	No	Yes	
Water pollution	No	Yes	
Forest destory	No	Yes	
Waste treatment	No	Yes, , complex for treatment	Edge waste from stone paper can be recycle produced
Waste water treatment	No	Waste water treatment works built needed	
Wastepaper recycle	Yes	Yes	Stone paper can be weathered into stone powder in half a year in outdoor .
Producing rubbish	No	Waste water, coal ash, SO ₂ , and CO discharge etc.	

Capital regain	1 year	10 years	
Power utilization	Saving	1 time than stone paper	
Equipments feature	Automatic computer control, multiple producing	No multiple producing	By different formula, stone paper can be produced different various products, such as bamboo-stone powder, wood-stone paper, iron-stone paper, shining paper, plate material and floor tile etc.
Cleaning producing	Yes	No	
Product application	Widely	No widely application	Stone paper can instead of chrome paper, ivory board, wallpaper, packing paper, one-off tableware etc
Capacity estimate	500-800T/H	Up to equipment size	
Printing performance	Excellent	General	