PROJECT REPORT

OF

CIGARETTE PAPER MANUFACTURING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Cigarette paper Manufacturing Unit

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

Lucknow office: Sidhivinayak
Building-27/1/13,Gokhaly Marg
Lucknow-226001
Delhi Office: Multidisciplinary
Training Center, Gandhi Darshan
Rajghat, New Delhi-110002
Email-info@udyami.org.in
Contact:+91 7526000333,444,555

SAMADHAN
Nurturing Dreams - Innovative Solutions

PROJECT AT GLANCE

1	**Name of Proprietor/Director**	XXXXXXXX
2	**Firm Name**	XXXXXXXX
3	**Registered Address**	XXXXXXXX
4	**Nature of Activity**	XXXXXXXX
5	**Category of Applicant**	XXXXXXXX
6	**Location of Unit**	XXXXXXXX
7	**Cost of Project**	22.72 Rs. In Lakhs
8	**Means of Finance**	
i)	**Own Contribution**	2.27 Rs. In Lakhs
ii)	**Term Loan**	14.40 Rs. In Lakhs
iii)	**Working Capital**	6.04 Rs. In Lakhs
9	**Debt Service Coverage Ratio**	2.40
10	**Break Even Point**	0.46
11	**Power Requiremnet**	20 KW
12	**Employment**	9 Persons
13	**Major Raw Materials**	wood pulp, paddy stalk, rice husk, hemp, and flax.

14 Details of Cost of Project & Means of Finance

Cost of Project **Amount in Lacs**

Particulars	Amount
Land	Owned/Leased
Building & Civil Work	Owned/Leased
Plant & Machinery	14.50
Other Misc Assets	1.00
Furniture	0.50
Working Capital Requirement	6.72
Total	**22.72**

Means of Finance

Particulars	Amount
Own Contribution	2.27
Term Loan	14.40
Working capital Loan	6.04
Total	**22.72**

1. INTRODUCTION

Cigarette paper or Rolling paper is a special type of paper that is used only to roll cigarettes and this include commercially made Filter Cigarettes as well as Roll your own cigarettes. These papers come in packs of several cigarette-size paper sheets folded and put inside a cardboard wrapper.

Fig.: Roll your own cigarette paper

The first cigarette paper was produced in Alcoy, Spain in 1764. They became popular in the second half of the 19th century displacing the more expensive cigars and cigarillos.

These papers are made from thin and light-weight "Rag fibers" or Non-wood plant fibers such as flax, hemp, sisal, rice straw, and esparto. These papers are made available in different sizes and can be transparent, colored, and even flavored. They have a high "filler content" as much as 10 – 28 g/m^2. To control the smoking properties, this paper has a porosity that is suited to the type of tobacco and contains additives that regulate burning. One critical characteristic of the paper is permeability; its primary physical influence is smoke dilution. The fillers that are used include calcium carbonate to influence the permeability and color, magnesium carbonate to improve ash color, and titanium dioxide for a white colored ash. Sodium potassium tartrate and sodium and potassium citrate are used as a combustion regulator in cigarette paper and polyvinyl alcohol in alcohol is used

as cigarette adhesive. There are “Fire-resistant” Cigarettes which reduce the risk of fire from unattended cigarettes and are made with special type of paper that include a plastic compound “ethylene vinyl acetate”. If a cigarette made with this type of paper is left unattended, the plastic in the paper will help the cigarette self-extinguish. Different other types of paper for specialty type of cigarettes include “Imitation cork paper” which is a brown colored paper used for the production of cigarette tips. It has an imitation cork imprint and joins the filter to the tobacco stick. “Filter encasing paper” is used for the production of acetate or cellulose filters. The tip paper may be covered with polyvinyl alcohol. Cigar or cigarillo casing paper holds the chopped tobacco together and serves as the inner casing.

There are certain requirements of a cigarette paper that includes:

- High tensile strength
- High tearing strength
- High opacity
- Low permeability
- Excellent burning speed control
- Good edge, quality cut without burrs
- White ash
- Good runnability

2. PRODUCT DESCRIPTION

PRODUCT USES

Following are the uses of the cigarette paper:

1. The most basic use of the cigarette papers are that they are used to roll the cigarettes.
2. After soaking in potassium nitrate, a rolling paper can be fitted to a base bullet to make a combustible paper cartridge.
3. Cigarette papers are often used while playing the guitar to carry out notes and make a unique sound.
4. Players of wind instruments, particularly the flute use rolling paper as a blotter to remove moisture that accumulates in keypads or joints. Some clarinet players use a folded piece of rolling paper over their two front bottom teeth to protect the bottom lip from being cut, due to the pressure from the weight of the clarinet on the lip.

5. Rolling papers are used in computer-aided manufacture for setting the right level for drills. The paper is placed on the object to be machined and the drill is lowered until it catches the paper. Because the paper is so thin, this is the easiest way to get an exact start point for the drill.

2.2 RAW MATERIAL REQUIREMENT

There are number of materials that can be used for the manufacture of the cigarette rolling paper that includes wood pulp, paddy stalk, rice husk, hemp, and flax. Since the early days of rolling paper manufacturing till date, wood pulp has been the most popular choice for making the paper. But nowadays, other materials, mainly paddy stalk and hemp are being used for the manufacture due to the environmental impact for cutting trees.

The other materials that are required include Calcium Carbonate, Magnesium Carbonate, Titanium Dioxide, Sodium Potassium Tartrate, Sodium Citrate, Potassium Citrate, and Polyvinyl Alcohol.

For the pulping process, there are different methods that can be used to make the pulp, such as the Kraft process, the Sulphite process, and other pulping processes and the chemicals required will be dependent on the process chosen. The chemicals that can be used for the Pulping process are:

- Sodium Hydroxide
- Sodium Hydroxide along with 1% Anthroquinone
- Sodium Hydroxide with 1 % Parabenzoquinone
- Kraft Process chemicals with 10 – 15 % Sodium Hydroxide and 20 – 25 % Sodium Sulphite
- Potassium Hydroxide along with a certain amount of Ammonium Hydroxide.

The determination of the Cellulose, Silica, Pentosan, Ash content, Lignin content, and moisture is important before proceeding on with the Pulping process. The pulp can be analyzed for the yield, viscosity, Kappa number and drainageindex, and paper sheets made from it for breaking length,stretch, burst index, tear index and brightness.

Generally, for softwood the Kraft process is chosen and for hardwood the Sulphite process is chosen.

2.3 MANUFACTURING PROCESS

The manufacturing process can be stated as follows:

2.3.1 The process of pulp-making starts with the collection of the raw material which is wooden pulp. Any wood species either softwood or hardwood can be used for pulp. The wood, after cutting, is debarked in the forest as the bark contains dead cells which are of no use in making the pulp. Debarking is done is special drums that are loaded with the logs and then rotated. After collisions, the bark becomes easy to remove.

2.3.2 After de-barking the logs are chipped to a certain size using the Wood chipper machine. After the wood is chipped, screening is done in order to get a uniform chip size. The oversized chips are removed by screening. Knots are also removed by this process.

2.3.3 After the wood is chipped and screened, they are boiled in the boiler to soften the wooden chips and the boiled pulp is transferred to the digester to convert it to pulp. The reactor contents were stirred by an impeller fixed at the bottom of the vessel. The reaction vessel should be equipped with a heating element and a temperature controller for the heating of the reactants. Sodium hydroxide and Sodium sulphide solution is poured into the digester tank. Sulphur will dissolve the lignin upto 98 % and help in the pulp formation. Sodium Carbonate and Calcium Carbonate are also added. As the contents of the digester are stirred with the impeller, the pulp floats on the top while at the bottom, black liquor settles, containing the inorganic un- reacted chemicals, extractive, 28% lignin and hemicelluloses.

The raw material should be pre-soaked in the cooking liquor almost 2 – 3 hours prior to the cooking process.

The temperature of the reaction vessel is slowly increased from room temperature to almost 170 – 180 °C for almost 60 – 90 minutes.

2.3.4 The black liquor that settles at the bottom of the digester is a source of different chemicals hemicellulose, lignin 28%, extractives, turpentine oil, etc.the Pulp is separated from the black liquor by filtration, washed, and

then fibrized in a disintegrator at almost 1200 rpm. After this the pulp was refined and passed through a screen of 0.16 mm mesh size to remove all the uncooked material which is again added to the digester.

2.3.5 The lignin present is the pulp cannot be completely removed by the pulping process and thus the lignin is bleached as the lignin gives a yellow color to the paper. The bleaching is done as per requirement. The lignin content is 2

– 5 % and the aim is to remove this as much as possible. The conventional bleaching process used chlorine to bleach the pulp but due to the toxic effects associated with chlorine, other methods are chosen to bleach the pulp now.

The treatment of the pulp with oxygen under alkaline conditions to a chlorine free alternative to pre-bleaching. Sodium Hydroxide is used as the alkali while gaseous oxygen is used as the bleaching agent. A certain amount of magnesium sulphite can be added as the inhibitor to inhibit the oxidation of the carbohydrate present in the pulp.

The temperature of the bleaching process can range from 70 – 100 °C and the pressure is almost 30 – 40 psi. The oxygen is mixedin at the bottom of the bleaching tower underthe hydrostatic pressure of the reactor. The reaction time in the oxygen stage is30 – 90 min, and 20 – 40 kg alkali per ton of the pulp and about 0.5 – 2.5 kg magnesium sulfateare charged. Depending on the delignificationefficiency, 10 – 25 kg oxygen per ton of pulpare consumed. After the bleaching process is over, the Bleached pulp is sent to the paper making section.

Oxygen delignification is one of the most important in today's pulp bleaching technology. Though there are many techniques by which this may be carried out, Single Stage Medium Consistency Oxygen Delignification (MCOD) is the most opted method.

In a typical MCOD installation, the pulp that has been screened and washed is moved by an MC pump to a Steam Mixer. Next an MC/High Shear mixer ensures intimate gas/ liquid mixing of the oxygen-entrained pulp. The pulp is then fed to an up-flow reactor and discharged to a blow tank for further processing. Caustic and other chemicals are added before passage to the MC pump.

2.3.6 The first step in the paper making process is the “Stock Preparation”. Stock preparation denotes the operations that must be undertaken to convert raw stock intofinished stock (furnish) for the paper machine.The prepared pulp is mixed with a number of fillers such as Calcium carbonate, Titanium dioxide, Barytes, and other whitening agents depending on the amount of whiteness desired. Along with this certain other chemicals are also added for added strength and other features.

2.3.7 After the stock preparation is completed, “Sheet formation” takes place. The Stock prepared by the above process is fed to a large machine, often the Fourdrinier wire is used for this purpose. The pulp is fed on a moving belt of fine mesh screening. The pulp is then squeezed through a series of rollerswhile the suction devices below the belt, draws off all the water.

2.3.8 From the above section, the paper is passed on to the “Press section” where the paper is dried further and pressed between rollers of wool felt roller. The magnitude of the pressure applied depends on the roll and the elastic properties of the surface of the roll.

2.3.9 After the paper has been pressed, it is passed to the “Drying section”. In this section, the remaining water in the paper is removed by drying whereby fiber-fiber bonding takes places and the paper strength is increased. The paper shrinks a lot after drying and the extent of shrinkage depends on the type of stock, degree of beating during stock preparation, the fiber orientation, and on the forces applied that counteract shrinkage. Contact Drying, Forced Convection Drying, and Infrared Drying are the most common processes used to dry the paper.

2.3.10 The paper is then “Calendering section” where the paper is made glossier and the thickness is also reduced and the desired thickness is achieved by this process. The paper fiber is fed through counteracting press rolls and in this process, the surface roughness is levelled by the action of pressure and sometimes temperature. The calendering rolls are heated externally by induction or internallywith hot water, steam, or heating oil.

2.3.11 The paper that has been pre-smoothed in the calendering machine is often subjected to a further finishing treatment called "Supercalendering". A uniform, high surface smoothness is produced in this process, which is carried out independently of the paper machine, usually in supercalenders and sometimes with gloss and glassyne calendering machine. This treatmentalso improves the gloss.

2.3.12 Finally, the paper is cut to the desired width using the "Reel-slitting machine". The paper is cut with rotating circular knives of high-alloy tool steel, hard metal, or ceramic.At a defined contact pressure, the disk- shapedupper knives penetrate into the groove of the lower knives.

2.3.13 After the paper has been cut to the desired size and shape, they are packed in corrugated boxes containing a certain number of papers. Alternatively, these may be packed and sent to the cigarette manufacturing plants for cigarette manufacturing.

.

3. PROJECT COMPONENTS

3.1 Land /Civil Work

An area of almost 6,000 – 8,000 square feet would be required to set up Cigarette paper manufacturing plant. This space would be required for raw materials storage mainly, production, packaging, storage of finished goods, and administrative work. Besides this, an area for the treatment of the wastes should also be provided. Due to the increased usage of water in the manufacturing process, an area closer to any water body is preferred.

We have not considered the cost of Land purchase & building civil work in the project. It is assumed that land & building will be on rent and approximate rent of the same will be Rs 30,000 per month.

3.2 Plant & Machinery

The following machineries would be required for the manufacture of the Rolling paper:

1. Debarking machine. The wooden log to be de-barked is inserted in the machine which has several knives. The pressure of machine is controlled by hydraulic pressure generally.

PROJECTED BALANCE SHEET **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
Opening Balance		4.05	6.62	9.90	13.62
Add:- Own Capital	2.27				
Add:- Retained Profit	3.53	4.82	6.28	7.62	8.63
Less:- Drawings	1.75	2.25	3.00	3.90	5.00
Closing Balance	4.05	6.62	9.90	13.62	17.24
Term Loan	12.80	9.60	6.40	3.20	-
Working Capital Limit	6.04	6.04	6.04	6.04	6.04
Sundry Creditors	2.58	3.33	3.70	4.37	4.80
Provisions & Other Liabilities	0.50	0.75	0.90	1.08	1.30
TOTAL :	**25.97**	**26.34**	**26.95**	**28.31**	**29.38**
Assets					
Fixed Assets (Gross)	16.00	16.00	16.00	16.00	16.00
Gross Depriciation	2.38	4.40	6.12	7.58	8.83
Net Fixed Assets	**13.63**	**11.60**	**9.88**	**8.42**	**7.17**
Current Assets					
Sundry Debtors	2.01	2.02	2.62	3.32	3.50
Stock in Hand	7.28	8.39	9.33	10.31	11.34
Cash and Bank	2.55	3.58	4.21	4.26	4.38
Loans and advances/other current assets	0.50	0.75	0.90	2.00	3.00
TOTAL :	**25.97**	**26.34**	**26.95**	**28.31**	**29.38**

PROJECTED PROFITABILITY STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**60%**	**65%**	**70%**	**75%**	**80%**
SALES					
CIGARETTE PAPER	86.18	101.17	112.49	124.32	136.66
Total	**86.18**	**101.17**	**112.49**	**124.32**	**136.66**
COST OF SALES					
Raw material cost	59.47	66.61	74.09	81.90	90.05
Electricity Expenses	3.36	3.70	4.07	4.47	4.92
Depreciation	2.38	2.02	1.72	1.46	1.25
Wages & labour	6.24	6.86	7.55	8.31	9.14
Repair & maintenance	0.43	1.01	1.35	1.24	1.37
Consumables	1.29	1.52	1.69	1.86	2.05
Packaging cost	2.15	1.52	1.12	1.24	1.37
Cost of Production	75.33	83.24	91.59	100.49	110.13
Add: Opening Stock	-	4.31	5.06	5.62	6.22
Less: Closing Stock	4.31	5.06	5.62	6.22	6.83
Cost of Sales	71.02	82.49	91.02	99.90	109.52
GROSS PROFIT	**15.17**	**18.67**	**21.47**	**24.42**	**27.14**
GROSS PROFIT RATIO	**17.60%**	**18.46%**	**19.09%**	**19.64%**	**19.86%**
Salary to Staff	4.44	5.11	5.87	6.75	7.77
Interest on Term Loan	1.42	2.14	0.89	0.54	0.19
Interest on working Capital	0.66	0.66	0.66	0.66	0.66
Rent	3.00	3.30	3.63	3.99	4.39
Selling & Administration Expenses	2.07	2.53	3.66	4.04	4.44
TOTAL	**11.59**	**13.74**	**14.72**	**15.99**	**17.45**
NET PROFIT	3.58	4.93	6.76	8.43	9.69
Taxation	0.05	0.11	0.48	0.81	1.06
PROFIT (After Tax)	3.53	4.82	6.28	7.62	8.63
NET PROFIT RATIO	**4.15%**	**4.88%**	**6.00%**	**6.78%**	**7.09%**

PROJECTED CASH FLOW STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	2.27				
Net Profit	3.58	4.93	6.76	8.43	9.69
Depriciation & Exp. W/off	2.38	2.02	1.72	1.46	1.25
Increase in Cash Credit	6.04	-	-	-	-
Increase In Term Loan	14.40	-	-	-	-
Increase in Creditors	2.58	0.75	0.37	0.66	0.43
Increase in Provisions & Other liabilities	0.50	0.25	0.15	0.18	0.22
TOTAL :	**31.75**	**7.96**	**9.00**	**10.74**	**11.59**
APPLICATION OF FUND					
Increase in Fixed Assets	16.00				
Increase in Stock	7.28	1.11	0.94	0.98	1.02
Increase in Debtors	2.01	0.01	0.60	0.69	0.18
Increase in loans and advances	0.50	0.25	0.15	1.10	1.00
Repayment of Term Loan	1.60	3.20	3.20	3.20	3.20
Drawings	1.75	2.25	3.00	3.90	5.00
Taxation	0.05	0.11	0.48	0.81	1.06
TOTAL :	**29.20**	**6.93**	**8.37**	**10.68**	**11.47**
Opening Cash & Bank Balance		2.55	3.58	4.21	4.26
Add : Surplus	2.55	1.03	0.63	0.05	0.11
Closing Cash & Bank Balance	**2.55**	**3.58**	**4.21**	**4.26**	**4.38**

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	5.90	6.84	8.00	9.08	9.87
Interest on Term Loan	1.42	2.14	0.89	0.54	0.19
Total	7.32	8.98	8.89	9.62	10.06
REPAYMENT					
Instalment of Term Loan	1.60	3.20	3.20	3.20	3.20
Interest on Term Loan	1.42	2.14	0.89	0.54	0.19
Total	3.02	5.34	4.09	3.74	3.39
DEBT SERVICE COVERAGE RATIO	**2.43**	**1.68**	**2.17**	**2.57**	**2.97**
AVERAGE D.S.C.R.					**2.36**

SAMADHAN
Nurturing Dreams - Innovative Solutions

DISCLAIMER

The views expressed in this Project Report are advisory in nature. SAMADHAN assume no financial liability to anyone using the content for any purpose. All the materials and content contained in Project report is for educational purpose and reflect the views of the industry which are drawn from various research material sources from internet, experts, suppliers and various other sources. The actual cost of the project or industry will have to be taken on case to case basis considering specific requirement of the project, capacity and type of plant and other specific factors/cost directly related to the implementation of project. It is intended for general guidance only and must not be considered a substitute for a competent legal advice provided by a licensed industry professional. SAMADHAN hereby disclaims any and all liability to any party for any direct, indirect, implied, punitive, special, incidental or other consequential damages arising directly or indirectly from any use of the Project Report Content, which is provided as is, and without warranties.