

WOVEN SACKS FOR FERTILIZERS

1. INTRODUCTION

Synthetic woven sacks are usually made of Polypropylene (PP) / High Density Polyethylene (HDPE). These are either laminated, or supplied without lamination depending upon end application. Synthetic Woven Sacks has more life and strength, as compared to jute bags. The usage has increased during the last few years.

HDPE or PP woven sacks are especially suitable for packaging purposes because of their number of functional advantages over jute bags. The woven sacks are water repellent and do not rot. These are chemically inert and therefore more suitable for packaging of various chemicals, plastic granules etc. These sacks are much lighter in weight when compared with identical size sacks of jute. HDPE/PP woven sacks are also stronger and can withstand much higher impact loads, because HDPE/PP has high tensile strength and its elongation at break is 15 to 25 per cent compared to 3 per cent for jute. Plastic woven sacks are much cleaner both in use and production and resist fungal attack.

In addition to packaging of fertilizers, PP woven sacks are used in India for packaging of

- Cement
- Chemicals
- Polymers
- Food grains

Retail Packaging of Commodities etc.

2. PRODUCTS AND ITS APPLICATION

Due to numerous advantages of HDPE/PP woven sacks over jute sacks, these are finding more and more applications in packaging of a wide range of products. They are expected to substitute jute and kraft paper bags in several areas. This would mean a

considerable saving in foreign exchange by avoiding recurring imports of multi-wall paper. Further, their use has also resulted in an increase in foreign exchange earnings of the country by realizing more jute for exports.

In recent years, synthetic sacks have emerged as a good packaging medium for bulk packaging of fertilizers, chemicals, foodstuffs, cement etc.

3. DESIRED QUALIFICATION FOR PROMOTER

The Promoter should have preferably a basic degree in plastic engineering/ processing or a degree/ diploma in engineering / or a degree in chemistry. Experience of at least two to three years in plastic industry is desirable.

4. INDUSTRY OUTLOOK AND TRENDS

The plastic woven sack industry has been an integral part of plastic processing industry since mid-80s. Since then the industry has grown tremendously and is continuing to post a growth rate of nearly 11-13% in terms of fulfilling packaging demand of major segments mentioned above. The outlook for the industry is very positive fueled by high growth rates in endues sectors such as fertilizers, chemicals, cement, etc.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

Indian Petrochemical industry is one of the fastest growing sectors of the economy. The petrochemical sector has an average growth at a rate of 13% per annum, which is more than double the growth of GDP. The usage of polymers for injection molding and other components used in engineering plastics is bound to increase with the increase in production of automobile vehicles, machinery and other electrical machinery and consumer durables. The Indian Plastic Industry has taken great strides in its quest for success. The last few decades have seen it rise to the position of a leading force in the country with a sizable base. The industry itself is growing at a fast pace and the per capita consumption of plastics in the country has increased manifold as compared to the earlier decade.

Plastic has undoubtedly gained notable importance in every sphere of activities.

It has helped substitute and save scarce natural resources. It is an inseparable part of our daily life.

6. RAW MATERIAL REQUIREMENTS

LLDPE

Chemicals & Other Items

7. MANUFACTURING PROCESS

1. Manufacturing of tapes

The granules of plastic raw materials are fed to the extruder hopper, where they are plasticized and the melt flow is passed through a T-die. Film formed is slit into thin strips. These strips are then oriented by stretching them under heated condition at a pre-determined ratio. Finally, the tapes are wound on cheese winders.

2. Weaving of tapes into fabrics

The tapes so obtained by step 1 are fed to circular looms and woven into tubular fabrics on cloth winder.

3. Lamination or extrusion coating

Fabric produced in stage 2 may require to be coated. In case of PP woven sacks lamination is done by special grade of PP only.

Fabric roll is mounted on unwinder from where it passes through two rolls over which T-die connected to the extruder is located. The melt of the material which

is to be coated on the fabrics comes through the T- Die as an extrudate and coats the woven fabric. It is then cooled under the pressure and wound.

4. Cutting, stitching and printing

In stage 3 or the unlaminated fabric as produced at the end of stage 2 is cut, and the bottom is stitched. Then it is printed as per the requirement of the customer.

8. MANPOWER REQUIREMENT

Sr. No.	Particulars	Numbers	Salary Per Month
1	Production Engineer/Manager	1	20,000
2	Sales Executive	2	20,000
3	Accountant	1	10,000
4	Store Keeper-cum-Clerk	1	8,000
5	Watchman	3	12,000
6	Supervisor	3	18,000
7	Skilled Workers	45	1,35,000
8	Unskilled Workers	60	2,40,000
	Total	116	4,63,000

9. IMPLEMENTATION SCHEDULE

Estimated implementation time for the project would be 15 to 17 months.

Sr. No.	Particulars	Time Period
1	Preparation of Project report	Two months
2	Sanction of loan	Four months
3	Selection of Site	Two month
4	Registration and other formalities	One month
5	Machinery procurement, erection and Installation	six Months
6	Trial production and commissioning	Two Months

10. COST OF PROJECT

Cost Of Project

Sr. No	Particulars	Rs. In Lakhs
1	Land & Building	20.00
2	Plant & Machinery	111.05
3	Other Misc. assets	0.50
4	Pre-Operative expenses	1.00
5	Margin for WC	6.00
	Total	138.55

11. MEANS OF FINANCE

Means of Finance

Sr. No	Particulars	Rs. In Lakhs
1	Promoters Contribution	34.638
2	Bank Finance	103.91
	Total	138.55

12. WORKING CAPITAL CALCULATION

Sr. No.		Months Consumptions	Values	%	Margin Amount	Bank Finance
1	Raw Materials	0.50	7.10	25%	1.78	5.32
2	Consumables	2.00	2.00	25%	0.05	0.15
3	Finished goods	0.50	10.34	25%	2.59	7.75
4	Debtors	0.50	10.83	10%	1.08	9.75
5	Expenses	1.00	0.50	100%	0.50	0.00
	Total		28.97		6.00	22.97

13. LIST OF MACHINERY REQUIRED

No.	Description	Qty.	Price
1.	65 mm PP/HDPE Tape Plant with output of 80-90 Kgs/hr. suitable for manufacture of tapes of 700 to 1500 denier, for operating speed up to 225 mtrs/min, complete with single screw 65 mm extruder, drive, helical gear box, hopper, barrel, screw, complete set of heaters for the barrel, adaptor, T-Die, cassette type screen changer, S.S. Tank for film quenching, edge trimmer with grinder and pneumatic conveying device. Take Up equipments consist of preliminary take off with slitter assembly, first Godet with DC drive, Orientation Hot Plate, Combined stretching and annealing unit with DC drive, complete with electricals, and drives.	Whole Unit	15,00,000
2.	KET type Cheese winders	68 Nos.	9,50,000
3.	Circular Looms	6 Nos.	60,000
4.	Industrial Sewing Machines	4 Nos.	1,60,000
5.	Fabric Cutting Equipment	4 Nos.	1,40,000
6.	Flexographic Printing M/c	1 No.	2,75,000
7.	Chilling Plant (12 TR)	1 No.	3,80,000
8.	Other Equipments like <ul style="list-style-type: none"> Bale Pressing M/c Compressor (15 HP) Tensile Tester Weighing Machine Cheese Pipes Transformer & Electrical Distribution Panel. Water Pump Generator (200 KVA) 		17,00,000
Total.			111,05,000

Woven Sack plants are manufactured by more than 100 different companies ranging from national level manufacturers to local suppliers. Major among these are Klonkor Vincor, Kolsite Industries, KonarkPlastomac, Remika Plastic Machineries, etc.

14. PROFITABILITY CALCULATIONS

Profitability Over Five Years

(Rs.)

Sr. No	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
	Production/Sales-MTs	283.5	324	364.5	364.5	364.5
A	Sales Value	439.425	502.2	564.975	564.975	564.975
1	Raw Materials	266.728	304.832	342.936	342.936	342.936
2	packing material	1.421	1.624	1.827	1.827	1.827
3	Power	45.535	52.04	58.545	58.545	58.545
4	Wages & Salaries	58.338	58.39	58.44	58.49	58.54
5	Repair& maintenance	15	16.50	18.00	19.50	21.00
6	Depreciation	16.65	16.50	16.35	16.20	16.05
B	Cost Of Production	403.672	449.884	496.096	497.496	498.896
1	Selling , Admin & Genera Exp	9	9.05	9.10	9.15	9.20
2	Interest on term loan	11.43	9.8	8.16	6.53	4.90
3	Interest on working capital	2.53	2.53	2.53	2.53	2.53
C	Total Cost	426.632	471.264	515.886	515.706	515.526
D	Profit Before tax (A-C=D)	12.793	30.936	49.089	49.269	49.449
	tax 30%	3.8379	9.2808	14.7267	14.7807	14.8347
	Profit after tax	8.9551	21.6552	34.3623	34.4883	34.6143

Underlying assumptions for probability calculation are:-

The installed capacity of the plant is assumed at 405 MT per annum. The capacity utilization is taken at 70% for the first year resulting in production and sales of 284 MT of finished products. The raw material price is assumed at Rs. 92/- per KG. The selling price is taken at Rs.150-155/- per KG. Power cost is taken at Rs.8/- per unit. Interest rate on long term loan is taken at 11%.

15. **BREAKEVEN ANALYSIS**

Fixed Cost (FC):	Rs. In lakhs
Wages & Salaries	58.34
Repairs & Maintenance	15.00
Depreciation	16.65
Admin. & General expenses	09.00
Interest on Term Loan	11.43
Total	110.42

Fixed Cost: 110.42

Profit Before Tax: 12.79

BEP = FC x 100/FC+P

110.42 /123.21 x 70/100 x 100

62.734 %

16. **STATUTORY/GOVERNMENT APPROVALS**

There is no specific statutory requirement for plastic industry process. However, MSME registration various taxation related registration and labour law related compliances have to be ensured. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

17. **BACKWARD & FORWARD LINKAGES**

There are no specific backward or forward linkages related techno-economic advantages or synergies for this type of project. However, in future after achieving certain growth entrepreneur may consider backward linkage.

18. **TRAINING CENTRE AND COURSES:**

There are number of institutions providing facilities and training courses on production/marketing for the proposed project. These are Central Institute of Plastic

Engineering and Technology (CIPET), Indian Institute of Packaging Management (IIPM), Plastic and Rubber Institute (PRI), Indo German Tool Room (IGTR), etc.

Udyamimitraportal (link : www.udyamimitra.in) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

Disclaimer:

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.