

PROJECT PROFILE

ON

AIR BUBBLE PACKAGING

Month & Year

July 2010

**PREPARED BY
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AIR BUBBLE PACKAGING

INTRODUCTION:

Air bubble packaging film has gained a good status in packaging field as a convenient and economical cushioning material. Cushioning materials are available in many types and forms. The old traditional wood excelsior and shredded paper or tissue have been supplemented or replaced by corrugated pads. Further sophistication, convenience and improved functional characteristic in cushioning have been achieved by using various types of plastic foams. Most commonly used plastic foam for packaging application is expanded polystyrene.

Air bubble polyethylene film is preferred over expanded polystyrene because it is cost effective. Resiliency of air bubble film is much higher than expanded polystyrene and ultimate volume of package is much lower if air bubble film is used. It is most suitable for packaging of light fragile items, sophisticated electronic goods, calculators etc.

The demand generation of electronic goods in recent years has left wide gap to fulfill the packaging need using air bubble film which has generated a good potential of the project for new entrepreneurs. Besides packaging applications, air bubble film is widely used in developed countries as swimming pool cover.

PRODUCT USES & SPECIFICATIONS:

The major area of application may be segregated into the following fields.

1. Packaging of fragile items like crockery etc.
2. Packaging of electronic items.
3. Plastic machinery parts packaging.
4. Precious antiques packaging.
5. Pharmaceutical bottles, vials packaging etc.
6. Some special type of chemical packaging.

SPECIFICATIONS:

Air bubble film is a two layer laminated low density polyethylene film with entrapped air inside, between the two layers in bubble form in some orderly fashion. Air bubbles render cushioning effect. The bubbles may be of different sizes. The size of bubble and thickness of film is decided depending upon the end use (i.e.,) the type and weight of content to be packed.

Air bubble LDPE film has following properties.

1. Excellent water resistance
2. Atmospheric resistance
3. High dielectric properties.
4. Resistance to termite and white ant.
5. Easy and economical packaging process.
6. Very high shock absorption property.
7. Resistant to most acid and alkalis for moderate duration.
8. Light in weight, attractive look, printable, washable and heat sealable.

MARKET POTENTIAL:

The Indian packaging industry is expected to grow to Rs 82,500 crores by 2015 from the current Rs 65,000 crores.

India stands at the 11th position in the world packaging industry, which is \$550-billion, and with the rising consumer demand and new technologies, it is expected to grow at 18-20 per cent from the current 15 per cent, as per Indian Institute of Packaging (IIP).

Among the total packaging sources, plastic packaging is at 6.8 million tonne and growing at 20-25 per cent per annum, whereas paper packaging is 7.6 million tonne. Glass packaging contributes to 4-5 per cent and metal 8 per cent. Forty per cent of the total paper production goes for packaging.

Today, whatever we use needs a packaging. Last year, our GDP growth was 8.5 per cent while the packaging industry grew 15 per cent.

Indian Packaging Industry

- The market volume of the Indian packaging industry amounts to about Rs. 77,570 crore and has constantly grown by approximately 15 percent year on year.
- The pace of growth will accelerate to between 20-25 percent over the next five years.
- The highest demand for packaging and the associated equipment come from the food processing industry at 50 percent and from the pharmaceutical industry at 25 percent.
- The large growing middle class, liberalization and organized retail sector are the catalysts to growth in packaging. Also food and Pharma packaging are the key driving segments.
- The Indian food market is estimated to total about Rs. 8,82,350 crore according to the 'India Food Report 2008' published by Research and Markets.
- Food retail turnover is expected to grow from the current Rs 3,39,365 crore mark to 7,27,212 crore by 2025.
- The pharmaceutical industry is expected to average an annual growth of 16 percent till 2012.
- There are about 600-700 packaging machinery manufacturers, 95 percent of which are in the small and medium sector located all over India.
- Indian packaging machinery imports are around Rs 606 crore (20-25 percent) while the Indian packaging machinery exports are rapidly growing.
- Germany and Italy are the largest suppliers of packaging machinery to India but focus is now shifting on Taiwan and China.

- Indian companies are now placing increasing emphasis on attractive and hygienic packaging. This promises enormous potential for the future.

Packaging & Allied Industries – The South India Scenario

- Southern states including Andhra Pradesh, Karnataka, Kerala, Bangalore and Tamil Nadu -- now lead the country in a number of indices, including Packaging.
- South India has emerged as the largest consumer of 'poly ethylene terephthalate' (PET) material for packaging mineral water.
- South India is emerging as a strong pharma hub with strong infrastructure of research facilities and scientists.
- Dairy product packaging constitutes a large portion of the South India Packaging industry.
- Abundant tea production in South India brings opportunities in paper bag packaging industry.
- Retail Sales of packaged food is growing at a rate of 12 percent in South India.
- As Coffee and Spice output in the Southern hemisphere see a steady incline of close to 10 percent individually and export markets pick up again, newer opportunities arise for various packaging segments.
- While major components such as cartons, cans and laminates, which are Bureau of Indian Standards (BIS) certified, are of global standards, the glass bottles and outer cartons are areas that need to be upgraded.

D. TECHNICAL ASPECTS:

INSTALLED CAPACITY:

The capacity envisaged is 1440 MT per annum on the basis of two shifts per day for 300 days. This works out to 10435200 sq.mtrs

PLANT & MACHINERY

Polycell Bubble Sheet Making machine Rs. 70.00

MANUFACTURING PROCESS:

LDPE granules fed into the hoppers of 100 mm and 75mm extruder respectively pass through the extruders, where they are melted, plasticised and forced through the 2 layer nips of T die. In the die two layers of LDPE sheets of required thickness are formed simultaneously. These two layers are passed through two silicon synthetic cooling rollers where air bubbles are thermo formed over one roller and simultaneously it is laminated by forcing other layer by pressure. At this point, vacuum forming of bubble, cooling of outer surface of both layers and lamination of thermoformed layer on secondary layer occur simultaneously.

After this the formed layers are cooled and moved forward trimmed and then to the winder through take off rollers and then to winder.

RAW MATERIALS

LDPE granules 1515.6 MT/annum.

Price Rs.87 per kg.

LAND & BUILDING:

Building area required 5000 Sqft. Rent Rs.50000 advance Rs.5.00 lakhs

UTILITIES:

Electricity:

Power requirement is 170 KW which is sufficient for operation.

Water:

Water about 15000 kilo litres is required for process, majority of water is recycled.

Effluent Treatment:

Process does not discharge any harmful effluent. However NOC from Pollution Control Board has to be obtained.

Man Power Requirement:

Category	Nos.	Monthly	Total monthly
Manager	1	10000	10000
Accountant	1	6000	6000
Office Assistant	1	5000	5000
Office Boy	1	4000	4000
Supervisor	2	8000	16000
Skilled	4	6000	24000
Semi skilled	4	5000	20000
Unskilled	6	4000	24000
Maintenance fitter	1	5000	5000
Electrician	1	5000	5000
			119000
Add : Benefits	20%		23800
Total			142800
Total wages per annum [Rs. lakhs]			Rs.17.14

IMPLEMENTATION SCHEDULE:

The machines are to be imported. The delivery can be done within 6 months. The project can be implemented within 9 months period after arranging building.

ASSUMPTIONS:

1. Installed capacity-1440 MTs (10435200 Square metres) per annum
2. Capacity utilization Year 1- 60%, Year 2-70% and Year 3-80%
3. Selling Price Rs.16 per Sq. mt
4. Raw materials at 100 % capacity Rs.1318.57 lakhs

5. Power charges at 100% Rs.94.00 lakhs –Power rate Rs.5.25 per unit
6. Depreciation is calculated on WDV method at 15% on plant and machinery
6. Wages & salaries Rs.17.14 lakhs p.a. as per the detail given above with annual increase 5%.
7. Repairs & Maintenance Rs.2.40 lakhs p.a (Rs. 20000 per month) with annual increase 5%
8. Administrative & general expenses Rs.1.00 lakh per month with annual increase 5%
9. Selling expenses 1% on sales value
10. Interest on Term Loan and Working capital finance 12% p.a.
11. Income tax-33.22 % on profits

LIST OF MACHINERY SUPPLIERS

1. M/s. Polyprise Incorporated, No.12, Lane 10, KAO-CHING Road, YANGMEI TOWN, TAOYUAN HSIEN, TAIWAN R.O.C., TL 03-4641966 FAX 886-3-4961093
2. M/s. CHI CHANG MACHINERY CO. Ltd., 15F1-1, No164, Sec.5.Nankmg E. Road,
TAIPEI, TAIWAN R.O.C., Tel (02) 761-3251 Fax 886-2-760-4641
3. Konark Plastic Machinery, No.5, Africawala Estate, Behind Chakudia Mahadev,
Opp: Comet House, Rakhial, Ahmedabad 380 023.
4. Sunrise Plastic Machinery Mfg, B-21, 22 Ambica Estate, Ahmedabad-382415

RAW MATERIAL SUPPLIERS

1. V.D. Samy & Co. Ltd., 26, Cathedral Road, Chennai - 600 086.
2. Reliance Industries Ltd., 501, JVL Plaza, Anna Salai, Chennai - 600 018.
3. Haldia Petro chemicals Ltd., 41, VN Road, T.Nagar, Chennai - 600 017.

FINANCIAL ASPECTS

1. COST OF PROJECT

	[Rs.lakhs]
Building-Advance	5.00
Plant & Machinery	70.00
Other Misc. assets	3.00
Pre-Operative expenses	10.50
Margin for WC	60.14
	<u>148.64</u>

2. MEANS OF FINANCE

Capital	96.14
Term Loan	52.50
	<u>148.64</u>

3. COST OF PRODUCTION & PROFITABILITY STATEMENTS

	[Rs.lakhs]		
Years	1	2	3
Installed Capacity - MT	1440	1440	1440
- Sqmt.	10435200	10435200	10435200
Utilisation	60%	70%	80%
Production/Sales - MT	864	1008	1152
- Sqmt.	6261120	7304640	8348160
Selling Price per Sqmt.	Rs.16		
Sales Value (Rs. lakhs)	1001.78	1168.74	1335.71
Raw Materials	791.14	923.00	1054.86
Power	56.40	65.80	75.20
Wages & Salaries	17.14	18.00	18.90
Repairs & Maintenance	2.40	2.64	2.90
Depreciation	12.35	10.52	8.96
Cost of Production	<u>879.43</u>	<u>1019.96</u>	<u>1160.82</u>
Admin. & General expenses	12.00	12.60	13.23

Selling expenses	10.02	11.69	13.36
Interest on Term Loan	6.30	5.51	3.94
Interest on Working Capital	27.48	27.48	27.48
Total	935.23	1077.24	1218.83
Profit Before Tax	66.55	91.50	116.88
Provision for tax	22.11	30.40	38.83
Profit After Tax	44.44	61.10	78.05
Add: Depreciation	12.35	10.52	8.96
Cash Accruals	56.79	71.62	87.01

4. WORKING CAPITAL:

	Months Consumptions	Values	%	Margin Amount	Bank Finance
Raw Materials	2.00	131.86	25%	32.97	98.89
Finished goods	1.00	73.29	25%	18.32	54.97
Debtors	1.00	83.48	10%	8.35	75.13
Expenses	1.00	0.50	100%	0.50	0.00
		289.13		60.14	228.99

6. PROFITABILITY RATIOS BASED ON 80% UTILISATION

<u>Profit after Tax</u>	=	<u>78.05</u>	6%
Sales		1335.71	
<u>Profit before Interest and Tax</u>	=	<u>148.30</u>	39%
Total Investment		377.63	
<u>Profit after Tax</u>	=	<u>78.05</u>	81%
Promoters Capital		96.14	

7. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	18.90
Repairs & Maintenance	2.90
Depreciation	8.96
Admin. & General expenses	13.23
Interest on TL	3.94
	<u>47.93</u>

Profit Before Tax (P) 116.88

$$\text{BEL} = \frac{\text{FC} \times 100}{\text{FC} + \text{P}} = \frac{47.93}{164.81} \times \frac{80}{100} \times 100$$

23% of installed capacity