Profile No.: 48 **NIC Code: 22203**

PLASTIC BOTTLES (PET)

1. INTRODUCTION

The packaging of hair shampoos in PET blow molded bottles is preferred because of the high clarity, good impact and availability in assorted shapes and color tints to provide sales appeal. Major reputed producers of shampoos have standardized the marketing of their products in PET blow molded bottles.

The basic variance in shape is the circular and oval type. The popular marketing sizes and related bottle weight for oval bottle range from:

Sr. No.	Particulars	Particulars
1	50 ml – 10 gms	200 ml – 25 gms
2	100 ml – 17 gms	250 ml – 39 gms
3	125 ml – 18 gms	300 ml – 42 gms

The circular bottle will have a 10 to 15% lower weight for above capacity sizes.

2. PRODUCTS AND ITS APPLICATION

Most of the shampoo producing companies prefers PET bottles because of its convenience both for the consumers and producers. It is easy to handle and less weight compared to glass/tin bottles. While marketing it is advantageous to have very distinct shapes and colours. Additional products besides shampoos which can be packed in PET bottles and containers would be oils, deodorants, talcum powder, creams, hair tonic, containers, skin lotions 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/Trend

Plastic and Polymer industries in India is growing at about 5% per annum. There are mainly two types of polymers such as commodity plastics and engineering plastics. The products in commodity plastics are well developed and growing at lesser space then engineering plastics. The trend in consuming industries is to have more sophisticated and attractive packaging. Therefore the demand for well-designed and printed bottles are ever increasing. Moreover glass packing material is being replaced by plastic due to ease of production, reduced cost, printability and impact resistance.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

The demand for PET blow molded items is increasing, on everyday basis. Lot of consumer products are packed in PETmolded items. Hence, market potential is not a hurdle for any new entrepreneurs as the personal care sector is growing rapidly. The simplest shape to blow is a sphere and this is the most economical in terms of surface are to content in a given volume. Other shape preferred is oval. The consuming sector such as shampoo and other personal care products are growing at the rate of 14% per annum.

6. RAW MATERIAL REQUIREMENTS

The major raw material is blow moulding grade PET. This is available from Reliance Industries Ltd. andother importers.

7. MANUFACTURING PROCESS

There are two types: (1) Blow moulding process and (2) Extrusion blow moulding& injection blow moulding.

The extrusion blow moulding process begins with plastication, which involves production by extrusion of a "PARISON". The mould seals off the top end of the parison. A blowing pin is inserted from the bottom and compressed air is blow through it. This parison thus takes the shape of the mould cavity.

The following properties of end product must be ensured during manufacturing:

- Uniform wall thickness of the container
- Weight of different articles produced in a production run should be consistent
- Uniform color dispensation throughout the article
- Specified dimensional accuracy.

Factory that would be important in replacing conventional packaging materials with PET shampoo bottles are as follows:

- Economics
- Clarity/Appearance factors
- Functional Container Performance
- Top Load
- Vacuum Resistance
- Impact Strength
- Flexibility
- Availability of Raw Materials

Run Lengths by Size and Filling Locations

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	1	5,000
6	Supervisor	2	16,000
7	Technicians	2	24,000
8	Workmen	15	75,000
	Total	**25**	**1,78,000**

9. IMPLEMENTATION SCHEDULE

Sr. No.	Particulars	Time
1	The Time requirement for preparation of Project report	Two months
2	Time requirement for selection of Site	One month
3	Time required for registration as Small Scale Unit	One Week
4	Time required for acquiring the loan Machinery procurement, erection and commissioning	Three months
5	Recruitment of laborer etc.	One month
6	Trial runs	One month

10. COST OF PROJECT

Sr. No.	Particulars	Rs in lakhs
1	Land and Building	35.00
2	Plant and Machinery	16.85
3	Miscellaneous Assets	18.00
4	P & P Expenses	15.00
5	Contingencies @ 10% on land and building and plant and machinery	30.60
6	Working capital margin	34.68
	Total	150.13

11. MEANS OF FINANCE

Means Of Finance

Sr. No	Particulars	Rs. In lakhs
1	promoters contribution	37.5325
2	Bank Finance	112.5975
	Total	150.13

12. WORKING CAPITAL CALCULATION

Sr. No.	Particulars	Monthly Consumptions	Total value	Promoters margin	Margin amount	Bank finance
1	Staff and labour	1	21.36	100%	21.36	0
2	Raw materials	8.17	4.90	60%	2.94	1.96
3	Utilities	0.5	3.24	25%	0.81	2.43
4	other expenses	1	1.32	50%	0.66	0.66
	Total		30.82		25.77	5.05

13. LIST OF MACHINERY REQUIREDAND THEIR MANUFACTURERS

Blow moulding machines for PET shampoo bottles are available from Thailand, Vietnam, India and China. The proposed capacity of the plant would be 140 tonnes per annum.

Sr. No.	Particulars	Nos.	Rs in lakhs
1	Hand operated station injection blow moulding machine-120gms-1.25 liters	1	6.00
2	Hand operated station injection moulding machine-180gms-250 liters.	1	8.00
3	Compressor 1 HP capacity	1	0.10
4	Mould& Dies	6	2.40
5	Electrification and erection		0.15
	Total		16.65

- Duex Industrial Systems
  H-312, Sharad Industrial Estate,
  Lake Road Bhandup West,
  Near Bhandup Police Station
  Mumbai - 400078
  Maharashtra.

- ZeelPlast Machinery 75,
  Shyam Industrial Estate,
  Odhav Industrial Estate,
  Nr. Zaveri Estate,
  Singarva-Kathwada Road,
  Ahmedabad, Gujarat.

- Ocean International
  Nikol, Ahmedabad,
  Gujarat

14. PROFITABILITY CALCULATIONS

Particulars	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
(A) Sales Realization	11637500	13300000	14962500	14962500	14962500
(B) Cost of Production					
Raw materials	5880000	6720000	7560000	7560000	7560000
Utilities	226800	259200	291600	291600	291600
Salaries	1569960	1783560	1997160	1997160	1997160
Stores and Spares	882000	1008000	1134000	1134000	1134000
Repairs and maintenance	504000	576000	648000	648000	648000
Selling expenses @20%	504000	576000	648000	648000	648000
Administrative Expenses (other expenses)	92400	105600	118800	118800	118800
Total	9659160	11028360	12397560	12397560	12397560
(C) Profit before interest & depreciation	1978340	2271640	2564940	2564940	2564940
depreciation	249750	249750	249750	249750	249750

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
Profit Before term loan and tax	1728590	2021890	2315190	2315190	2315190
Interest on term loan (11%)	1194337	1061633	884694	707755	530816
Profit before tax	534253	960257	1430496	1607435	1784374
Tax (30%)	160275.9	288077.1	429148.8	482230.5	535312.2
Total Profit	**373977.1**	**672179.9**	**1001347**	**1125204.5**	**1249061.8**

15. BREAKEVEN ANALYSIS

Sr. No.	Fixed Cost (FC):	Rs. In lakhs
1	Wages & Salaries	15.69
2	Repairs & Maintenance	0.50
3	Depreciation	2.49
4	Admin. & General expenses	0.92
5	Interest on Term Loan	11.94
	Total	**31.40**

Fixed Cost: 31.40

Profit Before Tax: 5.34

BEP = FC x 100/FC+P

31.40/36.74x 70/100 x 100

59.82 %

16. STATUTORY/ GOVERNMENT APPROVALS

There is no specific statutory requirement for plastic processing industry. However MSME & GST registration, IEC Code for Export of end products and local authority clearance may be required for Shops and Establishment, for Fire and Safety requirement and registration for ESI, PF and Labour laws may be required if applicable. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

17. BACKWARD AND FORWARD INTEGRATION

There is no possibility of backward linkages in this case. However as forward linkages promoter may think of going for higher volume capacity bottles, printing on bottles and also use of other polymers like HDPE and PP.

18. TRAINING CENTERS/COURSES

For plastic processing industry training and short term courses may be availed from the Central Institute of Plastic Engineering and Technology (CIPET), Guindy, Tamil Nadu and its regional centers. More over training and guidance are also provided by polymer manufacturers such as Reliance Industries Limited. Udyamimitra portal (link : www.udyamimitra.in) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

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.