

Project Profile

<u>Project Profile</u>	
Name of the Product	PET Bottles
Production Capacity (per annum):	Manufacture of 16,00,000 nos. of PET Bottles per annum
Month & Year of Preparation	June - 2020
Prepared by	MSME Development Institute, Shaheed, Captain Gaur Marg, Okhla Phase III, New Delhi - 110020. Tel. 011 2683 8068
Prepared for	Prospective Entrepreneurs

Introduction (PET Bottles) :

PET, which stands for polyethylene terephthalate, is a form of polyester. PET consists of polymerized units of the monomer ethylene terephthalate, with repeating (C₁₀H₈O₄) units. PET is commonly recycled, PET in its natural state is a colorless, semi-crystalline resin. Based on how it is processed, PET can be semi-rigid to rigid, and it is very lightweight. PET is simple to transport and won't break.

PET is extruded or molded into plastic bottles and containers for packaging foods and beverages, Sanitizer Bottles, personal care products and many other consumer products of different design and sizes.

Market Demand:

PET is hygienic, strong, resistant to attack by micro-organisms, does not react with foods or beverages, and will not biologically degrade. Its safety for food and beverage use, It is recognized by health authorities around the world. PET bottles and food jars can be found in the aisles of virtually any grocery store or market. PET containers are regularly used to package sodas, water, juices, salad dressing, cooking oil, peanut butter and condiments.

Many other consumer products, such as shampoo, liquid hand soap, Hand Sanitizer Bottles, mouthwash, household cleaners, dishwashing liquid, vitamins and personal care items are also frequently packaged in PET. Special grades of PET are used for carry-home food containers and prepared food trays that can be warmed in the oven or the microwave.

Production Target:

It is proposed to manufacture 16,00,000 nos. of PET Bottles per year in working capacity of 8 hours per day work & total 300 working days in a year.

Basis & Presumption:

1. 300 schedule working days have been considered per annum.
2. Minimum labour wages have been considered.
3. 1-2% of raw material may be wasted during processing.
4. 14% rate of interest both for fixed and working capital has been taken into account.

Implementation Schedule:

Sr. No.		
1.	Preparation of project profile	2 Weeks
2.	Selection of site	2 Weeks
3.	Machinery installation and procurement of Raw material	4 Weeks
4.	Recruitment of staff and trial run	2 Weeks
5.	Availability of finance	2 Weeks
	Total Time	12 Weeks

Energy Conservation:

The unit is equipped with low electric energy consumption machinery. Awareness among workers regarding energy conservation can only minimize energy loss.

Environmental Pollution:

This unit shall work very seriously according to government guidelines and not produce any pollution hazards. However, the unit should maintain good working environment.

PET Bottle Production Line (Production line consists of two steps):-

Step 1	PET preform injection molding	
	a)	PET preform injection molding machine which is specially designed suitable for PET preform manufacture.
	b)	PET preform mould with hot runner valve gate system, mould cavity could be 2 cavity, 4 cavity, 8 cavity, 12 cavity, 16 cavity, 24 cavity, 32 cavity, 48 cavity, 72 cavity, 96 cavity, 144 cavity etc.
	c)	Three in one equipment. before preform injection molding, the PET plastic raw material will go for three in one equipment first with the function material feeding, drying and dehumidifying.
	d)	Low pressure air compressor set, including air compressor, air dryer, air tank and air filter. this is for preform mould hot runner valve gate system
	e)	Cooling tower and chiller for cooling purpose. The cooling facility is very important for preform injection molding.
	f)	Mould dehumidifier: With low temperature cooling in the molding, mould dehumidifier is needed for removing the sweat.
	g)	Color doser: this is required for making preform with different color.
	h)	Crusher: crusher is the optional accessory for material recycling function
Step 2	Bottle blow Molding	
	a)	The blowing mould cavity number could be single cavity, 2 cavity, 3 cavity, 4 cavity, 6 cavity, 8 cavity...
	b)	Semi-Automatic Blowing and Fully Automatic machine can be chosen depends on production requirement
	c)	low pressure and high pressure air compressor would be applied with air tank, air dryer and filter for blowing step
	d)	Chiller should be used for fully automatic blowing

Financial Aspects:

Land	own
Building (work and office building, 10,000 sq ft)	own

Machinery:

Sr. No.	Machine / Tools	Qty.	Value in (Rs.)
1.	3 Phase Fully Automatic PET Bottle Making Machine	1	9,00,000
2.	Four Cavity Semi-Automatic Plastic Bottle Making Machine	1	5,00,000
3.	Air compressor set including air dryer, air tank and air filter	1	50,000
4.	Dies & Hand Tools / Measuring Tools	LS	20,000
5.	Office equipment & furniture	LS	40,000
6.	Installation & electrification	LS	10,000
	Total		15,20,000

Pre-Operative Expenses:

1.	Travel	5,000
2.	Stationery	1,000
3.	Telephone	2,000
4.	Other misc. exp.	2,000
	Total (Rs.)	10,000

Total Fixed Capital Investment:	15,30,000
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Now calculate Working Capital Investment as below:-

Raw material:

Sr. No.	Item	Quantity	Value (Rs)
1.	PET Granules @ Rs. 50 per kilogram	3,000 Kg.	1,50,000
	Total		1,50,000

Other Contingent Expenditure (Per Month):

Sr. No.	Detail	Amount (Rs.)
1.	Marketing & advertisement expenditure	3,000
2.	Travel	3,000
3.	Telephone	1,000
4.	other miscellaneous expenses	3,000
	Total	10,000

Personal Salary (per month):

Sr. No.	Detail	No. of employees	Amount (Rs.)
1.	Manager	1	32,000
2.	Skilled labour	2	36,000
3.	Unskilled labour	2	32,000
4.	Salesman	1	20,000
	Total	6	1,20,000

Utility (per month):

Electricity & Water

20,000/-

Total Recurring Expenditure (per month):

Sr. No.	Detail	Amount (Rs.)
1.	Raw material	1,50,000
2.	Other Contingent Expenditure	10,000
3.	Personnel	1,20,000
4.	Utility	20,000
	Total (Rs.)	3,00,000

Working capital is considered for a working capital

Cycle of one month with working expenses

Hence, working capital for one month

(Rs.) 3,00,000/-

Total Capital Investment:

Fixed capital	15,30,000
Working capital	3,00,000
Total (Rs.)	18,30,000

Cost of Production (per annum):

Sr. No.	Detail	Amount (Rs.)
1.	Depreciation on machinery @ 5%	73,500
2.	Depreciation on furniture and equipment @ 20%	8,000
3.	Recurring exp of 12 months	36,00,000
4.	Interest on total investment. @ 14%	256,200
	Total	39,37,700

Turnover (Per Annum):

By selling 16,00,000 nos. of PET Bottles@ Rs 3 per bottle	Rs. 48,00,000
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Profit:

Turn over – Cost of production	Profit per Annum
Rs. 48,00,000 --- 39,37,700	Rs. 8,62,300

$$\text{Rate of return:} = \frac{\text{Profit} \times 100}{\text{Investment}} = 47\%$$

$$\text{Net Profit Ratio:} = \frac{\text{Profit} \times 100}{\text{Turnover}} = 18\%$$

Break Even Analysis:

Fixed cost:

Depreciation on machinery	73,500
Depreciation on furniture	8,000
Interest @ 14%	2,56,200
40% of salary	5,76,000
40% of other expenditure	<u>48,000</u>
Total	9,61,700/-

$$\begin{aligned} \text{B.E.P.} &= \frac{\text{Fixed cost} \times 100}{\text{Fixed cost} + \text{profit}} = \\ &= \frac{9,61,700 \times 100}{18,24,000} = 53 \% \end{aligned}$$

Addresses of Machinery Suppliers:

1. G.S. Machinery, K. M. Gupta (CEO) Mob: 08048762142
A-104, Ground Floor, Wazirpur Industrial Area, Delhi - 110052, India.
2. Ajit Industries, N-82, Sector 1, Bawana Industrial Area, New Delhi - 39.
3. Hingiri Techno Works, S- 531, School Block, Shakarpur, Delhi - 110092
4. Compet Equipments, N-140, Sector-2, Bawana Industrial Area,, Bawana, Delhi - 110039.
5. Vayu Tech Equipment Co., PLOT NO. 188,,POCKET H, SECTOR 3, Bawana, Delhi - 110039

Addresses for Raw Material Suppliers:

- 1 M/S New Kunal Plastic, Granule Manufacturer in Delhi, Bawana Industrial Area, Sector 1, Bawana, Delhi, 110039.
- 2 Hindustan Plastic Udyog, Granules Manufacturers), E39, Bawana Industrial Area, Sector 1, Bawana, Delhi, 110039
3. Pearl Polymers Ltd, A97/2 Okhla Industrial Area, Phase 2, New Delhi.
4. High Polymers, Brihan Maharashtra Bhavan, DB Gupta Road, Kanti Nagar Extension, Sector 8, Paharganj, New Delhi-110055.