

HDPE BUCKETS – 5 LTRS TO 20 LTS.

1. INTRODUCTION

Plastic Buckets have been used in Indian households for over 30 years in every strata of society. The traditional galvanised iron, aluminium and brass buckets have been to a great extent been replaced by HDPE moulded buckets. The important performance characteristics they provide include lightness, unbreakability, ease in handling, safety in use, resistance to boiling water and chemicals, colour variability to match environment and economical cost. The HDPE Buckets are available in the market ranging from 13.5 litres to 25 litres capacity. However, the bucket having 21 litre capacity is the most popular in the market.

2. MARKET POTENTIAL

In accordance with the Working Group Report on Petrochemicals, Ministry of Chemicals & Fertilizers, the demand of total HDPE Injection Moulded items including buckets in India is projected to be 1164 Kilo Tonnes by 2010-11 having growth rate @ 16%. The consumption of HDPE Injection Moulded Items in India had been 134 Kilo Tonnes during the year 2004-05. However, the moulded buckets and mugs are fast moving items. The growth rate and demand is envisaged on an average 11 – 12 percent per annum.

3. BASIS & PRESUMPTIONS

- (i) The output capacity is taken as 50 Kgs/hr. The unit will work at 20 hrs. per day for 25 working days in a month and 300 days in a year. The output capacity may vary from machinery to machinery and the cost of machinery may also vary from supplier to supplier.

- (ii) The time period for achieving the full envisaged capacity utilisation is six months
- (iii) The labour wages are as per the prevailing rates in the market
- (iv) The rate of interest for fixed and working capital is taken as 12 per cent
- (v) The margin money requirement for this project is 30 per cent
- (vi) The pay back period of this project is 5 years
- (vii) The rate of land is taken @ Rs. 500/-per sq. mtr. and construction charges are taken @ Rs. 3500 per sq. mtr. This may also vary from place to place.
- (viii) The present profile has to be updated taking into prevailing cost of land, building, machinery etc. at the time of implementation of the project

4. **IMPLEMENTATION SCHEDULE**

The Time requirement for preparation of Project report	:	
Two months		
Time requirement for selection of Site	:	One
month		
Time required for registration as Small Scale Unit	:	
One Week		
Time required for acquiring the loan		
Machinery procurement, erection and commissioning	:	Three
months		
Recruitment of labourer etc.	:	One
month		
Trial runs	:	One month

5. **TECHNICAL ASPECT**

MANUFACTURING PROCESS

HDPE Buckets can be moulded on Ram type or Screw type preplasticiser machines. The latter is preferred. The process involves feeding the raw material to the machine through a hopper. The barrel is heated to melt the material, which is injected into the mould halves by the forward movement of the screws into the cavity. The mould cavity is cooled by passage of water at ambient or low temperature to freeze the molten material. The pressure of the screw is held for some time and then it retracts by screw rotation. At the end of the moulding and cooling cycle, the mould halves open and the moulded item is extracted manually or automatically. Thus the entire moulding cycle comprising injection, holding the injection pressure, cooling and the idle time for extracting the moulding is completed.

6. QUALITY & STANDARD

Buckets may be manufactured as per customer requirement or As per IS : 3730 Specification

7. PRODUCTION CAPACITY (Per Annum)

- (a) Quantity (M.T.) : 300
- (b) Value (Rs.) : 3,75,00,000.00

8. TOTAL POWER REQUIREMENT

Total connected load (KW) : 450

9. POLLUTION CONTROL MEASURES

The unit does not create any pollution. However, a proper ventilation should be made in the processing area for the better circulation of the fresh air.

10. ENERGY CONSERVATION

Entrepreneurs may select energy efficient machinery and proper planning has also to be made for saving energy in the unit.

11. FINANCIAL ASPECT

A. FIXED CAPITAL

i) LAND & BUILDING:

Area sq. mtrs.	Rate Rs. per Sq. mtr.	(Rs.)
Land 700	500	3,50,000.00
Building 350	3500	12,25,000.00

Total : 15,75,000.00

ii) MACHINERY & EQUIPMENT

<u>Sr. No.</u>	<u>Description of machines</u>	<u>Qty.(Nos.)</u>	(Rs.)
(a)	Production Unit		
1)	Injection Moulding 350 Ton Capacity		35,00,000.00
2)	Compressor 5 Kg Pressure		20,000.00
3)	Cooling Tower		2,00,000.00
4)	Scrap Grinder		75,000.00
(b)	Testing Equipment & Other Accessories		1,00,000.00
(c)	Electrification & Installation @ 10% of cost & machinery (a) & (b)		3,89,500.00
(c)	Pre-operative expenses		50,000.00
	Total cost of machinery & equipment (a to d)		43,34,000.00
(e)	Cost of Moulds & Dies		2,00,000.00
(f)	Cost of Office Equipment/Furniture/Computers etc		3,00,000.00
	Total:		48,34,500.00
	Fixed Capital = (i) + (ii) 15,75,000 + 48,34,500	=	64,09,500.00
		Or Say	64,10,000.00

B. WORKING CAPITAL

i) Staff and Labour (Per Month)

Designation	Nos.	Salary (Rs.)	(Rs.)
Production Engineer/Manager	01	10,000.00	10,000.00
Sales Executive	01	5,000.00	5,000.00
Accountant-cum- Store Keeper	01	4,000.00	4,000.00
Watchman	02	3,000.00	6,000.00
Skilled Workers	03	3,500.00	10,500.00
Helpers	03	3,000.00	9,000.00
Electrician	02	3,500.00	7,000.00
		Total:	51,000.00
Add perquisite @ 10% of the Salary			5,100.00
		Total:	56,100.00
		Or say Rs.	56,000.00

ii) <u>Raw Material</u> (Per Month)	Qty. (Tones)	Rate Rs./MT	(Rs.)
HDPE Granules	25	75000	18,75,000.00

iii) <u>Utilities</u> (per month):	(Rs.)
a) Power (60% utilisation x 450 KW x 500 hrs. x Rs. 5 per unit)	7,20,000.00
b) Water	2,000.00

	Total: 7,22,000.00

iv) <u>Other Contingent Expenses</u> (Per month)	(Rs.)
a) Repairs and Maintenance 2,000.00	
b) Transportation Charges	10,000.00

c) Postage and stationery	2,000.00
d) Telephone/Fax/Computer	2,000.00
e) Consumable Stores	1,000.00
f) Advertisement & Publicity	2,000.00
g) Insurance	6,000.00
h) Miscellaneous Expenses	1,000.00

Total:	26,000.00

12. TOTAL WORKING CAPITAL (Per Month) (Rs.)

i) Staff and Labour	56,000.00
ii) Raw Material	18,75,000.00
iii) Utilities	7,22,000.00
iv) Other Contingent Exp.	26,000.00

Total:	26,79,000.00

Working Capital for 3 months 80,37,000.00

13. TOTAL CAPITAL INVESTMENT (Rs.)

A. Fixed Capital	64,10,000.00
B. Working Capital for 3 months	80,37,000.00

Total:	1,44,47,000.00

14. FINANCIAL ANALYSIS

A. Cost of Production (per year)	(Rs.)
(a) Total Recurring Cost	3,21,48,000.00
(b) Depreciation on building @ 5%	61,250.00
(c) Depreciation on machinery& equipment @ 10%	4,33,450.00
(d) Depreciation on Dies & Moulds @ 20%	40,000.00
(e) Depreciation on office equipment @ 20%	60,000.00
(f) Interest on total Capital Investment @ 12%	17,33,640.00

Total: 3,44,76,340.00
Or Say Rs. 3,34,76,000.00

B. Sales/Turn over (per year)

<u>Item</u>	<u>Qty.(MT)</u>	<u>Rate (MT)</u>	<u>Value (Rs.)</u>
HDPE Buckets 5 litrs. 20 litrs.	300	1,25,000	3,75,00,000.00

C. Net Profit (Per year)

Sales(Rs)	-	Cost of Production (Rs.)	=	Profit (Rs.)
3,75,00,000	-	3,44,76,000	=	
30,24,000				

D. Net Profit Ratio = $\frac{\text{Net Profit} \times 100}{\text{Sales}}$
= $\frac{30,24,000 \times 100}{3,75,00,000} = 8.06\%$

E. Rate of Return = $\frac{\text{Net Profit} \times 100}{\text{Total Capital Investment}}$
= $\frac{30,24,000 \times 100}{1,44,47,000} = 21.0\%$

F. Break-even Point

Fixed Cost (Per Year)	Rs.
a) Depreciation on Building @ 5%	61,250.00
b) Depreciation on Machinery & Equipment @ 10%	4,33,450.00
c) Depreciation on Moulds/Dies & Office Equipment @ 20%	1,00,000.00
d) Insurance	72,000.00
e) Interest on total capital investment	17,33,640.00
f) 40% of salary and wages	2,68,800.00
g) 40% of other contingent expenses	96,000.00

Total: 27,65,140.00

Or say Rs. 27,65,000.00

Net Profit (Per Year)

$$\begin{aligned} \text{B.E.P. \%} &= \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Net Profit}} \\ &= \frac{27,65,000 \times 100}{27,65,000 + 30,24,000} \\ &= \frac{27,65,000 \times 100}{57,89,000} \\ &= 47.52\% \end{aligned}$$