

## **HDPE EDIBLE OIL CONTAINER 15 LTR. CAP.**

### **1. INTRODUCTION**

Today India is one of the biggest consumers of edible oil in the world. However, due to improper packaging, adulteration of edible oil is always a big worry for the oil manufacturers and consumers. The Government is also taking serious view about the major health hazard caused due to adulteration and is committed to ensure safe and sterile packaging of edible oil in the interest of the health of the average Indian. Currently more than 90% of edible oil is supplied in the market in unpacked form or reusable tin packs of 15 kgs. However, 15 kgs. plastic containers are better material compared to conventional packing as far as safe and economical packaging is concerned. Beside, 15 kgs, packaging conforms to the storage mentality of the average Indian household who generally stock their average yearly requirement of edible oil well in advance in 15 kgs. tin containers. Plastic containers score over time packing in handling low weight, energy conservation and assurance of safe and tamper proof packing.

### **2. MARKET POTENTIAL**

Due to some quality maintenance and hygienic conditions requirement, the Government has imposed the partial ban on the sale of unpacked edible oil in the market. By seeing this fact, it is assumed that there will be good demand for the plastic containers as these are economical as compared to conventional metal containers. The new concept of packing in HDPE containers is likely to pick up in the near future. As compared to metal container, it is easy to manufacture HDPE Containers.

In accordance with the Report of Working Group on Petrochemicals, Ministry of Chemicals & Fertilisers, the demand for total HDPE Blow Moulded Articles in the country is projected to be 523 Kilo Tonnes by 2010-2011 having a growth rate @ 15%. However, the total consumption of HDPE Blow Moulded Articles in the country had been 115 Kilo Tonnes during the year 2004-05.

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### **3. BASIS & PRESUMPTIONS**

- (i) The output capacity is taken as 40 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**

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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**

These containers are being produced by extrusion blow moulding process. Raw Material HDPE is fed into the hopper and is melted in the cylinder by application of heat. This molten mass is conveyed by means of screw and stored in an accumulator. The accumulated plastic – mass (predetermined in weight) is

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forced through a die to form a tube called the parison. Taking the tube inside the mould and sealing one end, the parison is inflated by blowing air inside the mould through an air nozzle. The mould is cold by circulating of cold water through the cooling channels of the mould. The article is ejected automatically by machine. Deflashing operation is done to remove top and bottom flash on the article. Caps are moulded on injection moulded machine which can be procured from outside.

## 6. **QUALITY & STANDARD**

Edible oil Containers are manufactured as per IS : 10840 – 1994 and as per customers' requirement.

**7. PRODUCTION CAPACITY (Per Annum)**

- (a) Quantity (M.T.) : 240  
 (b) Value (Rs.) : 2,40,00,000.00

**8. TOTAL POWER REQUIREMENT**

Total connected load (KW) : 80

**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 ASPECTS**

**A. FIXED CAPITAL**

i) <u>LAND &amp; BUILDING</u>	<u>Area sq. mtrs.</u>	<u>Rate Rs. per Sq. mtr.</u>	<u>(Rs.)</u>
Land	330	500.00	1,65,000.00
Building	110	3500.00	3,85,000.00
		Total :	----- 5,50,000.00 -----

ii) MACHINERY & EQUIPMENT

<u>Sr. No.</u>	<u>Description of machines</u>	<u>Qty.(Nos.)</u>	<u>(Rs.)</u>
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(a) Production Unit

1.	Extrusion Blow Moulding Machine 15 ltr. Capacity with all accessories alongwith compressor and cooling tower	1	20,00,000.00 -
2.	Scrap Grinder	1	75,000.00
3.	Screen Printing Machine	1	15,000.00
(b)	Testing Equipment & Other Accessories		2,00,000.00
(c)	Electrification & Installation @ 10% of cost & machinery (a) & (b)		2,29,000.00
(d)	Pre-operative expenses		50,000.00
	Total cost of machinery & equipment ( a to d )		25,69,000.00
(e)	Cost of Moulds & Dies		2,20,000.00
(f)	Cost of Office Equipment/Furniture/Computers etc.		3,00,000.00
	Total:		29,89,000.00
Fixed Capital - (i) + (ii) = Rs. 5,50,000 + Rs. 29,89,000			= 35,39,000.00

B. WORKING CAPITAL

i) Staff and Labour (Per month)

Designation	Nos.	Salary (Rs.)	(Rs.)
Production Engineer/Manager	1	10,000 .00	10,000.00
Sales Executive	1	5,000.00	5,000.00
Accountant-cum-Store Keeper	1	4,000.00	4,000.00
Clerk-cum-Typist	1	3,500.00	3,500.00
Watchman	2	3,000.00	6,000.00
Skilled Workers/Operator	3	3,500.00	10,500.00
Unskilled Workers	3	3,000.00	9,000.00
		Total:	48,000.00

Add perquisite @ 10% of the Salary		4,800.00	
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	Total:	52,800.00	
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		Or say	53,000/-
ii)	Raw Material (Per month) Qty. (M.T.) Rate Rs./ M.T.		(Rs.)
	HDPE Granules                      20                      75,000		15,00,000/-
iii)	Utilities (per month):		(Rs.)
a)	Power (60% utilisation of the total load x 80 KW x 500 hrs. x Rs. 5 per unit)		1,20,000/-
b)	Water		2,000/-
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	Total:		1,22,000/-
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iv)	Other Contingent Expenses (Per month)		(Rs.)
i)	Repairs and Maintenance		4,000.00
j)	Transportation Charges		15,000.00
k)	Postage and stationery		1,000.00
l)	Telephone/Fax/Computer		2,000.00
m)	Consumable Stores		1,000.00
n)	Advertisement & Publicity		2,000.00
o)	Insurance		5,000.00
p)	Miscellaneous Expenses		2,000.00
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	Total:		32,000.00
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<b>12.</b>	<b>TOTAL WORKING CAPITAL ( Per month )</b>		<b>(Rs.)</b>
i)	Staff and Labour		53,000.00
ii)	Raw Material		15,00,000.00
iii)	Utilities		1,22,000.00
iv)	Other Contingent Exp.		32,000.00
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	Total:		17, 07,000.00
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Working Capital for 3 months 51, 21,000.00

**13. TOTAL CAPITAL INVESTMENT (Rs.)**

A. Fixed Capital 35, 39,000.00  
 B. Working Capital for 3 months 51, 21,000.00  
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 Total: 86, 60,000.00  
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**14. FIANCIAL ANALYSIS (Rs.)**

A. Cost of Production (per year)  
 a) Total Recurring Cost 2, 04, 84,000.00  
 b) Depreciation on building @ 5% 19,250.00  
 c) Depreciation on machinery& equipment @ 10% 2, 56,900.00  
 d) Depreciation on Dies, Moulds & Office equipment @ 20% 84,000.00  
 e) Interest on total Capital Investment @ 12% 10, 39,200.00  
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 Total: 2, 18, 83,350.00  
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 Or say 2, 18, 83,000.00

**B. Sales/Turn over (per year)**

Item	Qty.(MT)	Rate (MT)	(Rs.)
HDPE Edible Oil Containers 15 Itrs. Capacity	240	1,00,000.00	2,40,00,000.00

**C. Net Profit (Per year)**

Sales (Rs.) –	Cost of Production (Rs.)	=	Profit (Rs.)
2,40,00,000	- 2,18,83,000	=	21,17,000.00

D. Net Profit Ratio =  $\frac{\text{Net Profit} \times 100}{\text{Sales}}$

$$= \frac{21,17,000 \times 100}{2,40,00,000} = 8.82 \%$$

E. Rate of Return =  $\frac{\text{Net Profit} \times 100}{\text{Total Capital Investment}}$

$$= \frac{21,17,000 \times 100}{86,60,000} = 24.4 \%$$

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F. Break-even Point

Fixed Cost (Per Year)  
(Rs.)

- a) Depreciation on Building @ 5%  
19,250.00
- b) Depreciation on Machinery & Equipment @ 10%  
2,56,900.00
- c) Depreciation on Moulds/Dies&Office Equipment @ 20%  
84,000.00
- d) Insurance 60,000.00
- e) Interest on total capital investment  
10,39,200.00
- e) 40% of salary and wages  
2,54,400.00
- f) 40% of other contingent expenses  
1,29,600.00

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Total: 18,43,350.00  
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Or say Rs. 18,43,000.00

Net Profit (Per Year)

$$\text{B.E.P. \%} = \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Net Profit}}$$

$$= \frac{18,43,000 \times 100}{18,43,000 + 21,17,000}$$

$$= \frac{18,43,000 \times 100}{39,60,000}$$

$$= 46.50\%$$