A PROJECT PROFILE
ON
MANUFACTURE OF PET BOTTLE

2020 - 2021

Prepared By:

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I Introduction: -

Polyethylene terephthalate (PET) resin is known for their excellent combination of properties such as Mechanical, thermal, chemical resistance as well as dimensional stability. It has low gas permeability in particular Carbon di oxide. PET is also know for moisture barrier properties and excellent resistance to alcohol and hydro carbon. PET is approved as safe for packaging of foods and beverages. It is an
important commercial polymer having application ranging packaging of Water, foods, beverages, sanitizer, Liquor, Oil, Juice, Soda, Pharma, shampooos and Cosmetic products. PET can be moulded into containers and Bottle of different sizes and shapes.

II Market Potential:-
The demand of PET Bottle is likely to increase due to its advantages over other packing material like transparent, light weight, flexibility, corrosion and chemical resistance and easy to transport.

III. Basis & Presumption:-

1. The Project Profile has been prepared on the basis of Single Shift of 8-hrs. a day and 25-working days in a month at 75% efficiency.

2. It is presumed that 1st year, the capacity utilization will be 75% followed by 100 % in the next year .

3. Interest rate for the fixed and working capital has been taken @ 10% on an average whether financed by the Bankers or Financial Institutional.

4. The margin money required is minimum (30% of the total capital investment).

5. The rental value for the accommodation of office, workshop and other covered area has been taken @100/- per sq. mtr.

6. The rate quoted in respect of machinery, equipment and raw materials are those prevailing at the time of preparation of the Project Profile and are likely to vary from place to place and suppliers to suppliers. When a tailor made project profile is prepared, necessary changes are to be made.

7. The pay back period may be 5-years after the initial gestation period.

8. The gestation period in implementation of the project may be to the tune of 4 to 6 months which includes making all arrangements, completion of all formalities, market surveys and tie-ups etc. Once all the above
arrangements are made and quality/standards achieved the 100% project capacity may be achieved at the end of two years.

IV. Implementation Schedule: -

The implementation of the project includes various jobs/exercises such as market surveys and tie-ups, preparation of project report, selection of site, registration, financing of project, procurement of machinery and raw materials etc., recruitment of staff, erection/commissioning of machines, trial production and commercial production etc.

V. Process Details:-
A pre-form parison is placed to a blow molding cavity. The parison is stretched biaxially during blow molding to orient and align the molecules. This orientation improves the gas barrier, stiffness, clarity and impact strength of the Bottle. As a result, Bottle can be reduced in weight.

Production (Target & Value):-

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>8,10,00,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>VALUE</td>
<td>Rs. 21,0600000=00</td>
</tr>
</tbody>
</table>

Quality Control & Standards:- The quality design and standards shall depend upon the performance requirement of individual Bottle

1. Power Requirement: - 70 K.W.
2. Energy Conservation:-

The following steps may be taken for the conservation of energy.

2 Lay out of the unit should be in such a way in that no back tracking of material is there.

3 All electric switches may be kept off, when not required.

5 LED may be used for energy saving.

6 As far as possible Solar Energy and day light will be used.

7. Pollution Control:-

1. Minimum height of shed will be maintained with exhaust fans should be installed for removing decongestion proper ventilation etc.

VI. Financial Aspects:-

1. Fixed Capital:-

   Land and Building (rented)

   On Rent @ Rs.100/-Sq. meter

   Covered Area 250 Sq.meter

   Rs.25000=00

2. Machinery and equipment:-

   (a) Production Unit
1. Name of machine with specification
   Three Cavity Fully Automatic PET Blow Moulding 9 KW IND 01 21,25,000=00
   Machine With Air Recovery, Pre-form storage Hopper, Auto feeder and bottle carrying conveyer
   A) Blowing capacity-50ml to 1000ml
   B) Neak Dia-25mm to 28mm

2. Air Compressor Set- 01
   a) IND 01 11,75,000=00 35 HP, 9 Bar Screw Compressor
   b) Tank IND 01 15 HP, 32 Bar Booster Compressor with 500 ltrs
   c) IND 01 1000 Ltrs Low Pressure air Reservoir
   d) IND 01 150 CFM High Pressure air Dryer
   e) IND 01 150 CFM High Pressure Pre Filter
   f) IND 01 150 CFM High Pressure oil Filter
   g) IND 01 60 CFM Low Pressure air Dryer
   h) IND 01 60 CFM Low Pressure Pre Filter
   i) IND 01 60 CFM Low Pressure Oil Filter

3. Air Cooled Water Chiller-3TR IND 01 1,25,000=00

4. Cooling Tower 15 TR IND 01 80,000=00
   Total 3505000=00

5. Cost of Mould (Different Sizes and Shape) IND 400000=00
   Total 3905000=00

6. GST @18%
   Total 702900=00
   Total 4607900=00

(b) Pollution Control Equipment, if required: 50000=00
(c) Energy Conservation Facilities/ Equipment, if used: 50000=00

(d) Electrification & Installation Charges @ 10% 47799=00

(e) Cost of Office Equipment/ Working Table etc. 100000=00

Total Cost of Machinery & Equipments 5285690=00
a + b + c + d + e

3. Pre-Operative Expenses:- 10,000=00
Total Fixed Capital 5385690=00

VII. Working Capital (Per month)

Staff and Labour (per month):-

(1) Personnel

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>No.</th>
<th>Salary @ Total Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Administrative &amp; Supervisory</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Supervisor/ Foreman</td>
<td>01</td>
<td>20,000</td>
<td>20000=00</td>
</tr>
<tr>
<td>ii) Accountant cum clerk</td>
<td>01</td>
<td>15000</td>
<td>15000=00</td>
</tr>
</tbody>
</table>
iii) Peon 01 10000 10000=00

(b) Technical Skilled & Unskilled

iv) Skilled Worker 02 13000 26000=00 6000=00
v) Semi Skilled Worker 02 12000 24000=00 4800=00
vi) Helper 02 10000 20000=00

Total 1,15,000=00
Perquisites @ 15 % 17250=00
Total 1,32250=00

(2) Raw Material (per month):

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description with specification</th>
<th>Qty.</th>
<th>Rate</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-Form (Various weigh)</td>
<td>135MT</td>
<td>1,20,000/MT</td>
<td>1,62,00,000=00</td>
</tr>
</tbody>
</table>

(3) Utility (per month):

- Electricity 9000@9KW 81,000=00
- Water LS 1000=00

Total 82000=00

(4) Other Expenditure (per month)
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rent</td>
<td>25000=00</td>
</tr>
<tr>
<td>2</td>
<td>Postage &amp; Stationery</td>
<td>2000=00</td>
</tr>
<tr>
<td>3</td>
<td>Advertisement</td>
<td>25000=00</td>
</tr>
<tr>
<td>4</td>
<td>Repairing &amp; Maintenance</td>
<td>17500=00</td>
</tr>
<tr>
<td>5</td>
<td>Telephone</td>
<td>2000=00</td>
</tr>
<tr>
<td>6</td>
<td>Transportation</td>
<td>20000=00</td>
</tr>
<tr>
<td>7</td>
<td>Consumable</td>
<td>5000=00</td>
</tr>
<tr>
<td>8</td>
<td>Sales expenses</td>
<td>5000=00</td>
</tr>
<tr>
<td>9</td>
<td>Insurance</td>
<td>10000=00</td>
</tr>
<tr>
<td>10</td>
<td>Misc. Expenses</td>
<td>20000=00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>1,31,500=00</strong></td>
</tr>
</tbody>
</table>

II. **Total Recurring Expenditure (per month):**

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Salary &amp; Wages</td>
<td>1,32,250=00</td>
</tr>
<tr>
<td>2)</td>
<td>Raw Material</td>
<td>1,62,00,000=00</td>
</tr>
<tr>
<td>3)</td>
<td>Utilities</td>
<td>82,000=00</td>
</tr>
<tr>
<td>4)</td>
<td>Other Contingent Expenses</td>
<td>1,31,500=00</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16545750=00</strong></td>
</tr>
</tbody>
</table>

IX. **Working Capital for three months:**

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>49637250=00</td>
</tr>
</tbody>
</table>

X. **Total Capital Investment:**

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Fixed capital: 5385690=00</td>
</tr>
<tr>
<td>2)</td>
<td>Working capital for 3 months: 49637250=00</td>
</tr>
</tbody>
</table>
XI. MACHINERY UTILIZATION:-

It is expected that during first year machine utilization will be 75% and during second year 100%.

XII. FINANCIAL ANALYSIS

1. Cost of Production (per annum):-
   1. Total Recurring Cost per year 19,854,900=00
   2. Depreciation on Machinery & Equipment @ 10% 4,77,790=00
   3. Depreciation on Furniture @25% 25,000=00
   4. Interest on Total Capital Investment @ 10% 42,87,294=00

   Total: 20,333,9084 =00

XIV. Turn Over per annum:-

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Rate</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PET- Bottle</td>
<td>8,10,00,000</td>
<td>2.60</td>
<td>21,060,000=00</td>
</tr>
</tbody>
</table>

XV. Net Profit per annum before Income Tax :- 7,260,916=00
XVI. Net Profit Ratio:-

\[
\frac{\text{Net profit}}{\text{Turn over}} \times 100 \% = 3.4\%
\]

XVII. Rate of Return:-

\[
\frac{\text{Net profit}}{\text{Total investment}} \times 100 = 13.1\%
\]

XIV. BREAK EVEN ANALYSIS: -

(1) Fixed Cost (per annum)

A Total Depreciation 5,02,790=00

(on m/c. & equipment, dyies, tools, furniture):

B Rent: 3,00,000=00

C Interest on borrowing :( Total Investment) 4287294=00

D Insurance 120000=00

E 40% of salary: 634800=0

F 40% of other contingent expenses: 463200=0

(Excluding rent & insurance)

Total 6308084=00

XX. Break Even Point

\[
\text{Break Even Point} = \frac{\text{Fixed Cost}}{100}
\]
Fixed cost + profit

=46.4%

XXI . LIST OF MACHINERY & RAW MATERIAL SUPPLIERS

1. M/S Boolani Engineering Corporation
   Prabhadevi Indl Estate, 402,
   Veer Savarkar Marg, Mumbai-400025

2. M/S Dunamis Machine
   4/516C, Edapalayam, Upparapalayam Road,
   alamath Red Hills, Chennai-600052

3. M/S Pet Plat India
   18, Astal Road, Bhakri Pali Road, Bhakri,
   Faridabad, Haryana-121001

4. M/S Shiva Hydrolic, A-82, Gali No-4, sidhart enclave, Jain Road,
   Uttam Nagar, Delhi-1100

RAW MATERIAL

1. M/S Chemco, Chemco House, 6th Floor, D.Sukhadwala Road
   Fort, Mumbai

2. M/S Premier flexi Plast, C-608, DSIDC Indl. Area, Narela, Delhi

3. M/S Nirmal Pet, 467, Indl Area, Mohali, Punjab

4. M/S Mittal Plastic Products, G-8, Bawana Indl. Area, Sector-3, Bawana
   New Delhi-110039