PROJECT PROFILE

Product : H.D.P.E. Pipe.

Product Code : 42202

NIC Code : 25209

Quality Standard : IS - 4984 – 1995 HDPE Pipe for water supply
IS - 14333 – 1996 HDPE Pipe for Sewerage
IS - 14151 (Part - I) 1999 Polyethylene Pipe for Sprinkler Irrigation System
IS - 14151 (Part - II) 1999 Polyethylene Pipe for Sprinkler Irrigation System

Production Capacity (Per Annum) : Quantity - 216 M.T
Value - Rs. 2,05,20,000/-

Month & Year of Preparation : January 2011

Prepared by : MSME Development Institute,
Govt. of India, Ministry of MSME
Bais Godam Industrial Estate,
Jaipur-302006

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E-mail dcgi-jaipur@dcmsme.gov.in
Website : www.msmedijaipur.gov.in
1. **INTRODUCTION:**

HDPE pipes are important plastic products which have wide range of applications. These have more tensile strength in comparison to other plastic pipes. These are being used for Sprinkler Irrigation System, potable water supply and sewerage purpose. Their low cost, easily installation and better durability make them ideal for the purpose. They also offer very good resistance to most of the chemicals and have excellent electrical insulation properties. These pipes are also used for circulation of acids in various chemical industries due to their acid resistant quality.

2. **MARKET:**

The demand of HDPE Pipes are likely to increase due to their wide use in various sectors in India. Apart from its regular uses, such as for irrigation system, water supply, sewerage, it is being used by Department of Telecommunication for conduit for optical fiber cables. Looking to its increased demand, it appears to be good scope for setting up new small scale industries. Hence the product has good market potential.

3. **BASIS AND PRESUMPTIONS:**

The profile is drawn on the basis of following presumptions-

(i) No. of shifts per day 1  
(ii) Working Hours per shift 8  
(iii) Working days per annum 300  
(iv) Working efficiency 70%  
(v) Time period for achieving max. capacity 3 Years  
(vi) Margin money 25% of capital investment  
(vii) Labour charges As per prevailing market rate & the Minimum Wages Act of State Govt.  
(viii) Rate of interest on fixed & Working Capital 15%

4. **IMPLEMENTATION SCHEDULE**

Following steps are involved in the implementation of this project-

(i) Preparation of project report ½ month  
(ii) Selection of site ½ month  
(iii) Filing of entrepreneurs memorandum ½ month  
(iv) Obtaining NOC from State Pollution Control Board ½ month)  
(v) Sanction of loan from Bank 1½ month  
(vi) Procurement of machinery & equipment ½ month  
(vii) Erection & commissioning ½ month  
(viii) Recruitment of work force 1 month  
(ix) Trial run ½ month

______________
Total 6 Months

5. **TECHNICAL ASPECTS:**
5.1 **Process of Manufacture:** HDPE pipes are made from High Density Polyethylene granules of extrusion grade. HDPE pipe is extruded by single screw type 65 mm extruder through a circular slit. This circular slit governs the size of the pipes to be extruded. Different dies are used for manufacturing of different sizes of pipes. The extruded line of pipe is passed through motorised cutting device for cutting the pipes. The extruded line of pipe is passed through motorised cutting device for cutting the pipes into required sizes.

5.2 **Quality Control & Standards:**

Bureau of Indian Standards has formulated a Standard Specification for HDPE pipes for various purposes as mentioned below-
- IS - 4984 – 1995 HDPE Pipe for water supply
- IS - 14333 – 1996 HDPE Pipe for Sewerage
- IS - 14151 (Part - I) 1999 Polyethylene Pipe for Sprinkler Irrigation System
- IS - 14151 (Part - II) 1999 Polyethylene Pipe for Sprinkler Irrigation System

5.3 **Production Capacity (Per Annum)**

<table>
<thead>
<tr>
<th>Quantity</th>
<th>216 MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Rs 2,05,20,000/-</td>
</tr>
</tbody>
</table>

5.4 **Pollution Control Needs:**

The unit does come under the polluting Industries, however, necessary clearance from State Pollution Control Board is required to run a manufacturing enterprise.

5.5 **Energy Conservation**

Proper maintenance of power operated machines and judicious use of them will conserve energy. However, pipelines of boiler shall be properly insulated and priority should be given to install energy efficient machinery and equipment.

6. **FINANCIAL ASPECTS**

6.1 **Fixed Capital**

6.1.1 **Land and building:**

<table>
<thead>
<tr>
<th>Total area</th>
<th>1000 Sq. Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covered area</td>
<td>700 Sq. Meters, consisting of working shed, Godown, office &amp; laboratory etc.</td>
</tr>
</tbody>
</table>

The rental value may vary from place to place.
### 6.2.2 Plant & Machinery:

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Name of machinery</th>
<th>Indigenous/ Imported</th>
<th>Quantity</th>
<th>Price (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>Extruder, 65 mm., complete with vacuum sizing tank, Hawl-off, traveling saw, tripping chute and compressor coiler etc</td>
<td>Indigenous</td>
<td>1 No.</td>
<td>17,00,000/-</td>
</tr>
<tr>
<td>(ii)</td>
<td>Mixer</td>
<td>Indigenous</td>
<td>1 Nos.</td>
<td>35,000/-</td>
</tr>
<tr>
<td>(iii)</td>
<td>Scrap Grinder</td>
<td>Indigenous</td>
<td>1 Nos.</td>
<td>35,000/-</td>
</tr>
<tr>
<td>(iv)</td>
<td>Chilling Plant</td>
<td>Indigenous</td>
<td>1 No.</td>
<td>50,000/-</td>
</tr>
<tr>
<td>(v)</td>
<td>Testing equipments</td>
<td>Indigenous</td>
<td>-</td>
<td>2,00,000/-</td>
</tr>
<tr>
<td>(vi)</td>
<td>Installation &amp; electrification @ 10% of cost of machinery</td>
<td>-</td>
<td>-</td>
<td>2,02,000/-</td>
</tr>
<tr>
<td>(vii)</td>
<td>Dies Mandrel Sets Size 20, 40, 63, 75, 90 and 110 mm</td>
<td>Indigenous</td>
<td>-</td>
<td>1,70,000/-</td>
</tr>
<tr>
<td>(viii)</td>
<td>Fixtures &amp; Miscellaneous equipments</td>
<td>Indigenous</td>
<td>LS</td>
<td>25,000/-</td>
</tr>
<tr>
<td>(ix)</td>
<td>Office equipment, furniture etc.</td>
<td>-</td>
<td>LS</td>
<td>50,000/-</td>
</tr>
</tbody>
</table>

Total Rs.24, 67,000/-

### 6.1.3 Pre-operative Expenses:

Rs.33,000/-

### 6.1.4 Total fixed capital (6.1.2 + 6.1.3)

Rs.25,00,000/-

### 6.2 Working Capital (Per Month)

#### 6.2.1 Personnel (Per Month)

<table>
<thead>
<tr>
<th>Designation</th>
<th>Nos.</th>
<th>Salary</th>
<th>Total Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Supervisor</td>
<td>1</td>
<td>6,000/-</td>
<td>6,000/-</td>
</tr>
<tr>
<td>(ii) Skilled Worker</td>
<td>2</td>
<td>4,500/-</td>
<td>9,000/-</td>
</tr>
<tr>
<td>(iii) Unskilled Worker</td>
<td>2</td>
<td>4,000/-</td>
<td>8,000/-</td>
</tr>
<tr>
<td>(iv) Clerk cum typist</td>
<td>1</td>
<td>4,500/-</td>
<td>4,500/-</td>
</tr>
<tr>
<td>(v) Watchman cum peon</td>
<td>1</td>
<td>4,000/-</td>
<td>4,000/-</td>
</tr>
</tbody>
</table>

31,500/-

Perquisites @ 15% 4,725/-

Total Rs. 36,225/-
6.2.2 Raw Materials (Per Month):

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>Quantity</th>
<th>Rate</th>
<th>Value Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i)</td>
<td>HDPE Granules</td>
<td>17.1 MT</td>
<td>78,000/-</td>
<td>13,33,800/-</td>
</tr>
<tr>
<td>(ii)</td>
<td>Master Batch</td>
<td>0.9 MT</td>
<td>82,000/-</td>
<td>73,800/-</td>
</tr>
<tr>
<td></td>
<td><strong>Total Rs.</strong></td>
<td></td>
<td></td>
<td><strong>14,07,600/-</strong></td>
</tr>
</tbody>
</table>

6.2.3 Utilities (Per Month):

- Electricity, 4500 KW @ 5/- 22,500/-
- Water LS 2,500/-

**Total Rs.25,000/-**

6.2.4 Other Contingent Expenses (Per Month):

- Rent 6,000/-
- Insurance 3,500/-
- Postage stationery 500/-
- Telephone 1,500/-
- Repair and maintenance 1,000/-
- Transportation Charges & sales expenses 2,000/-
- Advertisement & Publicity 1,500/-
- Miscellaneous Expenses 1,175/-

**Total Rs 17,175/-**

6.2.5 Recurring Expenditur (Per Month):

- Staff and Labour 36,225/-
- Raw materials 14,07,600/-
- Utilities 25,000/-
- Other Contingent Expenses. 17,175/-

**Total Rs. 14,86,000/-**

6.2.6 Working Capital on 3 Months basis:

\[ 14,86,000 \times 3 = \text{Rs.} \ 44,58,000/- \]

6.2.7 TOTAL CAPITAL INVESTMENT:

\[

table

- (i) Fixed Capital 25,00,000/-
- (ii) Working Capital for 3 months 44,58,000/-,

**Total Rs. 69,58,000/-**
7. **MACHINERY UTILISATION:**
   The bottleneck equipment is the extruder which determines the entire output of the unit.

8. **FINANCIAL ANALYSIS:**

8.1 **Cost of Production (Per Year)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Rate(Rs.)</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recurring expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation on Plant and Machinery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ 10% of cost of Machinery &amp; equipment</td>
<td></td>
<td>2,02,000/-</td>
<td></td>
</tr>
<tr>
<td>Depreciation on Dies, mandrels, fixtures and other misc. equipments @ 25%</td>
<td></td>
<td>48,750/-</td>
<td></td>
</tr>
<tr>
<td>Depreciation on Office equipment @ 20%</td>
<td></td>
<td>10,000/-</td>
<td></td>
</tr>
<tr>
<td>Interest on total capital investment @ 15%</td>
<td></td>
<td>10,43,700/-</td>
<td></td>
</tr>
</tbody>
</table>

**Total Rs. 1,91,36,450/-**

8.2 **Turn Over (Per Year):**

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Rate(Rs.)</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDPE Pipes</td>
<td>216 MT</td>
<td>95,000/- per MT</td>
<td>2,05,20,000/-</td>
</tr>
</tbody>
</table>

8.3 **Net Profit (Per Year):**

\[
\text{Net Profit (Per Year)} = \text{Turn Over} - \text{Cost of Production}
\]

\[
= 2,05,20,000.00 \, (-) \, 1,91,36,450.00 \\
= Rs. 13,83,550/-
\]

8.3.1 **Net Profit Ratio:**

\[
\text{Net Profit Ratio} = \frac{\text{Net Profit Per Year \times 100}}{\text{Turn Over Per Year.}}
\]

\[
= \frac{13,83,550 \times 100}{2,05,20,000} = 6.74 \%
\]

8.3.2 **Rate of Return:**

\[
\text{Rate of Return} = \frac{\text{Net profit per year \times 100}}{\text{Total capital investment}}
\]

\[
= \frac{13,83,550 \times 100}{69,58,000} = 19.88 \%
\]
8.4 Break Even Analysis:

8.4.1 Fixed Cost:

i) Rent 72,000/-

ii) Insurance 42,000/-

iii) Depreciation on Plant and Machinery 2,02,000/-

@ 10% of cost of Machinery & equipment

iv) Depreciation on Dies, mandrels, fixtures and other misc. equipments @ 25% 48,750/-

v) Depreciation on Office equipment 10,000/-

@ 20%

vi) Interest on total capital investment @ 15%. 10,43,700/-

vii) 40 % of salaries 1,73,880/-

viii) 40 % of other contingent expenses (excluding rent & insurance) 36,840/-

Total  Rs. 16,29,170/-

8.4.2 Profit before tax  Rs. 13,83,550/-

8.4.3 B.E.P. = \[ \frac{\text{Fixed Cost} \times 100}{\text{Fixed cost} + \text{Profit}} \]

= \[ \frac{16,29,170 \times 100}{16,29,170 + 13,83,550} \]

= \[ \frac{16,29,170 \times 100}{30,12,720} \] = 54.08 %

9. NAMES AND ADDRESSES OF MACHINERY SUPPLIERS

1. M/s Hindustan Plastic And Machine Corporation, 5, Category II, D. S. I. D. C. Industrial Area Nangloi, New Delhi, Delhi - 110 001

   Plot No. 23, Sector-A, Sanwer Road, Industrial Area, Indore, Madhya Pradesh - 452 015, India

3. M/s R R Plast Extrusions Private Limited
   B-3, Nand Jyot Industrial Estate, Safed Pool, Sakinaka, Andheri East, Mumbai, Maharashtra - 400 072, India

4. M/s Suresh Engineering Works
   13,14-B, Kalyan Vishranti Grah. South Tukoganj, Indore, Madhya Pradesh - 452 001, India 5.

5. M/s Yadav Engineering Works
   CN, 150, Mangol Pur Khurd, Talab Road, New Delhi, Delhi - 110 0837.

6. M/s Windsor Machines Limited
7. M/s **Kollite Industries**  
   334, Sudershan Park, Behind E.S.I Qtrs Ring Road, New Delhi,
8. M/s **Shakti Plastic Engineering Works**  
   G 16, Shayona City III R.C. Technical Road, Ghatlodiya, Ahmedabad, Gujarat - 380 061
9. M/s. **Rajoo Engineers Limited**, Survey No.210, Plot No.1,  
   Industrial Area, Veraval (Shaper) Rajkot-360002 (Gujrat)
10. M/s. **Brimco Plastic Machinery Corporation (P) Ltd.**,  
   Plot No.55, Govt. Kandvi Indl. Estate, Kandivali (E), Mumbai-400067
11. M/s. **A.P. Industries**, 9, Sudershanpura Industrial Area,  
   22 Godown, Jaipur-302 006
12. M/s. **Saini Industrial Corporation**, Kamani Road, Jhotwara, Jaipur-302012
13. M/s. **Anil Engineering Works**, C-14, Mukesh Colony,  
   Sudarshanpura Industrial Area, Jaipur-302006.

**10. NAMES AND ADDRESSES OF RAW MATERIAL SUPPLIERS**

1. M/s. **Shreya’s India (P) Ltd.**, 3/1, Industrial Area, Jhotwara,  
   Jaipur-302012
2. M/s. **Indian Petro Chemicals Ltd.**, Vadodara (Gujrat)
3. M/s. **NOCIL**, Sandoz House, Dr. Anie Besant Road, Worli, Mumbai-400018
4. M/s. **Bihani Udyog** (Local Dealer & IPCL & PIL),  
   S-2, Usha Plaza III Floor, Opposite All India Radio, M.I. Road, Jaipur.302001.
5. M/s. **K.G. Petro Chem. Ltd.**, C-171, Road No. 9 J,  
   Vishwakarma Industrial Area, Jaipur-302013.

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