

# **DRIP IRRIGATION PIPE**

## **1. INTRODUCTION**

Drip irrigation is a technique in which the water is filtered, conveyed through PVC or HDPE mainlines, LLDPE lateral lines and then let out in droplets through drip nozzles or microtubes placed directly at the root zones of the plants. The quantity and rate of water application can be matched to varying crop requirements.

Besides conveying water, linear low density polyethylene drip irrigation pipe leads to uniform distribution of water and fertilizer. Since the system is further bifurcated into submain line, laterals and emitter/dripper, there is water saving by use of drip irrigation technique.

Micro irrigation helps to economize water use, reduce the irrigation cost per unit land and increase the yield per unit area and unit quantum of water.

## **2. PRODUCTS AND ITS APPLICATION**

Water is needed for survival of human beings; clean water needed for drinking can be provided by plastic pipes. Plastic pipes offer excellent corrosion resistance and ensures clean delivery of water. Corrosion resistance of plastic pipes brings in multiple endusers in food processing industries. Plastic pipes are needed for survival of plants (crops) and help farmers with better monetary gains. Productivity increases for farmers by use of plastic pipes,

## **3. DESIRED QUALIFICATION FOR PROMOTER**

The Promoter should have preferably a basic degree in plastic engineering/ processing or a degree/ diploma in engineering / or a degree in chemistry. Experience of at least two to three years in plastic industry is desirable.

#### **4. INDUSTRY OUTLOOK/TREND**

In general plastic processing industry using commodity polymers is growing at the rate of 5% per annum. However in this particular case the demand is likely to grow at 10% due to emphasis on agriculture by government. As per the target of the central government production of agriculture and horticulture produces is to be doubled by 2022. This will also lead to doubling of farmers income and will result in to more buying powers by the farmers.

#### **5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY**

The high market potential for agricultural plastic products and lower number of manufacturers of these products in the country would bring in more number of entrepreneurs in this business. A higher product mix can increase the average selling price of the final product and lead to higher net profitability.

Market for drip irrigation products depend on agriculture. The pipe required for drip irrigation is normally used by progressive farmers and in modern agriculture. The Government is giving lots of incentives to farmers so that they use drip irrigation to increase the productivity and reduce water consumption. Moreover such pipes are also used in green houses. Overall demand for drip irrigation pipes is likely to grow at 15% per annum.

#### **6. RAW MATERIAL REQUIREMENTS**

- LLDPE Granules
- Other chemicals

#### **7. MANUFACTURING PROCESS**

Pipe extrusion is defined as a process of forcing the polymer melt through a die. The extrudate from the die is sized, cooled and the formed pipe is pulled to the winder or a cut off device with the aid of haul off device. Prior to this, polymer is fed into a hopper,

conveyed by a rotating screw through a barrel. This is subjected to high temperature and pressure.

## 8. MANPOWER REQUIREMENT

Sr. No.	Particulars	Nos	Salary(Rs.)
1	Production manager	1	10000
2	Production Supervisor	1	8000
3	Accountant	1	10000
4	Office boy cum Store Keeper	1	8000
5	Chemist	1	8000
6	Sales man	1	7000
7	Skilled worker	4	32000
8	Semi-Skilled Worker	4	24000
9	Watchman	1	5000
	Total	15	112000

## 9. IMPLEMENTATION SCHEDULE

Sr. No.	Particulars	Time Period
1	The Time requirement for preparation of Project report	Two months
2	Time requirement for selection of Site	One month
3	Time required for registration as Small Scale Unit	One Week
4	Time required for acquiring the loan Machinery procurement, erection and commissioning	Three Months
5	Recruitment of labourer etc.	One month
6	Trial runs	One Month

## 10. COST OF PROJECT

Sr. No.	Particulars	Rs. In lakhs
1	Land and Building	30.00
2	Plant and Machinery	54.10
3	Miscellaneous Assets	3.20
4	P & P Expenses	1.80
5	Contingencies @ 10% on land and building and plant and machinery	8.41
6	Working capital margin	57.06
	<b>Total</b>	<b>154.57</b>

## 11. MEANS OF FINANCE

Sr. No.	Particulars	Rs. (lakhs)
1	Promoter's contribution	46.371
2	Bank Finance	108.199
		<b>154.57</b>

## 12. WORKING CAPITAL CALCULATION

Sr. No.	Particulars	Rs. lakhs	Stock Period days	Promoter Margin	Margin Amt.	Bank Finance
1	Salaries and wages	1.12	30	1	1.12	-
2	Raw material and packaging material	57.63	30	0.5	28.815	28.815
3	Utilities	0.3	30	0.5	0.15	0.15
4	Debtors	67.43	30	0.4	26.972	40.458
	Total	126.48			57.057	

### 13. LIST OF MACHINERY REQUIRED AND THEIR MANUFACTURERS

Sr. No.	Particulars	Rs. lakhs
1	High speed Mixer	1.5
2	LLDPE rigid pipe extrusion plant	25
3	Automatic Injection moulding machine	20.00
4	Scraper, grinder	1.50
5	Overhead water tank and recycling Pump units	0.90
6	Pipe storage, racks, maintenance of small hand tools, greasing, oiling equipment, etc.	0.40
7	Testing Equipment & Other Accessories	2.00
8	Small tools such as greasing and common electrical lighting equipment	0.80
9	Water cooling unit	2.00
	Total	54.10

- Kabra Extrusion Technik (KET)  
Fortune Terraces, 10th Floor,  
B Wing, Opp. Citi Mall, Link Road,  
Andheri-(West) Mumbai-400053  
Maharashtra, India.
- Rajoo Engineers Limited  
Survey No. 210, Plot No.1,  
Industrial Area  
Rajkot  
Gujarat 360024
- REMICA PLASTIC MACHINERY MANUFACTURERS  
2/Ab, Sardar Patel Industrial Estate,  
Near Gujarat Petrol Pump,  
Shahwadi, Narol,  
Ahmedabad,  
Gujarat 382405

## 14. PROFITABILITY CALCULATIONS

(Rs.)

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
(A)	Sales Realization per annum	56642040	64733760	72825480	72825480	72825480
(B)	Cost of Production					
1	Raw material per annum	49196000	56224000	63252000	63252000	63252000
2	Utilities	609000	696000	783000	783000	783000
3	Salaries	1344000	1411200	1478400	1478400	1478400
4	Repairs and maintenance	450000	470000	490000	510000	530000
5	Selling expenses (3% on sales value)	1699261.2	1942012.8	2184764.4	2184764.4	2184764.4
6	Administrative Expenses (other expenses)	520000	624000	728000	832000	936000
	Total	53818261.2	61367212.8	68916164.4	69040164.4	69164164.4
(C)	Profit before interest & depreciation	2823778.8	3366547.2	3909315.6	3785315.6	3661315.6
	depreciation	1261500	1261500	1261500	1261500	1261500
	Profit Before term loan and tax	1562278.8	2105047.2	2647815.6	2523815.6	2399815.6
	Interest on term loan (11%)	1130679.55	952151.2	714113.4	476075.6	238037.8
	Profit before tax	431599.25	1152896	1933702.2	2047740	2161777.8
	Tax (30%)	129479.775	345868.8	580110.66	614322	648533.34
	Total Profit	302119.475	807027.2	1353591.54	1433418	1513244.46

Underlying assumptions for probability calculation are:-

The installed capacity of the plant is assumed at 8 MT per annum. The capacity utilization is taken at 70% for the first year. The raw material price is assumed at Rs. 88/- per KG. The selling price is taken at Rs.102-104/- per KG. Power cost is taken at Rs.8/- per unit. Interest rate on long term loan is taken at 11%.

## 15.        **BREAKEVEN ANALYSIS**

<b>Fixed Cost (FC):</b>	<b>Rs. In lakhs</b>
Wages & Salaries	13.44
Repairs & Maintenance	4.5
Depreciation	12.61
Admin. & General expenses	5.2
Interest on Term Loan	3.02
<b>Total</b>	<b>38.77</b>

Fixed Cost: 38.77

Profit After Tax: 3.02

$$\text{BEP} = \text{FC} \times 100 / \text{FC} + \text{P}$$

$$= 38.77 / 41.79 \times 70 / 100 \times 100$$

$$= \mathbf{64.94\%}$$

## 16.        **STATUTORY/ GOVERNMENT APPROVALS**

There is no specific statutory requirement for plastic processing industry. However MSME & GST registration, IEC Code for Export of end products and local authority clearance may be required for Shops and Establishment, for Fire and Safety requirement and registration for ESI, PF and Labour laws may be required if applicable. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

## 17.        **BACKWARD AND FORWARD INTEGRATION**

As forward integration to the proposed product, the promoter may think of producing water hose pipe for irrigation. There is no possibility for backward linkages as input is a polymer requiring heavy investment.

## **18. TRAINING CENTERS/COURSES**

For plastic processing industry training and short term courses may be availed from the Central Institute of Plastic Engineering and Technology (CIPET), Guindy, Tamil Nadu and its regional centers. More over training and guidance are also provided by polymer manufacturers such as Reliance Industries Limited and GAIL. It is also possible to take technical help from machinery manufacturers.

Udyamimitraportal ( link : [www.udyamimitra.in](http://www.udyamimitra.in) ) can also be accessed for handholding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

### **Disclaimer:**

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.