

# **DISPOSABLE PLASTIC CUP**

## **1. INTRODUCTION**

The disposable plastic cups are manufactured by thermoforming technique. They are fast replacing conventional cups. Drinking water, Ice-cream and other dairy products are packed in disposable cups. Besides Ice-cream industry, hotels, restaurants, canteens etc. have been increasingly using disposable cups as against conventional glass-wares or ceramic cups. Disposable cups are mainly used for food items and are made out of polypropylene or polystyrene sheets. Sheets having thickness 0.35 mm to 2 mm is used for these items in thermoforming machine. The disposable cups are gaining popularity due to attractive look, light weight for container, ease of transportation and low impermeability. Now-a-days organizations like railways, airlines are using disposable cups for serving water, coffee, tea etc.

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

- Ice-cream industry
- Hotels
- Restaurants
- Canteens

## **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 AND TRENDS**

The plastic processing industry, of which the proposed project is an integral part, has been growing at an impressive rate of 12-15% per annum since last four five years and is showing a trend of increasing use of plastic products in some of the applications. Particularly, the growths of commodities plastics, like the product in this profile, have wider applications and well developed markets. Though, the overall growth rate is somewhat less than engineering plastic based projects. However, in this industry segment there is larger volumes and new configuration of products as well as change in consumer life style have resulted in a positive trend and outlook for this industry.

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

Due to the recent change in the life style of urban class the demand for disposable Cups are increasing at a rapid rate. Apart from being used at home, they also come in handy during parties, picnics and other functions and get-togethers. Plastic disposable cups are also used by Ice-cream industry, hotels, restaurants, canteens etc. but the major customer of disposable cups is ice-cream industry and they have started using plastic cups instead of paper ones that were being used earlier. The main advantage of these plastic cups is that they are completely leak proof. Plastic cups can be made up of different sizes and they can hold bulk material easily in comparison to the traditional paper cups. Besides organization like Railways, Airlines are using a good quantity of plastic disposable cups.

Considering the above factors, demand of disposable cups is expected to increase faster in future.

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

Polypropylene sheets

## 7. MANUFACTURING PROCESS

Polypropylene/Polystyrene sheet feeding reels of preset length is dragged from bobbin reel in the Thermoforming plant. The conveyor chains carry the sheet through the heater assembly to the Forming table. The heated sheet is punched to form the shape of the mould. The cups thus formed are stocked and the punched waste sheet is wound on scrap sheet winder. To get printed cups, the sheets are printed before forming into cup. Taking 200ml. cup as yard stick as it is mostly used for serving drinking water, coffee/tea etc., The installed capacity of the machine with 16 cavities mould is approximately 1,53,600 cups per shift. In terms of weight, a 200ml cup made of 0.7mm thick High Impact Polystyrene sheet is approximately 2.58 gms. Therefore, the total weight of output per shift is 396 Kg Approx. The average weight of sheet required per cup is 3.2gms. (This implies wastage of approximately 0.62 gms per cup). As the raw material wastage is very high the scrap needs to be recycled. The scrap can be ground and may be either extruded in sheet extruder or sale.

## 8. MANPOWER REQUIREMENT

Sr. No.	Particulars	Nos	Salary(Rs.)
1	Supervisor	1	12000
2	Skilled Workers	2	20000
3	Semiskilled Workers	4	32000
4	Office Clerk cum office boy	1	8000
5	Accountant	1	10000
6	Store Keeper	1	8000
7	Sales Executive	1	10000
8	Watchman	1	6000
	Peon	1	5000
9	Helper	1	5000
	Total		116000

## 9. IMPLEMENTATION SCHEDULE

The estimated time required for implementing the project would be approximately 10-12 months

Sr. No.	Particulars	Time
1	preparation of Project report	Two months
2	Sanction of loan	Three months
3	Selection of Site	One month
4	Completion of registration and other formalities	One month
5	Machinery procurement, erection and Installation	Four months
6	Trial production and commissioning	One month

## 10. COST OF PROJECT

Sr. No.	Particulars	Rs. In lakhs
1	Land and Building	35.00
2	Plant and Machinery	34.00
3	Miscellaneous Assets	6.50
4	P & P Expenses	4.00
5	Contingencies @ 10% on land and building and plant and machinery	6.50
6	Working capital margin	53.45
	Total	139.45

## 11. MEANS OF FINANCE

Sr. No.	Particulars	Rs. (lakhs)
1	Promoter's contribution	41.835
2	Bank Finance	97.615
3	<b>Total</b>	139.45

## 12. WORKING CAPITAL CALCULATION

Sr. No.	Particulars	Rs. lakhs	Stock Period days	Promoter Margin	Margin Amt.	Bank Finance
1	Salaries and wages	1.16	30	1	1.16	-
2	Raw material and packaging material	86	30	0.5	43	43
3	Utilities	5.2	30	0.5	2.6	2.6
4	Debtors	16.79	30	0.4	6.716	10.074
	Total	109.15			53.476	

## 13. LIST OF MACHINERY REQUIRED

Sr. No.	Particulars	Rs. lakhs
1	Automatic thermoforming machine	25
2	Scrap grinder	2
3	Air compressor	3
4	Testing equipment	3
5	Die Punch for cups	1
	Total	34

The major machinery required are manufactured by companies such as

- shyam plastics
- knorakplastomacpvt. Ltd.

## 14.PROFITABILITY CALCULATIONS

(Rs.)

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
(A)	Sales Realization per annum	14105407	16120465	18135523	18135523	18135523
(B)	Cost of Production					
1	Raw material per annum	7266000	8304000	9342000	9342000	9342000
2	Utilities	579600	662400	745200	745200	745200
3	Salaries	1392000	1503360	1614720	1726080	1837440
4	Repairs and maintenance	370000	370000	390000	410000	430000
5	Selling expenses (3% on sales value)	423162.2	483613.9	544065.7	544065.7	544065.7
6	Administrative Expenses (other expenses)	550000	550000	590000	630000	670000
	Total	10580762	11873374	13225986	13397346	13568706
	(C) Profit before interest & depreciation	3524644	4247091	4909537	4738177	4566817
	depreciation	1035000	1035000	1035000	1035000	1035000
	Profit Before term loan and tax	2489644	3212091	3874537	3703177	3531817
	Interest on term loan (11%)	1035416	920370	766975	613580	460185
	Profit before tax	1454228	2291721	3107562	3089597	3071632
	Tax (30%)	436268.5	687516.3	932268.7	926879.2	921489.7
	Total Profit	1017960	1604205	2175294	2162718	2150143

Underlying assumptions for probability calculation are:-

The installed capacity of the plant is assumed at 120 MT per annum. The capacity utilization is taken at 70% for the first year. The raw material price is assumed at Rs. 87/- per KG. The selling price is taken at Rs.120/- 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	13.92
Repairs & Maintenance	3.7
Depreciation	10.35
Admin. & General expenses	5.5
Interest on Term Loan	10.35
<b>Total</b>	<b>43.82</b>

Fixed Cost: 43.82

Profit After Tax: 10.35

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

$$43.87 / 54.17 \times 70 / 100 \times 100$$

**56.63%**

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

There is no specific statutory requirement for plastic industry process. However, MSME registration various taxation related registration and labour law related compliances have to be ensured. Entrepreneur may contact State Pollution Control Board where ever it is applicable

## 17.        **BACKWARD & FORWARD LINKAGES**

There are no specific backward or forward linkages related techno-economic advantages or synergies for this type of project. However, in future after achieving certain growth entrepreneur may consider backward linkage.

## **18. TRAINING CENTRE AND COURSES:**

There are number of institutions providing facilities and training courses on production/marketing for the proposed project. These are Central Institute of Plastic Engineering and Technology (CIPET), Indian Institute of Packaging Management (IIPM), Plastic and Rubber Institute (PRI), Indo German Tool Room (IGTR), etc.

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.