

PROJECT PROFILE

ON

THERMOFORM DISPOSABLES

PREPARED BY



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1. Introduction:

Thermoformed disposables are generally used for Tea, Water and Packing of Beverages etc. These Thermoform shapes are created from a process where a sheet of plastic is heated and vacuumed on top of a model or die. The die can be made up from variety of materials.

There are different industries using thermoformed cups and trays like:

- Medical packaging in Pharmaceuticals
- Catering
- Food packaging
- Retail Outlets
- Restaurants
- Hotels
- Tourism
- Soft drinks, water and tea etc.

2. Market:

Due to attractive look, low weight, ease of transportation and low permeability, thermoformed disposable cups and trays are finding tremendous market in packaging of food products, particularly Ice creams which is as high as 30%. The demand for thermoformed disposables is growing for drinking water, Tea, Coffee, soft drinks and packing dairy products.

The global consumption of single-use disposable food and drink containers such as lunch boxes, cups and bowls is estimated at 438 billion units per year. Out of which the consumption of thermoformed disposable cups is 21% of the total disposable items.

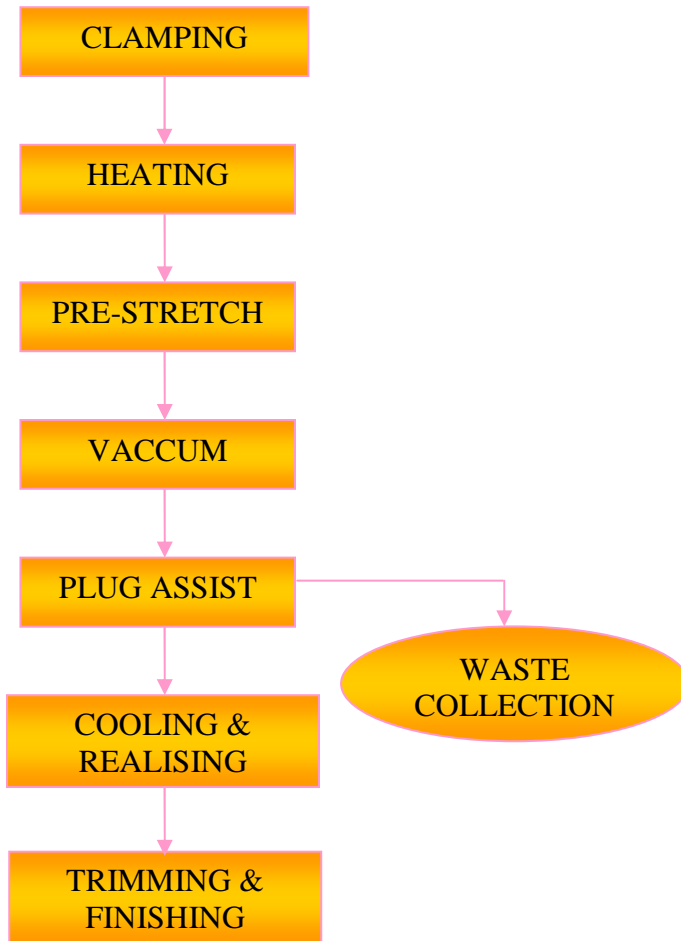
3. Raw Material:

The major raw materials used for thermoforming are high impact polystyrene, ABS, PVC, Polypropylene, HDPE, Polycarbonate etc. The choice of each material depends upon the end-use requirements and cost. The most common materials used for disposable wares are high impact polystyrene (Considered), PVC and Polypropylene.

4. Manufacturing Process:

Thermoforming is a manufacturing process for thermoplastic sheet or film. The sheet or film is heated between infrared, natural gas and other heaters to its forming temperature. Then it is stretched over or into a temperature-controlled, single-surface mold. Cast or machined aluminum is the most common mold material, although epoxy, wood and structural foam tooling are sometimes used for low volume production. The sheet is held against the mold surface until cooled. The formed part is then trimmed from the sheet. The trimmed material is usually reground, mixed with virgin plastic, and reprocessed into usable sheet.

The process of manufacturing Thermoform Disposables can be seen in the following process flow diagram:



5. Technology:

The technology/Machinery required for manufacturing of the thermoform disposables are 2 Nos. of Automatic vacuum forming machine with control panel, 2 Nos. of Roller cutting machine, 4 Nos. of Aluminum mould with cutting mold, a sheet plant two layer, compressor, Grinder and a Cooling tower.

6. Investment:

The investment for setting up a Thermoform Disposables manufacturing Plant works out to **Rs. 1.11 Crores** and the break up of the cost is tabulated below.

The land requirement will be around 0.5 acres. The Preliminary & Pre-operative expense works out to Rs 0.11 crores. Plant & Machinery including installation, erecting & transportation charges are of 0.23 Crores. Buildings and civil works are estimated to be 0.37 Crores. Contingencies @ 5% and electricity deposits have been considered in the project cost. Margin money for working capital is estimated to be 0.06 Crores.

Table 1: Project Cost

S.No.	Description	Cost (Rs in Crores)
1	Land & Site Development	0.10
2	Buildings & Civil works	0.37
3	Plant & Machinery including ert., ins.,& trans	0.23
4	Misc. Fixed Assets	0.10
5	Contingency @5%	0.04
6	Electricity Deposits	0.10
7	Preliminary & Pre-operative Expenses	0.11
8	Margin Money for Working capital	0.06
Total Project Cost		1.11

Means of Finance

The project is proposed to finance with a debt equity ratio of 2.58:1 and the means of finance is as follows:

Table 2: Means of Finance

S.No.	Sources of Funds	Cost (Rs in Crores)
1	Share Capital - Equity	0.31
2	Term Loan	0.80
	Total	1.11

7. Profitability Assumptions:

Basic assumptions of the Thermoform Disposables manufacturing unit are given in the table below:

- The product mix considered is Thermoform disposable Cups, Trays - 7" and Trays - 10" with an installed capacity of cups is 2160 Tonnes/shift, Trays - 7" is 346 Tonnes/shift and Trays - 10" is 518 Tonnes/shift.
- No. of Working days is considered at 300 with 1 shift per day.
- The unit can work at 60% capacity for the first year and can increase by 2-3% there on.
- The manpower requirement is considered at 21 personnel for various level viz. casual labour, Technical & Supervisory staff and administrative staff.

8. Key Financial indicators:

The returns are adequate enough to repay the term loan in 4 years. The key financial indicators are tabulated below.

(Rs. in Crores)

S No	Particulars	Year 1	Year 2	Year 3	Year 4
1	Sales	2.37	2.47	2.57	2.67
2	Total Expenditure	1.56	1.62	1.69	1.71
3	PBIDT	0.81	0.85	0.88	0.95
4	PBT	0.66	0.73	0.78	0.89
5	PAT	0.43	0.47	0.50	0.58
6	Cash Accruals	0.46	0.50	0.54	0.61
7	BEP @ Operating capacity	35.67%	32.35%	30.01%	23.30%
8	Debt Equity Ratio	1.94	1.29	0.65	0.00
9	DSCR (Gross)	1.99	2.25	2.49	2.91
10	Average DSCR	2.37			
11	DSCR (Net)	2.48	2.69	2.87	3.04
12	Average DSCR	2.77			
13	IRR (%)	51.88%			
