

PTFE SEALING TAPE

1. INTRODUCTION

PTFE or Teflon thread sealant tape is widely used for water and gas pipelines to prevent leakage. It is produced from PTFE powder. The packaging of the tape is done on plastic reels. Each reel normally contains 10 meters tape of 12mm width and average weight of 1 gram. The specifications of the tape vary according to customer demand and market price. There is BIS standard for the tape but mostly tape available in the market are below standard.

2. PRODUCTS AND ITS APPLICATION

PTFE – Polytetrafluoroethylene is engineering material used for high temperature and high abrasion resistance. It is highly resistant to chemical attack and also is stable at an elevated temperature of 180 degrees C is formed into tape. The tape is used for sealing valves, stopcock, screws, and gaskets and also for insulating electrical parts.

3. DESIRED QUALIFICATION FOR PROMOTER

The promoter may be diploma in engineering or having marketing experience of building material products. Moreover network with hardware stores and manufacturing industry will be an added advantage.

4. INDUSTRY OUTLOOK/TREND

Plastic and Polymer industries in India is growing at about 5% per annum. There are mainly two types of polymers such as commodity plastics and engineering plastics. The products in commodity plastics are well developed and growing at lesser space than engineering plastics. The present trend is to go for engineering plastics products for replacement of metals and cost reduction.

5. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY

Market for PTFE sealing tape is nationwide and also there is excellent scope for export. At present there are about 12 enterprises engaged in manufacturing this product in India and mostly concentrated in the western part of the country. The product is mainly used in piping of liquid and gaseous products. It is also used for automobile engines, industrial machines and capital goods. The demand is increasing day by day with growth of infrastructure activities. There are few companies exporting tape to Middle East, Africa, USA and neighboring countries.

PTFE Tape is widely consumed by PTFE Cable manufacturers, high temperature resistance sealing tape producers and as thread sealant tape production.

6. RAW MATERIAL REQUIREMENTS

The main raw material is PTFE powder mostly imported as there is only one company making this raw material. There is a special grade of PTFE suitable for thread sealant tape. Sometimes there is shortage of raw material and supply is also from Russia and China. However bulk of the raw material is imported from Du Pont of USA. They have office in Vadodara. The current market rate is Rs. 2200 per Kg.

Apart from PTFE, mineral turpentine oil is required as lubricant.

7. MANUFACTURING PROCESS

The raw PTFE powder is sifted through wire mesh sieve. The powder is mixed with a wet lubricant in a blender. The lubricated powder is placed in the mould in a hydraulic press and pressed to form a billet. The billets are then hydraulically extruded to form the ribbon which is continuously wound. The ribbon is then calendared to flatten into thin sheet. The sheet is wound on roller. The rolls are then dried in oven to remove the lubricant. The sheet is stretched and slitted to desired width. The tape is finally rewound into small spools.

8. MANPOWER REQUIREMENT

For the production of PTFE tape following category of manpower will be required for day to day production. Annual wages are also worked out.

Sr. No.	Designation of Employees	Monthly Salary ₹	Number of employees required	Value Rs. in lacs
1	Supervisor	10,000	1	1.20
2	Skilled man power	5,000	4	2.40
3	Sales Man	5,000	1	0.60
4	Accountant	4,000	1	0.48
5	Office boy	3,500	1	0.42
6	Unskilled man power	3,500	2	0.84
	Total		10	5.94

9. IMPLEMENTATION SCHEDULE

The implementation time required for this project will be approximately six months after arranging the finance from the bank. Main time required is in the fabrication and delivery of plant and machinery. The factory building will be purchased readily and hence implementation will be faster.

10. COST OF PROJECT

The cost of project as per market rate of factory building, machinery, miscellaneous items, working capital margin and preliminary and pre-operative expenses works out as under

Sr. No.	Particulars	₹ in Lacs
1	Land	22.50
2	Building	35.00
3	Plant & Machinery	40.35
4	Furniture, Electrical Installations	2.00
5	P&P Expenses	0.50
6	Margin for Working Capital	3.76
	Total	104.11

11. MEANS OF FINANCE

Based on the present norms of the bank, means of finance is worked out as under.

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	41,64,400.00
2	Bank Finance	62,46,600.00
	Total	1,04,11,000.00

12. WORKING CAPITAL CALCULATION :-

Working capital required for storage of raw materials and finished goods, monthly overheads, goods in process, receivables and trade credit is worked out based on the present norms of the bank as under.

Sr. No.	Particulars	Gross Amt.	Margin %	Margin Amt.	Bank Finance
1	Inventories	2.81	40%	1.12	1.69
2	Receivables	6.25	40%	2.50	3.75
3	Overheads	1.39	50%	0.70	0.70
4	Creditors	-1.41	40%	-0.56	-0.84
	Total	9.05		3.76	5.29

13. LIST OF MACHINERY AND THEIR MANUFACTURERS

The machinery required for the production of PTFE tape are Mixing machine, Preforming machine, Extrusion machine, Calendar, Drying oven, Stretching & reeling machine, Slitting machine and Cooling tower. All these machineries are available in India and can be fabricated by providing specifications. The total cost of machinery is Rs. 40.35 lakhs.

The following are some of the machinery manufactures for PTFE Tape.

- Gurukrupa Engineering Works 215, Puspam Industrial Estate, Phase-I, GIDC, Vatva, Vatva Industrial Estate, Ahmedabad-382445, Gujarat
- M. D. Industries
Partapur, Meerut,
Uttar Pradesh

14. PROFITABILITY CALCULATIONS

The profitability is worked out as under after taking into account all variable and fixed expenses as under.

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
1	Sales	52.605	60.12	67.635	67.635	67.635
2	Raw Materials & Other direct inputs	33.159	37.896	42.633	42.633	42.633
3	Gross Margin	19.446	22.224	25.002	25.002	25.002
4	Overheads except interest	5.852	6.688	7.524	7.524	7.524
5	Interest	5.292	6.048	6.804	6.804	6.804
6	Depreciation	4.263	4.872	5.481	5.481	5.481
7	Net Profit before tax	4.039	4.616	5.193	5.193	5.193

The proposed unit will have the production capacity of 15,00,000 reels per year each of one gram of PTFE. The unit cost of power is taken at Rs. 8. The depreciation on building is taken at the rate of 5% whereas for plant and machinery it is at 10%.

The sales price of PTFE tape on an average is taken at the rate of Rs. 5 per reel. The selling price of PTFE waste is taken at the rate of Rs. 100 per kg.

15. BREAKEVEN ANALYSIS

The Break-Even point as percentage of targeted sales works out as under.

Sr. No.	Particulars		Value
			Year-1
1	Sales Realization	Rs. Lacs	75.15
2	Variable costs	Rs. Lacs	47.37
3	Fixed costs incl. interest	Rs. Lacs	15.92
4	BEP = $FC/SR-VC \times 100 =$		57.32%

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, Entrepreneur may think of going for the production of PTFE cables and other types of tapes.

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 Hindustan Fluorocarbon Limited, Hyderabad.

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

Entrepreneurship development programs help to run businesses successfully and are 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.