FIBRE REINFORCED PLASTICS

I. INTRODUCTION:

Fibre Reinforced Plastic or FRP is a composite material consisting of reinforcing fibres thermosetting resins and other materials such as fillers and pigments may also be present. Glass fibre is generally used as a reinforcing material and polyester resins are usually used as bending agent.

The major application of FRP are consumer products such as chairs trays, helmets, pipe ducts, water cooler body, water tanks panelling etc.

II. MARKET POTENTIAL

With the easy availability of glass fibre from three major plants located in different parts of the country, and availability of polyester resins, there are vast possibility for the manufacturing of FRP products. In this project profile, cooler bodies, bath room modas and chairs are the articles to be manufactured

III. BASIS AND PRESUMPTIONS:

The unit will work for 8 hours per day and 300 working days in a year. The unit will use 50% of the installed capacity to begin with.

IV. IMPLEMENTATION SCHEDULE:

The unit can be set up in 6 months

V. TECHNICAL ASPECTS:

1. Process of Manufacturing :

Hand lay up process.This is the most popular method for manufacture of large and complex items. It requires minimum equipment and inexpensive moulds. Moulds are made of reinforced plastics, plaster of Paris, wood, etc. only one mould, male or female is used and the articles produced have finish on the side that comes in contact with the mould. Resins used are of polyester and epoxy. The moulding operation is as follows.

1.Application of release agent.

2.Gel coat

3.The lay up operation.

4.Curing and releasing the mould.

5.Trimming.

6.Painting

Training in the manufacture of FRP products can be had from CIPET, Guindy, Madras or its branches in India.

2.Quality Specification :

As per the customer's specification

3. Production Capacity per annum

Quantity: Air cooler Bodies 750 nos. Bathroom modas 350 nos. Garden Chairs 400 nos.

Value : Rs. 600000

4.Motive Power

3 Phase

VI. TOTAL CAPITAL INVESTMENTS

S.No	Description	Value Rs.
1	Fixed Capital	50500
2	Working capital	39815
	Total cost	90315

VII. MEANS OF FINANCE

1.Promoter's Contribution (5% of total cost) 4516
2.PMRY subsidy (15% of total cost or Rs.7500,whichever is less) 7500
3.Bank loan[total cost-(Promoter's Contribution+ PMRY subsidy) 78299

VIII. FINANCIAL ASPECTS

1. FIXED CAPITAL

i)Land & Buildings : Rented premises of 500 sft. at a rent of Rs.1250 pm.

ii) Machinery & Equipment

S.No	Description	Quantity	Value Rs.
1	Moulds	5 no.	15000
2	Air compressor	1 no.	10000
3	Misc. equipment		10000
4	Lab equipment		5000
5	Steel Almirah		3000
6	Fans		1500
7	Miscellaneous		1000
8	Pre-operative expenses		5000
	Total		50500

2. WORKING CAPITAL

i) Staff & Labour per month

S.No	Designation	No	@ Rs.	Value Rs.
1	Manager	1	1500	1500
2	Worker	3	1000	3000
	Total			4500

ii)Raw Material (p.m.)

S.No	Description	Quantity	Value Rs.
1	Polyester resin	250 gm.	22500
2	Fibre Glass	83	8000
3	Catalyst	400 gm.	50
4	Accelator	160 gm	15
	Total		30565

iii. Utilities per month

S.No.	Description	Value Rs.
1	Power	1500
2	Water	500
	Total	2000

iv.Other expenses per month

S.No	Description	Value Rs.
1	Packing material	1000
2	Postage, transport, telephone	500
	Total	1500

v.Total working capital per month

S.No	Description	Value Rs,.
1	Rent	1250
2	Staff and labour	4500
3	Raw materials	30565
4	Utilities	2000
5	Other expenses.	1500
	Total	39815

IX. COST OF PRODUCTION PER ANNUM

S.No	Description	Value Rs.
1	Total working capital	477780
2	Depreciation	4550
3	Interest	13548
	Total	495878

X. TURNOVER PER YEAR

S.No	Item	Quantity	Rate Rs.	Value Rs.
1	Air cooler bodies	750 no.	800	600000
	Total			600000

XI. FIXED COST PER YEAR

S.No	Description	Value Rs.
1	Depreciation	4550
2	Interest	13548
3	Rent	15000
4	40% of salaries & wages	21600
5	40% of other expenses (utilities + OE)	16800
	Total	71498

XII. PROFIT ANALYSIS

Net Profit : sale-total cost=600000 - 495878 =104122
% of Profit on Sale: Profit / Sale x100=104122/600000 =17.35%
% of Return on Investment: Profit / (Investment) x 100=104122/90315]100=115.29
Break-Even Analysis : FC / (FC+Profit) x100=71498/71498+104122]100=40.71%

XIII. MACHINERY SUPPLIERS

- Presswell Industries, Plot No.10, 1/NH 2, Gandhi Chowk, NIT, Faridabad

XIV. RAW MATERIAL SUPPLIERS

1. 1 FGP Ltd., 109, Dr. E. Moses road, Fort, Mumbai
2. Deccan fibre Galass Ltd., Lakdi-ka-pool, Hyderabad
3. 3 UP Twiga Fibre Glass Ltd., East Kailash Community Centre, New Delhi