PROJECT PROFILE
ON
ALKYD RESIN

PRODUCT : A**LKYD RESIN**

QUALITY & STANDARDS : As per Customer's specification

PRODUCTION CAPACITY (P.M.) : Quantity : 1500 M. T.
Value (Rs.) : 1800 Lakhs

MONTH & YEAR OF PREPARATION : February, 2012.

PREPARED BY : **MSME - Development Institute,**
Ministry of Micro, Small & Medium Enterprises,
Government of India
107, Industrial Estate, Kalpi Road,
Kanpur-208012.

Tele. 2295070, 2295071 & 2295073 (EPBAX)
Tele. No. 2295072 (SENET & TRC)
Tele/Fax No.: 0512- 2240143
Email: dcdi-kanpur@dcmsme.gov.in
Website: msmedikanpur.gov.in

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1. INTRODUCTION

Alkyd resins are any of a large group of thermoset resins that are essentially Polyesters made by heating polyhydric alcohol with polybasic acids or their anhydride and used chiefly in making protective coatings with good weathering properties.

These resins are useful as film forming agents in paint, varnished and enamels & as thermosetting plastics that can be moulded into solid objects. Hence, alkyd resins are one of the important ingredients in the synthetic paint industry.

The paint factories in India currently produce a variety of paint which can broadly be categorized as synthetic enamel. This type of paint is used for the exclusive use in internal / exterior walls and ceilings of architecture. This type consists of alkyd based products which are used as metallic & wood paints, varnishes & lacquers, antirust, etc.

2. MARKET POTENTIAL:

Alkyd resin, which is used in the production of a wide variety of paints, is supplied to the Indian market both from domestic production and import. As Indian industries are producing paint of amount approximately Rs.15000 crores which needs Alkyd Resin of amount near about Rs. 3000 crores.

Due to construction of apartments, buildings, roads there is huge demand of paint in this sector. Increased demand of paint will need the basic raw material of paint i.e. alkyd resin simultaneously.

3. BASIS AND PRESUMPTIONS:

1. The unit will run on three shifts basis of 8 hours per shift for 300 days per year.
2. The unit will run at 80% capacity utilization.
3. The cost of land & building, plant & machinery, raw materials & finished goods are as per prevailing market rate.
4. The name and addresses of plant & machinery of raw material suppliers are neither exclusive nor exhaustive.

4. IMPLEMENTATION SCHEDULE :

Every project requires some specific time for commercial production and are briefly as under:-

Sl. No.	Activity	Expected time
	Acquisition of land	1 month
	Filing of EM-I.	7 days
	Building construction	3 months
	Financial Arrangements	2 months
	Procurement of Machinery	3-5 months
	Installation, electrification and commissioning of machinery and other facilities	1-3 months
	NOC from Pollution Control Board	1- 2 months
	Trial run	From 9 months onwards

5. TECHNICAL ASPECTS

i) Production detail & Process of Manufacture:

Two processes are used for the production of alkyd resins, namely the solvent and the fusion process. The solvent process uses a small amount of solvent, 5-10%, in the esterification reaction to act as a reflux medium. The advantages of this process are:

Uniformity of product
Increased speed of reaction and
Lower material losses.
Light colour

In the solvent process, the production of alkyds can be carried out either in a single stage or a two stage process. Under the single stage process, the drying oil (linseed oil), polyalcohol and phthalic anhydride are converted simultaneously. This method of alkyd preparation is not satisfactory because of the incompatibility of the phthalic anhydride with drying oil (linseed oil) and the difficulty of controlling the reaction to produce the desired end-products.

In the first stage of the two stage solvent process, monoglyceride is produced from drying oil and polyalcohol and in the second stage the monoglyceride is esterified with phthalic anhydride to convert it into alkyd resin. This process is more satisfactory and is the one recommended for the envisaged plant because it eliminates the problems of the first option.

In the two- stage solvent process, the first operation is the alcholoysis reaction which takes place under different duration of time (varying form 40 minutes to 4 hours) and temperature (from about 240 to 260oC). The completion of this stage is shown by the solubility of the product in about twice its weight of methanol

ii) Quality Control & Specification:

Monoglyceride formation is checked by solubility method with methanol in the ratio 1:3. The confirmation test is done by compatibility test in which monoglyceride is heated separately in small quantity with pthalic anhydride and heated up to 225 degree Celsius. The reaction product is diluted with MTO to infinite.

iii) Production Capacity (per annum)

a) Quantity : 1500 MT

b) Value (Rs.) : Rs. 1800 Lakhs

iv) Motive Power Requirement:

30 KW

6. FINANCIAL ASPECTS:

(A) Fixed Capital:

i) Land and Building :

Land – 1000 Sq. Mtrs. @ Rs.1500/- per Sq. Mtrs.	Rs.	15,00,000/-
Built up Area – 400 Sq. Mtrs. @ Rs.5000/- per Sq. Mtr.	Rs.	20,00,000/-
Total:	**Rs.**	**35,00,000/-**

ii) Plant & Machinery:

Sl. No.	Description	Qty (Nos.)	Value (Rs.)
1	Reactor	1 unit	7,50,000/-
2	Condenser (main)	1	2,00,000/-
3	Separator	1	75,000/-
4	Blender	1	75,000/-
5	Vent condenser	1	75,000/-
6	Addition Tank	1	75,000/-
7	Resin pump (Reactor to blender)	1	25,000/-
8	Resin pump (Blender to filter)	1	25,000/-
9	Resin filter (Sparkler)	1	75,000/-
10	Stand by elect. Generator	1	2,25,000/-
11	Thermic fluid heating system (heat therm)	1	2,75,000/-
12	Oil pump	1	25,000/-
13	Weighing scale	1	15,000/-
14	Finished product tank	1	50,000/-

15	Water Hydrant	1	1,00,000/-
16	Fire Extinguisher (Foam type)	4	50,000/-
17	Cooling tower & pump	1	3,00,000/-
18	Laboratory equipment	-	50,000/-
19	Miscellaneous items	-	50,000/-
20	Installation of plant & machinery @ 10%	-	2,00,000/-
	Total:		**27,15,000/-**

Total Fixed Capital Requirement:

1.	Land & Building	35,00,000/-
2.	Plant & Machinery	27,15,000/-
	Total:	**62,15,000/-**

(B) Working Capital (Per Month):

i) Staff and Labour (per month)

Sl. No.	Designation	No.	Rate (Rs.)	Amount (Rs.)
1	General manager	1	20000/-	20,000/-
2	Sales officer	2	15000/-	30,000/-
3	Accountant	1	5000/-	5,000/-
4	Production and technical head	1	20000/-	20,000/-
5	Operators	3	5000/-	15,000/-
6	Skilled Workers	4	4000/-	16,000/-
7	Unskilled Workers	4	3500/-	14,000/-
8	Laboratory Technician	1	4000/-	4,000/-
9	Guards	3	3500/-	10,500/-
			Total	**1,34,500/-**
	Perquisites @ 15% of salary			20,175/-
			Total	**1,54,675/-**

ii) Raw Material:

Sl. No.	*Particulars*	*Quantity Kg*	*Rate (Rs)*	*Value (Rs.)*
1	Linseed oil	74250	90/Kg	66,82,500/-
2	Penta Erythriol	18550	120/Kg	22,26,000/-
3.	Pthalic anhydride	33500	102/Kg	34,17,000/-
4.	Litharge	25	150/Kg	3,750/-
5.	Xylene	1250	88/Kg	1,10,000/-
6.	Barrel (200 Ltrs cap.)	625	500/Pc	12,500/-
			Total	**1,24,51,750/-**

iii) Utilities:

Sl. No.	Particulars	Quantity	Rate	Value (Rs.)
1	Electricity & Power	2500 units	Rs. 9.00/unit	2,25,000/-
2	Fuel (Diesel)	5000 Ltrs.	Rs.43/ Ltr	2,15,000/-
			Total	**4,40,000/-**

iv) Other Contingent Expenses:

Sl. No.	Description		**Amount in Rs.**
1.	Telephone and stationery	:	5,000/-
2.	Travelling & Transport	:	10,000/-
3.	Repair & Maintenance	:	10,000/-
4.	Insurance	:	15,000/-
5.	Other expenditure	:	10,000/-
	Total	**:**	**50,000/-**

v) Total Recurring Expenses (per month)

a.	Salary & Wages	:	1,54,675/-
b.	Raw material	:	1,24,51,750/-
c.	Utilities	:	4,40,000/-
d.	Other contingent expenses	:	50,000/-
	Total:	:	**1,30,96,425/-**

Total Working Capital for 3 months = 1,30,96,425/- X 3 = : Rs.3,92,89,275/-
Say = Rs. 3,93,00,000/-

7. Total Capital Investment:

a)	Fixed Capital	62,15,000/-
b)	Working Capital for 3 months	3,93,00,000/-
	Total:	**4,55,15,000/-**

Means of Finance:

i)	Promoter's share	25%	1,13,78,750/-
ii)	Loan from Financial Institution	75%	3,41,36,250/-
		Total:	**4,55,15,000/-**

8. Financial Analysis:

(A) Cost of production (Recurring Expenses) (per annum)

S. No.	Particulars	Amount (Rs.)
1.	Total Recurring Expenditure	15,71,57,100/-
2.	Depreciation on Building @ 5%	1,35,000/-
3.	Depreciation on Machinery & Equipments @ 10% (Except Electrification & Installation, Trial run)	2,00,000/-
4.	Interest on 75% on loan @ 14% p.a.	47,79,075/-
	Total :	**16,22,71,175/-**

(B) Turnover (per annum)
Sales proceeds as shown below:

Item	Quantity (M.T.)	Rate (Rs.)	Value (Rs.)
ALKYD RESIN	1500 MT	Rs. 120/Kg	**18,00,00,000/-**

(C) Net Profit (Per Annum):

Turn Over (-) Cost of Production
18,00,00,000/- (-) 16,22,71,175/- **Rs. 1,77,28,825/-**

(D) Net Profit Ratio (Per Annum):

$$\frac{\text{Profit/annum X 100}}{\text{Sales Per Annum}} = \frac{1,77,28,825/- \text{ X } 100}{18,00,00,000/-} = \textbf{9.84\%}$$

(E) Rate of Return:

$$\frac{\text{Profit/Annum X 100}}{\text{Total Capital Investment}} = \frac{1,77,28,825/- \text{ X } 100}{4,55,15,000/-} = \textbf{38.95\%}$$

(F) BREAK EVEN POINT:

Fixed Cost (Per Annum):

1.	Depreciation on Building @ 5% p.a.	1,35,000/-
2.	Depreciation on Plant & Machinery @ 10% p.a.	2,00,000/-
3.	Interest on loan @ 14% p.a.	47,79,075/-
4.	40% salary and wages	7,42,440/-
5.	40% of Utilities	21,12,000/-
6.	40% of other expenses	2,40,000/-
	Total Fixed Cost:	**82,08,515/-**

Break Even Point:

$$\frac{\text{Fixed Cost X 100}}{\text{Fixed Cost + Profit}} = \frac{\text{82,08,515/- X 100}}{\text{82,08,515/- + 1,77,28,825/-}} = \textbf{31.6\%}$$

9. Names and Addresses of Plant & Machinery Suppliers:

1. M/s Suresh Engg. Works,
   Shukla Industrial Shed, Mahadeo Seth Compound, Mahim Road, Pal Ghar – 401404. (Maharashtra)
   Phone: 0252 – 254793 Mob 9890222944

2. M/s Prakash Industries,
   D-3, Shital Industrial Estate, Behind Tirupati Gas Gowdown,
   Meera Bhayandar Pathak Road, Bhayadar East, Thane – 401105 (Maharashtra)
   Phone: 9820449039

3. M/s Doshi Engg. Works,
   Mogra Village Road, Next to Reliance Consultancy,
   Opp. Stadard Metal Compound, Andheri East, Mumbai – 400069. (Maharashtra).
   Mob. 9323299589.
4. M/s Universal Engg. System,
   16, KK Gupta Indl. Estate, Opp. Jawahar Taalkies, Dr. R. P. Road,
   Mulund West Mumbai – 400080.
   Mob. 9892760940

10. Names & Addresses of Raw Material Suppliers:

Raw material can be purchased from local market.

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