PROJECT PROFILE
ON
ACRYLIC PAINTS

PRODUCT	:	**ACRYLIC PAINTS.**
QUALITY & STANDARDS	:	**BIS:15489 – 2004 Part- II.**
PRODUCTION CAPACITY (P.M.)	:	Quantity : 2,88,000 Ltrs. Value (Rs.) : 1,87,20,000/-
MONTH & YEAR OF PREPARATION	:	MARCH, 2013.
PREPARED BY	:	**MSME - Development Institute,** Ministry of Micro, Small & Medium Enterprises, Government of India 107, Industrial Estate, Kalpi Road, **Kanpur-208012.**

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1. INTRODUCTION

In the 1940s after the Second World War, the paint manufacturing industry moved away from the old tried and true methods of making linseed oil paint and began heavily promoting chemical, petroleum and solvent based paints. With the awareness of danger of petroleum products in the environment, we are entering a new period for the painting industry. Major difference in modern paint is the change in the binder form the used natural boiled linseed oil to alkyd oil, which is generally derived from Soybean and Safflower oil. Use of synthetic resins, such as acrylics and epoxies, has become prevalent in paint manufacture in the last 30 years. Acrylic resin emulsions in latex paints with water thinner have also become common.

2. MARKET POTENTIAL:

Acrylic emulsions are recognized as the most durable for exterior use. As we know that acrylic emulsion polymers owe their excellent durability to their high molecular weight and the fact that they do not crosslink because of their chemical nature. A good quality pure acrylic latex exterior paint has the capability of retaining its flexibility over its lifetime. These flexible latex polymers provide better resistance to chipping than alkyds, which continue to crosslink with oxygen in the air to develop hardness and eventually become brittle. Chemical composition of acrylic polymers is unique which results in resistance to the effects of water and alkalinity, UV degradation, and mildew growth, which tend to degrade oil-based paints. Because of the combination of high molecular weight, chemical inertness and ultraviolet stability these polymers have superior gloss retention, tint and colour retention, enduring flexibility and chalk resistance that is durability. Also acrylic emulsion paints are highly flexible and provide excellent adhesion to many difficult substrates, making them very resistant to crack and fault. The main feature of the paints

is adhesion. It is adhesion that allows the paint to grip the surface below, forming a tight bond that is durable and resistant to failure. Acrylic paints have good adhesion on difficult substrates. This pure acrylic emulsion paint helps prevent adhesion related failures after a long period of time; blistering, peeling and cracking, and flaking. Also paint discoloration is an undesirable change in the colour of exterior paint. Pure acrylic emulsions ensure to paint a very constant and durable colour for long periods of time. The resistance to chalking and fading of the acrylic paints is much better than any other paint particularly in sunny exposure.

Due to above said qualities acrylic paints especially exterior paints are preferably used in place of oil based paints.

3. BASIS AND PRESUMPTIONS:

1. The estimates are drawn for a production capacity generally considered Techno-economically viable for model type of activity.

2. The costs in respect of land and building, machinery & equipments, raw materials and the selling prices of the finished product etc. are those generally prevailing at the time of preparation of the project profile and may vary depending upon various factors from place to place and time to time.

3. The production capacity is based on single shift working for 300 working days per annum.

4. Where as some names of manufacturers / suppliers of machinery and equipments, raw materials are indicated at the end of the profile, these are by no means exclusive or exhaustive.

5. One litre of exterior acrylic paint weights around 1.2 Kg.

4. IMPLEMENTATION SCHEDULE :

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

Sl. No.	Activity	Expected time
1.	Selection of Site	0-1 months
2.	Preparation of Project Report	1-3 months
3.	Provisional Registration	1 week
4.	Financial Arrangements	3 – 6 months
5.	Procurement of Machinery	3-5 months
6.	Installation, electrification and commissioning of machinery and other facilities	1-3 months
7.	NOC from Pollution Control Board	1- 2 months

Some of the steps mentioned above will work simultaneously; hence total time for the complete operation of project may taken 5 – 6 months.

5. TECHNICAL ASPECTS

i) Production detail & Process of Manufacture:

The process of manufacturing consists of various steps, as follows:

a) Mill base Preparation:

Solution of hydroxy ethyl cellulose (HEC) is made with the help of water and ammonia. All the pigments and extenders are mixed with the small quantity of water and weighting agents with the help of high speed stirrer having the rpm of 1500.

b) Grinding:

The prepared mill base is passed through the sand mill with the flow rate of 3 – 4 litrs per minutes. For light colour mill based is passed once through the sand mill and for dark colour it is passed through twice or thrice depending upon the hardness of pigment.

c) Make up:

The grinded material is mixed with the remaining water and emulsion at a low rpm with the high speed stirrer. Thickener, coaleasing agents, defoamer, buffer solution are added under slow speed to get the right consistency.

d) Tinting:

Various water based stainers are added to the prepared paint to get the required shade of paint.

e) Packing/Despatching:

After preparation and thorough checking of quality parameters the acrylic paint is packed to different small containers. Now it is ready for dispatch at various places.

ii) Quality Control & Specification:

BIS:15489 – 2004 Type – II for exterior acrylic paints is used as quality standard. Under this wet opacity, drying time, finish colour, resist to alkali, wet scrubbality tests are performed to check the quality.

iii) Production Capacity (per annum)

a) Quantity : 2,88,000 Ltrs.

b) Value (Rs.) : 1,87,20,000/-

iv) Motive Power Requirement:

35 HP

v) Pollution Control:

NOC from Pollution Control Board is necessary to be obtained before starting the industrial activity. Suitable equipments are to be provided to check the harmful and non-permissible contents in the effluent. Hence, effluent water may be treated suitably to remove harmful contents before discharging the effluent.

vi) Energy Conservation:

Suitable provisions like shunt capacitor for electric motors, thermal insulation, air driven automatic exhaust etc. are required to save energy. All energy devices are required to be used with care and judiciously.

6. FINANCIAL ASPECTS:

(A) Fixed Capital:

i) Land and Building :

Land	550 Sq. Mtrs.	Rs.	5,00,000/-
Total Built up Area (Office, Stores etc.) &	50 Sq. Mtrs.	Rs.	1,25,000/-
Working Shed	400 Sq. Mtrs.	Rs.	6,00,000/-
	Total:	**Rs.**	**12,25,000/-**

ii) Machinery and Equipment :

Sl. No.	Description	Qty (Nos.)	Value (Rs.)
1	Sand mill fitted with pump, cap. 5 litres shell size and flow rate of 4 – 5 litres per hour with 5 HP motor & starter	2	6,00,000/-
2	Variable speed High Speed Disperser cap. 15 HP motor with starter.	1	2,00,000/-
3	Electronic weighing machine cap. 250 Kg	2	40,000/-
	Instruments		
4	Brook field viscometer LCV model.	1	3,00,000/-
5	Weight per litre cup 100 ml cap.	1	5,000/-
6	Wet scrubbality tester	1	25,000/-
7	DM Water Plant cap. 25 litres per hour	1	2,00,000/-
8	Water overhead tank of 10,000 liters capacity and tube well fitted with accessories	1	80,000/-
9	Electrification and installation charges	-	1,00,000/-
10	Pollution Control and Energy Conservation equipments.	-	1,00,000/-
		Total	**16,50,000/-**

iii) Office Furniture & Equipments	50,000/-
iv) Pre-operative Expenses	30,000/-
Total: (i + ii + iii + iv)	**17,30,000/-**

(B) Working Capital (Per Month):

(Recurring Expenses) (per month)

i) Staff and Labour (per month)

Sl. No.	Designation	No.	Total Salary
1	Manager	1	10,000/-
2	Chemist	1	8,000/-
3	Clerk – cum – Accountant	1	4,000/-
4	Supervisor	1	5,000/-
5	Storekeeper	1	4,000/-
8	Skilled Workers	2	7,000/-
9	Unskilled Workers	4	12,000/-
11	Peon – cum – Watchman	1	3,000/-
		Sub- Total	**53,000/-**
Perquisites 15%			7.950/-
		Total	**60,950/-**

ii) Raw Material:

Sl. No.	Particulars	Quantity (Lt/Kg)	Rate (Rs.)	Value (Rs.)
1	DM Water	10500 Lt	3.25	34,125/-
2	Wetting agent	60 Kg	80/Kg	4,800/-
3	Preservative	45 Kg	125/Kg	5,625/-
4	Emulsifier	90 Kg	180/Kg	16,200/-
5	HEC	105 Kg	425/Kg	44,625/-
6	Pine Oil	150 Lt	110/Lt	16,500/-
7.	Titanium Dioxide	4.50 Kg	158/Kg	711/-
8.	China Clay	3000 Kg	9/Kg	27,000/-
9.	Calcite	1500 Kg	9/Kg	13,500/-
10.	Acrylic emulsion (55%)	4500 Kg	90/Kg	4,05,000/-
11.	Thickener	150 Kg	80/Kg	12,000/-
12.	Defoamer	150 Kg	125/Kg	18,750/-
13.	Infilm Preservative	60 Kg	475/Kg	28,500/-
14.	Ammonia	30 Lt	50/Lt	1,500/-
15.	Tin Containers for packing	24000 Nos.	18/-	4,32,000/-
16.	Carton / Tape	LS	-	48,000/-
			Total	**11,08,836/-**

iii) Utilities:

Sl. No.	Particulars	Value (Rs.)
1	Water	1,500/-
2	Electricity	23,625/-
	Total	**25,125/-**

iv) Other Contingent Expenses:

Sl. No.	Description		Amount in Rs.
6.	Postage and stationery	:	1,000/-
7.	Telephone	:	1,000/-
8.	Sales Expenses	:	15,000/-
9.	Transport	:	10,000/-
10.	Consumable Stores	:	3,000/-
11.	Repair & Maintenance	:	2,500/-
12.	Insurance	:	1,500/-
13.	Misc. expenditure	:	1,500/-
	Total	**:**	**35,000/-**

v) Total Recurring Expenses.

a.	Salary & Wages	:	60,950/-
b.	Raw material	:	11,08,836/-
c.	Utilities	:	25,125/-
d.	Other contingent expenses	:	35,000/-
	Total:	:	**12,29,911/-**
	Say:	:	**12,30,000/-**

Total Working Capital for 3 months = 12,30,000X 3 = : Rs. 36,90,000/-

7. Total Capital Investment:

a)	Fixed Capital		17,30,000/-
b)	Working Capital for 3 months		36,90,000/-
		Total:	**54,20,000/-**

Machinery Utilization:

In first year the capacity utilisation has been taken as 70% and in subsequent years it will be 80% and above.

8. Financial Analysis:

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

S. No.	Particulars	Amount (Rs.)
1.	Total Recurring Expenditure	1,47,60,000/-
2.	Depreciation on Machinery & Equipments @ 10%	84,000/-
3.	Depreciation on Instruments @ 15%	79,500/-
4.	Depreciation on office furniture and equipments @ 20%	10,000/-
5.	Depreciation on Building @ 5%	36,250/-
6.	Interest on Total Capital Investment @ 12%	6,50,400/-
	Total :	1,56,20,150/-
	Say:	1,56,20,000/-

(B) Turnover (per annum)

Sales proceeds as shown below:

Item	**Quantity (M.T.)**	**Rate (Rs.)**	**Value (Rs.)**
Acrylic Paints	2,88,000 Lt	Rs. 65/Lt	1,87,20,000/-

(C) Net Profit (Per Annum):

Turn Over (-) Cost of Production

1,87,20,000/- (-) 1,56,20,000/-

Rs. 31,00,000/-

(D) Net Profit Ratio (Per Annum):

$$\frac{\text{Profit/annum X 100}}{\text{Sales Per Annum}} = \frac{\text{31,00,000/-X 100}}{\text{1,87,20,000/-}} = \textbf{16.55\%}$$

(E) Rate of Return:

$$\frac{\text{Profit/Annum X 100}}{\text{Total Capital Investment}} = \frac{\text{31,00,000/- X 100}}{\text{54,20,000/-}} = \textbf{57.2\%}$$

BREAK EVEN POINT:

Fixed Cost (Per Annum):

1.	Depreciation on Machinery & Equipments, Building, Office Equipments	2,09,750/-
2.	Interest on Total Investment @ 12%	6,50,400/-
3.	40% salary and wages	2,92,560/-
4.	40% of other expenses	1,60,800/-
5.	Insurance	18,000/-
	Total Fixed Cost:	**13,31,510/-**

Break Even Point:

$$\frac{\text{Fixed Cost X 100}}{\text{Fixed Cost + Profit}} = \frac{\text{13,31,510/- X 100}}{\text{13,31,510/- + 31,00,000/-}} = \textbf{30\%}$$

9. Names and Addresses of Plant & Machinery Suppliers:

1. M/s. Modern Engineering Company,
   Plot No. I-33 Phase-IV, GIDC Estate, Vitthal Udyog Nagar,
   Anand/(Gujarat). Tel. 02692 – 229542 / 229543
2. M/s. Indo – German Engineers / Industries,
   302, Sanjeev Apartments, Vrindavan Chowk, Sion – chuna Bhatti Road,
   Sion, Mumbai-400022. Tel. 022 – 24070527 / 24092650.
3. M/s Milltech Engineering Pvt. Ltd.,
   Warden House, 1st Floor, Sir PM Road, Fort, Mumbai – 400001.
   Tel. 022 – 22872295 / 22872334

Names & Addresses of Raw Material Suppliers:

1. M/s. Vimal Inter Trade Pvt. Ltd.,
   C – 310, Shyam Kamal, Agarwal Market, Ville Parle East,
   Mumbai – 400057. Tel. 022 – 2612728, 26127282.
2. M/s. Harmony,
   Harmony House, Plot 77/77 RSC – 9, Gorai – I, Borivli (W)
   Mumbai – 400 092. Tel. 022 28603611 / 28603622.
3. M/s. Mountain Minerals & Microns Ltd.,
   Vill. Rania Dist. Vadodara (Gujarat).
   Tel. 02667 – 244107.

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