

Cement Paints

PRODUCT CODE	: 312101007
QUALITY AND STANDARDS	: As per requirements of customer or as mutually agreed between the purchaser and the seller.
PRODUCTION CAPACITY	: Qty.: Cement Paints in various Shades 250 MT (per annum) Value : Rs. 54,00,000
MONTH AND YEAR OF PREPARATION	: January, 2003
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INTRODUCTION

Cement paints are covered under Powder Paints which are used for exterior cemented walls, all types of masonry surfaces like Bungalows, Multistoried buildings, Bridges, Dams, Houses, Buildings of General Public, etc. and can also be used for Interior as well as exterior masonry cemented surfaces. A wide range of colours and shades in cement paints have been developed and manufactured to meet various choices, moods, service conditions, and methods of application, performance and economic requirements. Cement paints are widely used by general public and Government Departments, and establishments. Cement paints give following excellent properties to any masonry surface:

- 1) Cement paint gives very good protection to all kinds of masonry surfaces from Ultraviolet rays present in sunrays.
- 2) It gives very good protection from severe climatic conditions like rain, heat, water, humidity, salt atmosphere near sea-shores, to all types of cemented walls, surfaces.
- 3) It prevents growth of fungus and bacteria on masonry surfaces.
- 4) It gives very good colour and pleasing appearance to all types of masonry surfaces.
- 5) Cements paint hides out various surface irregularities, hair lining, roughness etc. thereby giving smooth and pleasing appearance to all cemented masonry surfaces where it is applied. Cement paints normally give smooth and matt finish. The machines and equipments for the manufacture of cement paints are indigenously available and are not very expensive also. The process and technology being simple, this item is suitable for development in

rural and backward areas. Cement paint produces a smooth, matt finish, is strongly water repellent and weather proof. It is hygienic and an excellent light reflector, requires minimum curing with water, without peelings, flaking or rubbing offs.

MARKET POTENTIAL

Since the cement paints gives high order of protection, decoration, beautification and durable properties than the normal whitewash. It is extensively used on all types of cemented masonry surfaces like Bungalows, multi-storied building, bridges, dams, general public buildings, houses etc. The demand of cement paint is increasing with the general requirement of human beings throughout the country. Cement Paints have a very good market and a very promising future. There is a substantial demand for Cement Paints from Government sectors like DGS and D, State PWDs, CPWD, Railways, Defence, State Electricity Boards, Govt. of India Enterprises, State Govt. Enterprises, various contractors, architects and engineers.

BASIS AND PRESUMPTIONS

1. The information supplied is based on a standard type of manufacturing activity utilizing conventional techniques of production and optimum levels of performance.
2. The estimates are drawn for a production capacity generally considered techno-economically viable for a model type of manufacturing activity.
3. The cost in respect of land and

building, machinery and equipment, raw materials and the selling price of finished products etc. are those generally obtained at the time of preparation of project profile and may vary depending upon the location, make and for a variety of reasons.

4. Whereas some names of manufacturers and suppliers of machinery and equipments, raw material etc. are indicated at the end of profile, these are by no means exclusive or exhaustive.
5. This scheme is based on single shift working except for the Ball mills which may run overnight for 300 working days per annum.

TECHNICAL ASPECTS

Process of Manufacture

Cement paints are composed of the following ingredients :

i) Pigments ii) Binder iii.) Additives and iv) Solvents—water, which is added before application. The pigment portion consists of prime pigments like Titanium Di Oxide, Carbon Black, Phthalocyanine blue, Phthalocyanine Green, Red Oxide etc. with suitable quantity of extenders like whiting, china clay etc. The binder is the white cement or ordinary Portland cement-33 grade which acts as a film former or pigment binder. Here water is used as solvent which is generally, added before application of cement paint to the masonry surface. Water is to be added in cement paint to bring it to the desired consistency. Additives like wetting and dispersing agents, anti-fungicidal agents etc. are added in small percentage to impart specific properties to the cement paint.

Cement Paints are made on the basis of the above ingredients depending upon the formulations used by individual manufacturers which is further based on customer's requirements and specifications.

In the manufacturing of Cement Paints Ball Mills and Edge Runner are used. All the pigments/extenders and some portion of binder (e.g. White cement, Ordinary Portland cement-33 grade etc.) with dispersing agents as per formulation are charged in the Ball Mills and run till the desired grinding/dispersion is achieved. The ground material is taken out with the help of the rest portion of binder to the Edge Runner machine. Again it is grinded and mixed uniformly. Anti-fungicides and other required additives as per formulation are added here. Again grinded and mixed uniformly. Then shade matching is done in comparison with the colour card of manufacturer or as per the requirements of customers. Then quality control testing is done to achieve the required properties. After quality control testing is O.K. It is packed into containers or bags as per the requirements.

Before painting new surfaces, it should be thoroughly cleaned and free from efflorescence. Previously painted surfaces should be washed out or brushed down. But if the surface is in powdery or flaking condition, it should be removed by scraping or wire-brushing, Cement Paint normally should not be used on non-absorbent surfaces, such as glazed bricks or neat cement finish or previously flat oil or enamel painted work. Two coats of cement paint are usually sufficient on a new surface. Cement Paint, in powder form, is to be thinned with water for applying by brush or spray. Cement paint is to be made

into a creamy consistency by adding three volumes of Cement Paint to one volume of water. Normally cement paint must be added to water and not water to cement paints. The above paste is diluted to a suitable paint consistency by adding, while stirring, further 2-3 volumes of water. Cement paint can be applied by either brushing or Roller coating. According to the painting instructions, the surface is to be prepared and saturated with water. Immediately after the excess surface water disappears, one coat of Cement paint thinned with water previously is to be applied. After 4-6 hours, the surface is to be sprinkled again with water. When dry, usually overnight, the surface is to be wet with water as done earlier before first application and second coat of Cement paint is to be applied in the same way and water sprinkled after 4 to 6 hours.

FINANCIAL ASPECTS

A. Fixed Capital

(i) Land and Building

Land 500 Sq.Meter	Rented (per month)
Covered area 250 sq.meter	Rs. 6,000

(ii) Machinery and Equipments

Sl. No.	Description	Qty.	Amount (Rs.)
1	Mild Steel Ball Mill size, 30" × 36" with 5 H.P. Flame proof motor and other accessories	3 Nos. @ 45,000 each	1,35,000
2	Mild Steel ball Mill size 26" × 30" with 3 H.P. flame proof motor and other accessories	2 Nos. @ 40,000 each	80,000
3	Edge runner (Bucket, sizes 48") with reduction gear and other accessories	1 No.	75,000

Sl. No.	Description	Qty.	Amount (Rs.)
4	Weighing balance platform type 200 kg. Capacity	1 No.	15,000
5	Testing Laboratory equipments and chemical testing tables etc.		50,000
6	Counter scale balance capacity upto 10 kg. with weight		2,500
7	Fire extinguisher	4 Nos.	6,000
8	Miscellaneous hand tools, fittings and auxiliary equipments		10,000
	Total		3,73,500
	Electrification and installation charges @ 10%		37,350
	Total		4,10,850
	Office Furniture and fixtures		25,000
	Pre-operative expenses		30,000
	Total		4,65,850

(iii) Staff and Labour (per month)

Sl. No.	Designation	No.	Salary (Rs.)
1	Manager	1 No.	7,000
2	Clerk-cum-Accountant	1 No.	3,000
3	Manufacturing Chemist	1 No.	5,000
4	Salesman	1 No.	4,000
5	Skilled Workers	2 Nos @Rs.3,000	6,000
6	Unskilled workers	4 Nos. @Rs. 1800	7,200
7	Peon	1 No.	1600
8	Watchman	1 No.	1600
	Total		35,400
	<i>Perquisites @ 15%</i>		5,310
	Total		40,710

(iv) Raw Materials (Rs.)

1	White Cement/ O.P.C.-33	15 MT @ 10,500 PMT	1,57,500
2	Whiting	3 MT @ 3,500 PMT	10,500
3	Barytes	1.25 MT @ 4,500 PMT	5,625
4	China Clay	1.25 MT @ 3,500 PMT	4,375

Raw Materials			(Rs.)
5	Pigments (Titanium Di Oxide, Carbon black, Phthalocyanine Blue, Red oxide, Phthalocyanine green etc.)	0.8 MT @ 1,10,000 PMT	88,000
6	Additives like brightening agent, Anti-fungicide etc.		20,000
	Total		2,86,000

(v) Utilities (per month) (Rs.)

1	Electric Power 2100 KWH @ Rs. 2.50 per unit	5,250
2	Water and others	2,000
	Total	7,250

(vi) Other Contingent Expenses (per month) (Rs.)

1	Building Rent	6,000
2	Postage and stationery	700
3	Telephone	1,000
4	Repair and maintenance	1,000
5	Consumable stores	1,500
6	Packing materials	8,000
7	Advertisement and Publicity	4,000
8	Transportation and Travelling	4,000
9	Insurance	3,000
10	Laboratory expenses	2,000
	Total	31,200

B. Working Capital (per month)

1.	i) Raw materials	Rs. 2,86,000
	ii) Staff and Labour	Rs. 40,710
	iii) Utilities	Rs. 7,250
	iv) Other expenses	Rs. 31,200
	Total	Rs.3,65,160

2. Working Capital (for 3 months) 3,65,160 × 3 = Rs. 10,95,480

C. Total Capital Investment

1	Fixed Cost	Rs. 4,65,850
2	Working Capital (for 3 months)	Rs. 10,95,480
	Total	15,61,330

FINANCIAL ANALYSIS

(I) Cost of Production (per annum) (Rs.)

i)	Total Recurring Expenditure	43,81,920
ii)	Depreciation on machinery and equipments @ 10%	44,085

Cost of Production (per annum)	(Rs.)
iii) Depreciation on office equipments @ 20%	5,000
iv) Interest on total capital investment @ 14%	2,18,586
Total	46,49,591

(2) Total Sales Turnover (per year)	(Rs.)
Cement Paint (water proofing) 250 M.T. @ Rs. 21,600 per metric ton (21,600 × 250)	54,00,000

(3) Profit (per year)	(Rs.)
54,00,000 – 46,49,591 =	7,50,409

(4) Rate of Profit on Sales

$$= \frac{\text{Net profit per year} \times 100}{\text{Total Turnover per year}}$$

$$= \frac{7,50,409 \times 100}{54,00,000}$$

$$= 13.90\%$$

(5) Rate of Return on Total Capital Investment

$$= \frac{\text{Net Profit per year} \times 100}{\text{Total Capital Investment}}$$

$$= \frac{7,50,409 \times 100}{15,61,330}$$

$$= 48.06\%$$

(6) Break-even Point

(i) Fixed Cost (per annum)	(Rs.)
a) Depreciation on Machines, equipments @ 10% (4,65,850 – 25,000) × 0.1	44,085
b) Depreciation on office equipments @ 20% (25,000 × 0.2)	5,000
c) Building Rent (6,000 × 12)	72,000
d) Interest on total capital Investment @ 14% (15,61,330 × 0.14)	2,18,586
e) Insurance (3,000 × 12)	36,000
f) 40% of salary and wages (40,710 × 12 × 0.4)	1,95,408
g) 40% of other contingent expenses (excluding rent, Insurance, Utilities etc.) (31,200 – 6,000 – 3,000) × 12 × 0.4	1,06,560
Total	6,77,639

(ii) Net Profit (per year) Rs. 7,50,409

$$\text{B.E.P.} = \frac{\text{Total Fixed cost} \times 100}{\text{Total Fixed cost} + \text{Profit}}$$

$$= \frac{6,77,639 \times 100}{6,77,639 + 7,50,409}$$

$$= 47.45\%$$

Addresses of Machinery and Equipment Suppliers

1. M/s. Ahmedabad Victoria Iron Works Co. Ltd.
Dhudherwal Road,
Ahmedabad.
2. M/s. Bakshi and Sons
G.T. Road, Millar Ganj,
Ludhiana, Punjab.
3. M/s. Standard Metal Fabricators
1/5, Kirti Nagar,
New Delhi-1 10001.
4. M/s. Kusum Engg. Works
25, Swallow Lane,
Kolkata-700001.
5. M/s. Devi Dayal and Co.
Lal Kuan,
Delhi- 1 10006.
6. M/s. Bhagsons Paint Industries
18, D.L.F, Industrial Area,
Najafgarh Road,
New Delhi-1 10001.
7. M/s. Telematrix Engineers Pvt. Ltd.
C-1, 404, Phase-IV, GIDC,
Vithal Udyog Nagar,
P.O. Vallabhvidya Nagar-388121
Gujarat.

Addresses of Raw Material Suppliers

- a. M/s. Amar Minerals Pvt. Ltd.
Alic Building, Dr. D.N. Road,
Mumbai-400001.
- b. M/s. Amar Dye Chemicals Ltd.
Rangh Udyan, Sitladevi Temple
Road, Melium,
Mumbai-400001.

- c. M/s. Sudarshan Chemicals
162, Wellsely Road,
Pune-311001.
- d. M/s. J.K. White Cement
Locally available in every district.
- e. M/s. Birla White Cement
Locally available in every district.
- f. M/s. R.N. Sahni and Sons
27/3, Shakti Nagar,
Delhi-110007.
- g. M/s. Associated Pigments Ltd.
14, Netaji Subash Road,
Kolkata-700001.
- h. M/s. Travancore Titanium
Products Limited
Kerala.
- i. M/s. Colour Chem Ltd.
Fort House,
Dadabhai Naroji Road,
Mumbai-400001.