

# **CEMENT PAINTS**

## **1. INTRODUCTION:**

Water Repellent Cement is a Paint based on Portland cement with the addition of pigments, fillers, accelerators and water repellent substances. These paints which have largely superseded the simple Cement washes are supplied as a dry powder and mixed with water before use, but for darker colors ordinary cement could be substituted as base. For external faced decoration lighter color paints are in general preferred, because the color is matchless conspicuously affected by the formation of sporadic 'Fade' films of calcium carbonate over the surface. Cement paints are used externally to prevent rain penetration, as well as for decorative purposes, and can retain some water roofing qualities for as long as ten years on vertical surfaces. For making different colors cement paints a certain percentage of pigments are used in the base cement paint. The pigments must be lime free and the hydrated lime should not exceed 8% of anhydrate CaO and MgO.

## **2. PRODUCT & ITS APPLICATION:**

A wide range of colors 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 sun rays. 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 color 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 off.

### **3. DESIRED QUALIFICATIONS FOR PROMOTER:**

Graduate in any discipline.

### **4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:**

It has been observed in almost all the masonry constructions water penetrates into and seeps through quite readily-when it does, the beauty and durability of the masonry constructions is affected. The absorbed water dissolves water soluble salts within the masonry and while drying up it creates an unsightly sporadic fade film of calcium carbonate. When water passes entirely through the masonry it will dumped the interior walls, crack the plaster, peel off the paint and wall coverings. In cold areas the water freezes within masonry and expands, causing cracking and spoiling, which makes the appearance of the surface scarred and chipped. To overcome this problem one has to bear a constant recurring expenditure on the maintenance of building. The proposed water repellent cement paint has a property to prevent rain water penetration as well as can retain water proofing qualities as long as ten years, thus enabling the users to maintain the evergreen look of the building for years together without recurring investment. Moreover keeping pace with the present economic reform people of India is thinking real estate investment is a better investment and opting for construction of house, this cement paint has many connotation values and in spite of tough economy, people will search for this product because of its multi directional benefits of costs.

### **5. RAW MATERIAL REQUIREMENTS:**

The major raw materials require for the cement paints are White Cement, Hydrated Lime, Water repellent, hygroscopic salt, and Zinc sulphate, Calcium Carbonate, Silica aggregate and different Pigments. All the required materials are easily available in the local market.

## 6. MANUFACTURING PROCESS:

Portland Cement Powder, Hydrated lime water repellents, Hygroscopic Salt, Titanium dioxide, calcium carbonate, siliceous fillers bare suitably proportioned in a hopper. The whole material is fed from the top into ball mill and allowed the material for 12 hrs. Dry grinding. The unloaded material through belt conveyor is collected in different silos. For getting different colors – pigments are added in suitable proportions along with the batch. The finished product (Cement Paints) is packed in HDPE Polythene lined packet of 5, 10, 20 & 50 Kgs. Capacity and stored in a well-ventilated dry humidity controlled room.

## 7. MANPOWER REQUIREMENT:

The enterprise requires 16 employees as detailed below:

Sr. No.	Designation of Employees	Monthly Salary ₹	Number of employees required				
			Year-1	Year-2	Year-3	Year-4	Year-5
1	Machine Operators @ 12000	24,000	2	2	2	2	2
2	Helpers @ 8000	56,000	7	7	10	10	10
1	General Manager@15000	15,000	1	1	1	1	1
2	Accounts/Stores Asst@12500	25,000	2	2	2	2	2
3	Office Boy/Peon@9000	9,000	1	1	1	1	1
	<b>Total</b>	1,29,000	13	13	16	16	16

## 8. IMPLEMENTATION SCHEDULE:

The project can be implemented in 3 months' time as detailed below:

Sr. No.	Activity	Time Required ( <i>in months</i> )
1	Acquisition of premises	1.00
2	Construction (if applicable)	2.00
3	Procurement & installation of Plant & Machinery	2.00
4	Arrangement of Finance	2.00
5	Recruitment of required manpower	1.00
	Total time required ( <i>some activities shall run concurrently</i> )	4.00

## 9. COST OF PROJECT:

The project shall cost ₹ 72.70 lacs as detailed below:

Sr. No.	Particulars	₹ in Lacs
1	Land @ 2500 sq. mtrs @ Rs. 400	10.00
2	Building @ 1000 Sq. Mtrs @ Rs. 1000	10.00
3	Plant & Machinery	12.70
4	Furniture, Electrical Installations	4.00
5	Other Assets including Preliminary / Pre-operative expenses	1.00
6	Margin for Working Capital	35.00
	<b>Total</b>	<b>72.70</b>

## 10. MEANS OF FINANCE:

Bank term loans are assumed @ 75 % of fixed assets. The proposed funding pattern is as under:

Sr. No.	Particulars	₹ in Lacs
1	Promoter's contribution	20.00
2	Bank Finance	52.70
	<b>Total</b>	<b>72.70</b>

## 11. WORKING CAPITAL CALCULATION:

The project requires working capital of ₹ 24.75 lacs as detailed below:

Sr. No.	Particulars	Gross Amt	Margin %	Margin Amt	Bank Finance
1	Inventories	15.00	25	3.75	11.25
2	Receivables	18.00	25	4.50	13.50
3	Overheads	2.00	100	2.00	-
4	Creditors	-		-	-
	<b>Total</b>	35.00		10.25	24.75

## 12.LIST OF MACHINERY REQUIRED:

A detail of important machinery is given below: Power Requirement: 52 HP

Sr. No.	Particulars	UOM	Qty	Rate ( ₹ )	Value ( ₹ in Lacs)
	<b>Plant &amp; Machinery / equipments</b>				
<b>a)</b>	<b>Main Machinery</b>				
i.	Ball Mill 4'x4', 7.5HP	Nos	6	75000	4.50
ii.	Ball Mill 600mm x 600mm,3HP	Nos	2	60000	1.20
iii.	Belt conveyor 60' length 10 0mm wide 1HP		1		0.70
	Silos OF 100 Kgs. E ach made out of 3 mm sheet		1		0.30
<b>b)</b>	<b>Ancillary machinery</b>				
i.	Totally enclosed belt bucket elevator of 20' height with 1 HP motor	Nos	1.00		2.00
ii.	Weighing balance capacity 500 Kgs. Spring Balance 500 Kg Bag sewing machine	LS	2.00		4.00
Sr. No.	Particulars	UOM	Qty	Rate ( ₹ )	Value ( ₹ in Lacs)
	<i>sub-total Plant &amp; Machinery</i>				<b>12.70</b>
	<b>Furniture / Electrical installations</b>				
a)	Office furniture	LS	1.00		1.00

b)	Stores /cupboard	LS	1.00		1.00
c)	Computer & Printer	Nos	2.00	1,00,000	2.00
	<i>sub total</i>				<b>4.00</b>
	<b>Other Assets</b>				
a)	Rent Deposits		2.00	50,000	1.00
	<i>sub-total Other Assets</i>				<b>1.00</b>
	<b>Total</b>				<b>17.70</b>

### 13.PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	UOM	Year-1	Year-2	Year-3	Year-4	Year-5
1	Capacity Utilization	%	60%	70%	80%	80%	80%
2	Sales	₹. In Lacs	120.00	140.00	160.00	160.00	160.00
3	Raw Materials & Other direct inputs	₹. In Lacs	100.00	116.67	133.34	133.34	133.34
4	Gross Margin	₹. In Lacs	20.00	23.33	26.66	26.66	26.66
5	Overheads except interest	₹. In Lacs	17.20	17.20	18.80	18.80	18.80
6	Interest @ 10 % on 52.70	₹. In Lacs	5.27	5.27	4.50	3.90	2.70
7	Depreciation @ 30 % wdv	₹. In Lacs	4.50	3.80	2.90	2.35	1.90
8	<b>Net Profit before tax</b>	₹. In Lacs	<b>-6.97</b>	<b>-2.94</b>	<b>1.61</b>	<b>1.61</b>	<b>3.26</b>

### 14.BREAKEVEN ANALYSIS:

The project shall reach cash break-even at 67.39 % of projected capacity as detailed below:

Sr. No.	Particulars	UOM	Value
1	Sales at full capacity	₹. In Lacs	200.00
2	Variable costs	₹. In Lacs	166.66
3	Fixed costs incl. interest	₹. In Lacs	22.47
4	$BEP = FC/(SR-VC) \times 100 =$	% of capacity	67.39