

# Manufacture of Paint, Varnish & Allied Products (2nd Revised Edition)

**Author:** NPCS Board

**Format:** Hardcover

**ISBN:** 9789381039175

**Code:** NI25

**Pages:** 132

**Price:** Rs. 1,495.00 US\$ 150.00

**Publisher:** NIIR PROJECT CONSULTANCY SERVICES

Usually ships within 5 days

\*\*\*\*\*Limited Edition- available in Photostat Version Only\*\*\*\*\*

Paint is any liquid, liquefiable, or mastic composition that, after application to a substrate in a thin layer, converts to a solid film. It is most commonly used to protect, color, or provide texture to objects. Paint can be made or purchased in many colors—and in many different types, such as watercolor, artificial, etc. Paint is typically stored, sold, and applied as a liquid, but dries into a solid. Varnish is a transparent, hard, protective finish or film primarily used in wood finishing but also for other materials. Varnish is traditionally a combination of a drying oil, a resin, and a thinner or solvent. Varnish finishes are usually glossy but may be designed to produce satin or semi-gloss sheens by the addition of "flattening" agents. Varnish has little or no color, is transparent, and has no added pigment, as opposed to paints or wood stains, which contain pigment and generally range from opaque to translucent. The technology of paints, varnishes and allied products is changing rapidly and becoming more complex each day. The paint industry is an important segment of the chemical industry. Paint technology utilizes the science of chemistry, physics and engineering. The paint industry is broadly classified into decorative and industrial segment. Decorative paints consist 70% of market. Paints, varnishes, and allied product industry is gaining ground at a rapid pace in modern time accompanied with closed advance in surface coating technology. They are formulated for specific purposes like outside house paints and exterior varnishes are intended to give good service when exposed to weathering; interior wall paints are formulated to give excellent coverage.

The Rs 40,600-crore Indian paint industry is likely to see a 20 per cent compounded annual growth rate until 2016. The industry will reach the level of Rs 62,000 crore in the next two years. The rural market grew 20 per cent. Rural India's incremental consumption expenditure is growing well. And, the rural sector has a major share of the decorative paints segment. In FY14, per capita consumption of paint increased to a little over four kg, of which the decorative segment contributed 73 per cent at Rs 29,638 crore. The remaining Rs 10,962 crore was contributed by the industrial segment. The unorganized sector has around 35 per cent of the paint market. In the unorganized segment, there are about 2,500 units. The future for industrial paints, varnishes and allied product is bright.

The content of the book includes information about Paint, Varnish & Allied Products. The major contents of this book are project profiles of projects like Paint industry in India, Acrylic emulsion paints, Aluminium Paint, Cement Paint, Industrial paint, N.C. Thinner, Oil Based Paint, Paint Additives, Red Oxide Paint, Stoving Paint, insulating Varnishes etc.

Project profile contains information like properties, B.I.S specification, market survey, manufacturing process, suppliers of raw material, process flow diagram, plant economics, land and building, plant and machinery, fixed capital, working capital requirement/month, total working capital/month, cost of project, total capital

investment, turn over/annum, profit sales ratio, rate of return, breakeven point (B.E.P).

This book is very useful for new entrepreneurs, technical institutions, existing units and technocrats.

## Contents

### 1) INTRODUCTION

- a) Types of Paint
- b) Manufacture of Paints
- c) Paint Properties
  - i) Pigment Properties
  - ii) Dry Film Properties
  - iii) Mechanism of Film Formation
  - iv) Types of Coatings

### 2) PAINTS INDUSTRY IN INDIA

- a) Paints & Varnishes
- b) Titanium Dioxide

### 3) ACRYLIC EMULSION PAINTS

- a) General Properties of Acrylic Paints
- b) Application and Uses of Acrylic Paints
- c) Properties and Testing
- d) B.I.S. Specifications
- e) Manufacturing Process
- f) Basic Raw Materials Required
- g) Basic Plant and Machineries Required
- h) Most Probable General Formula of Acrylic base Emulsion Paints
  - i) Process
  - j) Process Flow Diagram
  - k) Raw Materials Suppliers
  - l) Plant Economics
    - i) Plant Capacity
    - ii) Land & Building
    - iii) Plant & Machinery
    - iv) Fixed Capital
    - v) Working Capital Requirement
    - vi) Raw Materials
    - vii) Total Working Capital
    - viii) Cost of Project
    - ix) Turn Over
    - x) Profit Sales Ratio
    - xi) Rate of Return
    - xii) Break Even Point (B.E.P)

### 4) ALUMINIUM PAINT

- a) Properties
- b) B.I.S. Specifications
- c) Types Sampling and Test of Aluminium Paints

- d) Aluminium Pigments
- e) Market Survey
- f) Manufacturing Process
- g) Varnish Making
- h) Formulation for Interior and Exterior Aluminium Paint
- i) Raw Materials Supplier Addresses
- j) Process Flow Sheet for Aluminium Paint
- k) Plant Economics
  - i) Plant Capacity
  - ii) Land & Building
  - iii) Plant & Machinery
  - iv) Fixed Capital
  - v) Raw Materials
  - vi) Total Working Capital
  - vii) Cost of Project
  - viii) Total Capital Investment
  - ix) Turn Over
  - x) Profit Sales Ratio
  - xi) Rate of Return
  - xii) Break Even Point (B.E.P)

## 5) CEMENT PAINT

- a) Product Description and Use
- b) B.I.S. Specifications
  - i) Specifications for Cement Paints and Packaging
  - ii) Specifications for Portland cement
  - iii) Specifications for Cement Testing
  - iv) Specifications for Hydrated Lime
  - v) Specifications for Titanium Dioxide
  - vi) Specification for CaCl<sub>2</sub>, Calcium Stearate
- c) Raw Materials
- d) Formulations for Dry Cement Paint
- e) Manufacturing Process of Cement Paint
- f) Suppliers of Plant and Machineries
- g) Process Flow Sheet
- h) Plant Economics
  - i) Plant Capacity
  - ii) Land & Building
  - iii) Plant & Machinery
  - iv) Fixed Capital
  - v) Total Working Capital
  - vi) Cost of Project
  - vii) Total Capital Investment
  - viii) Turnover
  - ix) Profit Sales Ratio
  - x) Rate of Return
  - xi) Breakeven Point (B.E.P)

## 6) INDUSTRIAL PAINTS

- a) Types of Paints
- b) Types of Finishes

- c) Market Trends
- d) New Products & Technology
- e) Raw Material
- f) Formulation
- g) Manufacturing Process
- h) Process Flow Diagram
- i) Suppliers of Raw Materials
- j) Plant Economics
- i) Plant Capacity
- ii) Land & Building
- iii) Plant & Machinery
- iv) Fixed Capital
- v) Total Working Capital
- vi) Cost of Project
- vii) Total Capital Investment
- viii) Turn Over
- ix) Profit Sales Ratio
- x) Rate of Return
- xi) Break Even Point (B.E.P)

#### 7) N.C THINNER

- a) Solvent
- b) Types of N C Thinner
- c) Properties & Characteristics
- d) Applications & Advantages
- e) Basic Raw Material
- f) Manufacturing Process
- g) Process Flow Diagram
- h) Suppliers of Raw Material
- i) Plant Economics
- i) Plant Capacity
- ii) Land & Building
- iii) Plant & Machinery
- iv) Fixed Capital
- v) Raw Materials
- vi) Total Working Capital
- vii) Cost of Project
- viii) Turn Over
- ix) Profit Sales Ratio
- x) Rate of Return
- xi) Break Even Point (B.E.P)

#### 8) OIL BASED PAINT

- a) Properties
- b) Components of Various Types of Surface Coatings
- c) B.I.S. Specifications
- d) Typical Formulations
- e) Market Survey
- f) Raw Material
- g) Manufacturing Process
- h) Process Flow Diagram

- i) Suppliers of Raw Material
- j) Plant Economics
- i) Plant Capacity
- ii) Land & Building
- iii) Plant & Machinery
- iv) Fixed Capital
- v) Total Working Capital
- vi) Cost of Project
- vii) Total Capital Investment
- viii) Turn Over
- ix) Profit Sales Ratio
- x) Rate of Return
- xi) Break Even Point (B.E.P)

## 9) PAINT ADDITIVES

- a) Properties of Dispersing and Anti-Settling Agent
- b) Properties of Thickness
- c) B.I.S. Specifications
- d) Manufacturing Process of Hydrogenated Castor Oil
- e) Basic Raw Material Required
- f) Basic Plant and Machineries Required
- g) Manufacturing Processing Diagram
- h) Manufacturing Process of Butyl Acrylate
- i) Basic Raw Materials Required
- j) Basic Plant and Machineries Required
- k) Manufacturing Process Flow Diagram
- l) Manufacturing Process of Aluminium Palmitate
- m) Basic Raw Material Required:-1. Aluminium Hydroxide Or Oxide.
- n) Basic Plant and Machinery Required
- o) Manufacturing Process Flow Diagram
- p) Few Name of The Suppliers of Raw Material
- q) Plant Economics
- i) Plant Capacity
- ii) Land & Building
- iii) Plant & Machinery
- iv) Fixed Capital
- v) Working Capital Requirement
- vi) Raw Materials
- vii) Total Working Capital
- viii) Cost of Project
- ix) Total Capital Investment
- x) Turn Over
- xi) Profit Sales Ratio
- xii) Rate of Return
- xiii) Break Even Point (B.E.P)

## 10) PAINT INDUSTRY

- a) Composition of Paints
- b) Types of Paints
- c) Types of Finishes
- d) Composition of Paints

- e) Additives used in Paints
- f) Composition of Distemper
- g) Uses and Categories of Enamel Paint
- h) Advantages of Synthetic Enamel Paint
- i) Market survey
- j) Major Paint Manufacturers
- k) Basic Raw Materials
- l) Manufacturing Process
- m) Process Flow Diagram
- n) Suppliers of Raw Materials
- o) Plant Economics
  - i) Plant Capacity
  - ii) Land & Building
  - iii) Plant & Machinery
  - iv) Fixed Capital
  - v) Working Capital Requirement
  - vi) Raw Materials
  - vii) Total Working Capital
  - viii) Cost of Project
  - ix) Total Capital Investment
  - x) Turn Over
  - xi) Profit Sales Ratio
  - xii) Rate of Return
  - xiii) Break Even Point (B.E.P.)

#### 11) RED OXIDE PAINT

- a) Properties
- b) B.I.S. Specification
- c) Market Position and Trend
- d) Flow Sheet
- e) Manufacturing of Red Oxide Paint
- f) Plant Economics
  - i) Plant Capacity
  - ii) Land & Building
  - iii) Plant & Machinery
  - iv) Fixed Capital
  - v) Raw Materials
  - vi) Total Working Capital
  - vii) Cost of Project
  - viii) Total Capital Investment
  - ix) Turn Over
  - x) Profit Sales Ratio
  - xi) Rate of Return
  - xii) Break Even Point (B.E.P)

#### 12) STOVING PAINT

- a) Properties
- b) Uses and Application
- c) B.I.S. Specification
- d) Manufacturing Process
- e) Manufacturing Formula

- f) Manufacturing Process Flow Diagram
- g) Plant Economics
- i) Rated Plant Capacity
- ii) Land & Building
- iii) Plant & Machinery
- iv) Fixed Capital
- v) Ra W Materials
- vi) Total Working Capital
- vii) Cost of Project
- viii) Total capital Investment
- ix) Turn Over
- x) Profit Sales Ratio
- xi) Rate of Return
- xii) Break Even Point (B.E.P)

### 13) INSULATING VARNISH

- a) Introduction
- b) Properties
- c) Uses & Applications
- d) B.I.S. Specification
- e) Process of Manufacture for Air Dry Type Insulating Varnish
- f) Basic Raw Materials Required
- g) Basic Plant & Machineries Required
- h) Most Probable General Formula of Insulating ASPHALT Resin
- i) Process
- j) Process Flow Diagram of Asphalt Varnishes
- k) Suppliers of Raw Materials
- l) Plant Economics
  - i) Plant Capacity
  - ii) Land & Building
  - iii) Plant & Machinery
  - iv) Fixed Capital
  - v) Working Capital Requirement
  - vi) Raw Materials
  - vii) Total Working Capital
  - viii) Cost of Project
  - ix) Total Capital Investment
  - x) Turn Over
  - xi) Profit Sales Ratio
  - xii) Rate of Return
  - xiii) Break Even Point (B.E.P)

# About NIIR

**NIIR PROJECT CONSULTANCY SERVICES (NPCS)** is a reliable name in the industrial world for offering integrated technical consultancy services. NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our various services are: Detailed Project Report, Business Plan for Manufacturing Plant, Start-up Ideas, Business Ideas for Entrepreneurs, Start up Business Opportunities, entrepreneurship projects, Successful Business Plan, Industry Trends, Market Research, Manufacturing Process, Machinery, Raw Materials, project report, Cost and Revenue, Pre-feasibility study for Profitable Manufacturing Business, Project Identification, Project Feasibility and Market Study, Identification of Profitable Industrial Project Opportunities, Business Opportunities, Investment Opportunities for Most Profitable Business in India, Manufacturing Business Ideas, Preparation of Project Profile, Pre-Investment and Pre-Feasibility Study, Market Research Study, Preparation of Techno-Economic Feasibility Report, Identification and Section of Plant, Process, Equipment, General Guidance, Startup Help, Technical and Commercial Counseling for setting up new industrial project and Most Profitable Small Scale Business.

NPCS also publishes various process technology, technical, reference, self employment and startup books, directory, business and industry database, bankable detailed project report, market research report on various industries, small scale industry and profit making business. Besides being used by manufacturers, industrialists and entrepreneurs, our publications are also used by professionals including project engineers, information services bureau, consultants and project consultancy firms as one of the input in their research.

---

**NIIR PROJECT CONSULTANCY SERVICES** , 106-E, Kamla Nagar, New Delhi-110007, India. **Email:** [npcs.india@gmail.com](mailto:npcs.india@gmail.com) **Website:** [NIIR.org](http://NIIR.org)

Thu, 22 Nov 2018 16:41:11 +0530