Modern Technology of Paints, Varnishes & Lacquers
(2nd Edition)
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Surface coating industry is one of the most popular industries. Paints, varnishes and lacquers 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: 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 and good wash ability; and lacquers are formulated for rapid drying. Varnish is one of the important parts of surface coating industry. Varnish is a transparent, hard, protective finish or film primarily used in wood finishing but also for other materials. They are used to change the surface gloss, making the surface more matte or higher gloss, or to provide the various areas of a painting with a more unified finish. Varnishes are also applied over wood stains as a final step to achieve a film for gloss and protection. Some products are marketed as a combined stain and varnish. Paint is any liquid, liquefiable, or mastic composition which after application to a substrate in a thin layer is converted to an opaque solid film. It is most commonly used to protect, colour or provide texture to objects. The paint industry volume in India has been growing at 15% per annum for quite some years now. As far as the future growth prospects are concerned, the industry is expected to grow at 12 to 13% annually over the next five years. The technology is required to produce different type of new paints and varnishes based on different type of uses. The paint and coatings industry plays an integral role in sustainability; coatings protect the objects we depend on every day, preserve our possessions, so they last longer and provide for a sustainable future. They are indispensable products that extend the useful life of everyday objects by acting as a protective barrier. These newer products have enabled paint manufacturers to improve the performance properties of their paints and coatings and so satisfy the more stringent requirements of our modern industrial society. The future for industrial paints, varnishes and lacquers is bright. In the next few years its value will go up gradually in line with the global trend.

The major contents of the book are application of paints, fundamentals of paint, varnishes and lacquers, manufacturing of different type of paints, paint formulation, pigment dispersion, emulsion paints, and so on. The book deals with fundamentals of paints, Varnishes and lacquers, pigments, Oils used in paints and varnishes, solvents, dryers, plasticizers, additives for surface coating, various types of paint manufacturing etc. The book is very useful for new entrepreneurs, existing units, technocrats, technical institutions and for those who wants to diversify in the field of paints manufacturing.

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High Speed Dissolver
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Emulsifiers
Filter Press
Unroll Mill

Sample Chapter:
Formulations

ENAMELS

Transparent Enamel

Melt 15 lbs. of cent per pure Manila gum on fire. Then add 1 gallon superior quality of linseed oil heated to 400Â°C. Now remove it from fire and let it cool. To this cold mixture then add 3.5 gallons of terpentine oil. To every gallon of the above mixture add 8 lbs. of zinc oxide crystals of good quality well ground in paper varnish. To prepare this varnish 2 lbs. of damar is dissolved in half gallon cold terpentine oil.

To prepare Enamels in Different Colours

Following are given the mixtures of different pigments to prepare enamels of different colours. Transparent enamels mentioned above should be used equally in all the following formulas:

<table>
<thead>
<tr>
<th>Colour</th>
<th>Black</th>
<th>Royal Blue</th>
<th>Sky Blue</th>
<th>Chocolate</th>
<th>Olive Green</th>
<th>Sea Green</th>
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<tbody>
<tr>
<td>Lamp black</td>
<td>lbs. 28</td>
<td>lbs. 1.4</td>
<td>lbs. 1.4</td>
<td>lbs. 28</td>
<td>lbs. 28</td>
<td>lbs. 28</td>
</tr>
<tr>
<td>Carbon black</td>
<td>lbs. 1</td>
<td>lbs. 7</td>
<td>lbs. 7</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
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<tr>
<td>Ultramarine blue</td>
<td>lbs. 14</td>
<td>lbs. 7</td>
<td>lbs. 7</td>
<td>lbs. 28</td>
<td>lbs. 28</td>
<td>lbs. 28</td>
</tr>
<tr>
<td>Whiting</td>
<td>lbs. 7</td>
<td>lbs. 7</td>
<td>lbs. 7</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>China clay</td>
<td>lbs. 7</td>
<td>lbs. 7</td>
<td>lbs. 7</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Zinc white</td>
<td>lbs. 28</td>
<td>lbs. 1.4</td>
<td>lbs. 1.4</td>
<td>lbs. 28</td>
<td>lbs. 28</td>
<td>lbs. 28</td>
</tr>
<tr>
<td>Chinese blue</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Middle Indian red</td>
<td>lbs. 28</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Lamp black</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Middle brunswick green</td>
<td>lbs. 28</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Lamp black</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Zinc white</td>
<td>lbs. 28</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Chinese blue</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
<td>lbs. 0.5</td>
</tr>
<tr>
<td>Lemon chrome</td>
<td>lbs. 1.5</td>
<td>lbs. 1.5</td>
<td>lbs. 1.5</td>
<td>lbs. 1.5</td>
<td>lbs. 1.5</td>
<td>lbs. 1.5</td>
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