## PAINTING ON WOOD WORK

The main objective of applying paints to wooden surfaces is to provide a smooth protective cover of the desired colour, with improved aesthetic appearance of wood structure. The good quality painting makes the woodwork:

- more durable
- more decorative with smooth finish, and
- free from bacterial and fungus formation, which are unhygienic and gives ugly look.

Different types of paints are available in the market for providing opaque coating. However, *enamel paints* are widely used due to their superior surface finish and durability.

### Process of Painting:

**I. Surface preparation:** the process of making the surface fit for paint application.

- The surface to receive the paint should be smooth, free of surface imperfections and thoroughly clean of all dust & dirt. *The important facts to be kept in mind are:*

**A) General Attention:** on entire surface

**(i) For new wood surface:** The wood should be well seasoned, dried, and cleaned of scales, smoke and grease.

- Entire surface shall be sandpapered along the grains to make it smooth.
- ***Knots*** excreting resin in the wood cause cracking, peeling and brown discoloration. They shall be treated properly by:

- *Lime knotting:* Apply a coat of hot lime and scrape it after 24 hours. Then apply primer of red lead and hot glue with one coat of knotting varnish. Suitable for Deodar and other resinous wood.

**Or**

- *Ordinary size knotting:* Apply first primer coat of red lead and hot glue, on drying followed by second coat of red lead grounded in oil and thinned with boiled oil and turpentine.

**Or**

- *Patent knotting:* Apply two coats of varnish consisting of 250 gms. pure shellac, 1.0 litre methylated spirit and 25 gms. red lead.

**(ii) For old wood surface:** *If the old paint is sound and firm* and its removal is considered unnecessary, the surface shall be rubbed down with sandpaper to remove all dust and loose paint after it has been cleaned of all smoke and grease. If required, grease shall be removed by washing with lime/washing soda and rinsing with water.

*If the old surface is blistered or flaked badly*, it should be removed completely with sharp glass piece/stripping knife, sand paper and by use of either:

- *Patent paint remover*: Remover solution is applied with brush and when the paint film lifts and wrinkles, it is scrapped thoroughly. After removal of paint, surface shall be washed down with turpentine. **Or**

- *Caustic soda solution:*(1 part soda + 48 parts water) soda solution is applied with brush and when the paint film lifts and wrinkles, it is scrapped thoroughly. After removal, surface should be rinsed with several change of clean water with little acetic acid/vinegar in final rounds of rinsing. **Or**

- *Blowlamp:* Flame is moved over the paint coating just enough to soften it without charring the paint and/or background. The softened paint is removed completely with scrapping knife/glass piece. Burning off shall be carried out from bottom to upward on vertical surface.
  Blowlamp shall not be used on narrow/carved/undercut surfaces or where there is a risk of damage to adjoining material.

**B) Special Attention:**

- Any surface imperfection must be rectified by applying wood filler by putty knife or by muslin cloth pad in a circular motion with sufficient pressure to force the filler into the pores. The excess filler must be removed by strokes along the grain pattern.
- Allow 2-3 hours drying time before sanding and applying subsequent coats of wood filler.

**II. Primer Coating:** Applied to fill the pores of wood & to provide adhesion between the paint film and the surface. It smoothes the surface, makes it less absorbent and increases the spreading capacity of the paint. It shall have no turpentine as it impairs the firmness of paint.
Primer shall be either prepared at site or readymade paint of approved brand/manufacturer shall be used.

- *First primer coat:* After surface preparation and thorough drying of wood, 1st primer coat shall be applied.

- *Stopping & filling:* After the priming coat is applied, the holes and indentations on the surface shall be stopped with glazier's putty (1 part white lead + 3 part fine powdered chalk + boiled linseed oil to form stiff paste) or ready made putty of reputed brand. Stopping shall not be done before the priming coat is applied as the wood will absorb the oil in the stopping and the latter is, therefore liable to crack.

- *Second primer coat:* This is applied to sandwich putty between two primer coats, since painting directly on putty leads to a patchy appearance.

## III. Application of Paint:

**A) Preparation of Mix:** Ready made Enamel paint of reputed brand confirming to IS Specification, of desired colour/shade shall only be used.
Paint as supplied shall be used for painting. If required, thinning can be done with mineral turpentine oil to the extent as recommended by manufacturer (max. 5-10%).

**B) Paint coats:** Generally one coat should be adequate for old work and two coats (excluding priming coat) for new work to get the desired finish and colour. In case the earlier paint shade is significantly darker than the new shade, an additional coat of paint is recommended.

**C) Process of Paint application:**

- Paint application shall be carried out with proper painting brush. Paint shall be applied evenly and smoothly by means of crossing and laying off, the latter in the direction of the grain of wood. The crossing and laying off consists of covering the area with paint, brushing the surface hard and then brushing alternately in opposite directions, two or three times and **finally brushing lightly in a direction at right angles to the grains**. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.

- The subsequent coats shall be applied only after the previous coat has dried. Before application of next coat, previous coat shall be lightly rubbed down with sandpaper and dust shall be cleaned.
- The finish surface shall be even and uniform and shall have no brush marks.

## IV. General Precaution:

- Use only reputed brand and ISI mark paint/primer.
- Do not use very old paint. Normally shelf life of paints is 3 years in original tightly closed containers kept away from direct sunlight and excessive heat.
- Do not add thinner unless prescribed by manufacturer.
- Thinning shall not be done beyond as prescribed by manufacturer, as over-thinning will affect the paint performance. *Normally surface coverage of enamel paint is 90-120 sq.ft./ ltr/coat.*
- Paints should be thoroughly stirred before application and shall be of proper viscosity for application.
- The painting area should be well ventilated and free from dirt and dust.
- Do not paint on humid or on rainy days or when it is too cold.
- Use proper brush only. For Enamel paints, hog brushes are preferred. Normally 5-10 cm wide brushes are used.
- Check that all nails, holes, cracks or other defects are properly filled and smoothened. Nails shall be punched well below the surface and the holes shall be filled with wood filler.
- All the furniture's and valuables should be covered with damp clothes to guard against any possible damage due to spillage of paint.
- For painting doors and windows, the putty around the glass panes shall also be painted. Care shall be taken to see that no paint stains etc., are left on the glass. Tops of shutters and surfaces in similar hidden locations shall not be left out in painting.
- Ensure proper application of each coat of paint for uniformity of thickness.
- It shall be ensured that the painted surface is free from paint drips, waves and is of uniform colour, texture and finish.
- After painting, paint, which falls on floor and walls, etc., shall be completely cleaned along with cleaning of glass panes.
- *The drying time of enamels is longer; hence care must be taken to ensure a dust free environment while the paint film is drying.*

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|---|---|---|
| Contact person : | | Director (Civil) |
| Postal Address : | | Centre for Advanced Maintenance Technology, Maharajpur, Gwalior (M.P.) Pin code – 474 020 |
| Phone | : | (0751) - 2470869, 2470803 |
| Fax | : | (0751) - 2470841 |


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**CAMTECH/C/2004/PWW/1.0**

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**Maharajpur, Gwalior - 474 020 (INDIA)**
**✆ : 0751 - 2470869 & Fax : 0751 - 2470841**