

BUILDING DIGEST

CENTRAL BUILDING RESEARCH INSTITUTE, INDIA

PAINTING WOODWORK

DOS AND DON'TS



Wood has certain properties not possessed by other structural materials. It is cellular in structure and exhibits non-uniform shrinkage-swelling behaviour in different grain directions with change in moisture content. Paints and varnishes protect it by retarding the rate of moisture changes in it. Paint failure on window frames, doors and sill develops due to variety of reasons but the most common ones are:

- (1) The use of unseasoned timber (i.e. containing excessive moisture content),
- (2) Wood-work left at the building site for a long time after priming.
- (3) Lack of surface preparation, poor application and the use of inferior quality paint.
- (4) Softening, peeling and discolouration of the paint films over knots and resinous streaks.
- (5) Edge cracking and splitting of the wood at the joinery ends.
- (6) Delayed repainting operation.

For a Satisfactory Performance of the Paint

DO the following

1. Leave unseasoned wood frames unpainted so that it may dry at a faster rate. Highly refractory timbers such as **sal** and **Jamon** which show shrinkage cracks on drying may be given a coat of boiled linseed oil thinned with mineral turpentine (2:1 by volume). It does not completely stop the cracking of the wood but reduces the extent of cracking to a minimum. Oil paint should never be applied if the wood is not dry.

2. Apply plastic emulsion paint finish on unseasoned timber if the painting cannot be postponed. It may at a later stage be finished with an oil or enamel paint. The durability of the paint system is however, not good.

3. Dip the frame work in a water repellent preservative solution (0.5% wax+1% copper naphthenate in mineral turpentine) for 3 to 5 minutes. Creosote and pentachlorophenol treatments should not be given to wood when the application of paints is intended. The inclusion of water repellent

offers some advantage in reducing subsequent dimensional changes and distortion of the frame, thus leading to a better performance of the paint.

4. Seal the knots in the new wood first by a thin coat of shellac (10% dispersion in methylated spirit) followed by a coat of aluminium wood primer. Remove the resins from the resinous streaks by acetone swabbing. During repainting scrap off the resinous exudation before the paint is applied. Attempts to hide them by new coats is of no use. It would rather aggravate the situation.

5. Apply invariably a coat of 0.3 to 0.5 percent wax solution in mineral turpentine to the end edges of the frames followed by a coat of aluminium wood primer. It should then be protected as thoroughly as possible to avoid undue deterioration of the primer.

6. Apply normal wood primer on dried framework before its installation. An application of a solution of boiled linseed oil in mineral turpentine (2:1 by volume) before priming gives good results. These are then protected from undue exposure before the undercoating and finishing coats are applied.

7. Apply a coat of oil primer first if it is intended to give emulsion paint as finishing coat.

8. Apply a thin coat of shellac (10% dispersion in methylated spirit) first followed by a coat of aluminium wood primer over timber treated with creosote or pentachlorophenol. Shellac should never be applied thick as it affects the adhesion of the paint.

9. Hack away the loose putty, clean the rebate and give a priming coat to the bare timber.

10. Resurface a weathered timber to remove the decayed wood and then apply an alkyd resin varnish or boiled linseed oil well thinned with mineral turpentine (1:1) before priming the wood.

11. Soap and detergent employed in removing the old paint should be carefully washed and the wood completely dried before its priming. Two coats of primer are recommended for such surface.

DON'T DO

1. Never attempt to thin primer as it is supplied in the desired consistency.
2. Plastic emulsion paint should never be applied over a highly chalking or a badly cracked oil or enamel paint film.
3. Do not leave the primed wood work on the site for a long time as it is not weather resistant and permits the moisture absorption by the wood. Extensive patching work is required again at the time of its finishing.

Some-times, an additional coat of primer becomes necessary which increases the cost of painting.

4. While burning off the paint, do not scorch the timber. Scorching leaves behind a film of charcoal which, if not removed properly, hinders the adhesion of the paint film with wood.
5. Do not apply clear finishes (varnish or stains) on exterior frame work. The life of such finishes is very short.

There is a demand for short notes summarising available information on selected building topics for the use of Engineers and Architects in India. To meet the need, this Institute is bringing out a series of Building Digests from time to time and the present one is the 84th in the series. Readers are requested to send to the Institute their experience of adopting the suggestions given in this Digest.

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