

## TECHNICAL NOTE NUMBER 184

FOREST PRODUCTS LABORATORY - U. S. FOREST SERVICE - MADISON, WISCONSIN

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### UTILIZATION OF BLUE-STAINED LUMBER

While it has been established that blue stain in lumber is not an early stage of decay, but merely an indication of the presence in the sapwood of a fungus which does not materially affect the strength of the wood for ordinary commercial purposes, no absolutely effective method of preventing it other than kiln drying has been found. Kiln tests at the Forest Products Laboratory, of the Forest Service, have shown that a temperature of 140° F. for a period of 6 hours is sufficient to kill the blue-stain fungus in the center of test pieces up to 4 by 4 inches square. No chemical dip for green lumber has been found which is remedial in periods of continued rain during the warm months. Until a suitable method of prevention is found applicable in cases where kiln drying is not feasible, intelligent utilization of the discolored stock will remain the only means of discounting the damage done by the blue-stain fungus when the methods now available have failed to keep it out. Resurfacing will not help when the fungus has made substantial penetration.

As blemish in any degree would destroy the beauty of the grain of the wood, bright, stain-free stock is highly desirable for a large variety of uses requiring a natural finish. But for many purposes where the wood is to be covered up or painted and where the use of sapwood is permissible, there is no reason for discriminating against blue-stained material, provided no wood-destroying fungi are associated with the stain.

As the conditions which favor the development of stains in sapwood also offer the opportunity for infection with the wood-destroying fungi, the holder of such

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material should assure himself that no indications of these harmful fungi are present before recommending the use of badly blued stock.

Blue stain is freely accepted in rough lumbe. lath, scantling, plank, and some of the larger sizes of dimension. More could well be used in the manufacture of sash, doors, millwork, and other products when the discoloration is to be painted or otherwise hidden from view.

Greater confidence in decay-free blued stock can be built up if the dealer will make clear to the customer the fact that blue stain does not seriously affect the strength of wood, and will suggest specific uses. Efforts in this direction will be greatly reinforced when blue-stained lumber comes into wider use and justifies the dealer's claims.

A few uses for blue-stained material are given below, referring to material to be painted or stained in uses where appearance is important.

|                          |                          |
|--------------------------|--------------------------|
| Automobiles and vehicles | Patterns and flasks      |
| Billboards and signs     | Paving blocks            |
| Board walks              | Picture frames, moldings |
| Boxes and crates         | Rafters                  |
| Car construction         | Rails and balusters      |
| Casings and baseboard    | Sash                     |
| Caskets and coffins      | Scaffolding              |
| Ceiling                  | Screens and screen doors |
| Concrete forms           | Sheathing                |
| Core stock               | Shelving                 |
| Doors                    | Shingles                 |
| Finish, exterior         | Siding                   |
| Furniture and casegoods  | Stairs and stepping      |
| Gates and fences         | Structural timbers       |
| Joists                   | Studding                 |
| Lath                     | Sub-flooring             |
| Partition                | Toys and turnings        |