

TECHNICAL NOTES

FOREST PRODUCTS LABORATORY

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U. S. FOREST SERVICE

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HOW TO MAKE FACTORY ROOF TIMBERS LAST LONGER

Although there is scant information on the service and cost of treated roof timbers in cotton mills, paper mills, and other buildings where high humidity causes rapid decay, a number of preservative treatments which it will undoubtedly pay to use may be suggested.

Preserving Timbers by Steeping Process

The steeping process consists merely in soaking the timber in a water solution of a preservative such as zinc chloride, sodium fluoride, or mercuric chloride. The wood must be thoroughly seasoned. It is left in the solution 1 day for each inch in thickness and 1 additional day. After treatment, the timber should be air dried before using. Specific directions for the use of this process (and they are especially necessary for handling mercuric chloride) may be secured from the Forest Products Laboratory, Madison, Wisconsin. Zinc chloride attacks lead paints but is very desirable otherwise. Mercuric chloride is very effective but is poisonous and has a decided corrosive action on steel, so that steel tanks cannot be used with it. Sodium fluoride does not attack paint, is not corrosive, and in most other respects is very desirable.

Non-Pressure Creosote Treatments

Timbers may be coated with coal tar creosote by a brush treatment, by dipping in hot oil for 5 to 15 minutes, or the hot and cold bath method. This last method consists in submerging the lumber in hot oil for several hours and then either allowing the oil to cool down slowly with the wood in it or plunging the wood into cool oil and leaving it for several hours.

Coal tar creosote is objected to by some insurance companies as a fire hazard, but whether or not it really does add greatly to the inflammability of wood is a debatable question. The odor of creosote may be

objectionable in food storage rooms but is not usually displeasing to workmen. Creosoted wood cannot be painted over successfully because the oil quickly comes through the paint and discolours it.

Pressure Treatment

Although pressure treatments are the most expensive, they are the most effective because they result in the greatest absorption and penetration of preservative. Roof planking should receive 8 to 12 pounds of creosote per cubic foot, or 1/2 pound of the salt if zinc chloride is used. Such treatment should add at least 20 years to the life of roof plank.

Effectiveness of Treatment

The effectiveness of treating timber depends upon maintaining a complete envelope of treated wood around the untreated interior of the piece. If this treated layer is broken through decay can enter and destroy the untreated interior in spite of the treated outer layer. For this reason lumber should be cut to final dimensions before treatment. Whenever it becomes necessary to cut into treated timber the untreated wood exposed by cutting should be given two brush coats of creosote or some other preservative.

The addresses of wood treating companies adjacent to any given locality may be obtained from the Secretary of the American Wood Preservers' Association, Mt. Royal Station, Baltimore, Md., or from the Forest Products Laboratory.