

TECHNICAL NOTES

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FOREST PRODUCTS LABORATORY

U. S. FOREST SERVICE

MADISON, WISCONSIN

No. 110

SAVING MINE TIMBERS FROM DECAY

Enormous quantities of valuable timbers are being placed in the coal and metal mines of this country without any preservative treatment against decay. That the life of these timbers might be greatly lengthened by the injection of certain chemicals has been proved by the U. S. Forest Products Laboratory in numerous service tests. In 1910 the laboratory installed in an Alabama mine untreated timbers and timbers which had been treated with coal-tar creosote. Ten years later all the untreated timbers had been removed because of decay, while 80 per cent of the creosoted timbers were still sound and none had decayed to a point where removal was necessary. This is only one of the many records obtained by the laboratory which should induce every mining company to install some sort of wood treating plant.

At least three preservatives have been found suitable for mine work. These are coal-tar creosote, zinc chloride, and sodium fluoride. Creosote is the most effective in preventing decay. Timbers thoroughly impregnated with it are likely to resist decay until they are crushed or worn out. Occasional objection is made to the possible fire hazard of creosoted wood, but long experience indicates that the additional fire risk is very small. Zinc chloride and sodium fluoride are odorless, and if anything they tend to reduce the inflammability of wood. They are cheaper than creosote, and although they do not give such permanent protection they greatly increase the life of timbers. Coal-tar creosote may be applied by the brush, dipping, open-tank, or pressure methods. Zinc chloride and sodium fluoride may be injected by the steeping, open-tank, or pressure methods. The cost and effectiveness of the methods of treatment increase in the order given. The saving possible with any of them is so great that it will pay every mine to adopt the use of some preservative on permanently located timbers.

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