

TECHNICAL NOTES

FOREST PRODUCTS LABORATORY

U. S. FOREST SERVICE

MADISON, WISCONSIN

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SODIUM FLUORIDE AS A WOOD PRESERVATIVE

Tests made years ago at the Forest Products Laboratory indicated that sodium fluoride might be successfully used as a wood preservative, because it had high toxicity, was not injurious to metal, and was convenient to handle. Laboratory tests alone, however, are never sufficient to establish the value of any material as a wood preservative; actual service tests, even though they require years to complete, are also needed.

In order to obtain comparative durability records, the laboratory in 1914 placed sap-pine ties treated with sodium fluoride, together with ties treated with zinc chloride and creosote, in one of the mines of the Tennessee Coal, Iron and Railway Company, at Birmingham, Alabama. Similar service tests were also started at this time on red oak ties placed in the tracks of the Baltimore and Ohio Railway Company.

After five years of service the mine ties which were treated with sodium fluoride have been found in as good condition as those treated with zinc chloride, both showing very little deterioration. The creosoted mine ties apparently were in still better condition, while the untreated ones were in various advanced stages of decay. The red oak railway ties treated with sodium fluoride were practically all sound, as were those treated with zinc chloride, whereas a large percentage of the untreated oak ties had been removed.

Both of these tests, as well as others started later, must continue for a number of years yet before the relative value of the sodium-fluoride treatment for ties and timbers is definitely known.