



Standard Practice for Preservative Treatment of Utility Poles by the Thermal Process¹

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^{ε1} NOTE—Section 10 was added editorially in November 1995.

1. Scope

1.1 This practice covers the full-length preservative treatment of utility poles by the thermal process.

1.2 Poles furnished under this practice shall be limited to the following species:

Douglas fir (*Pseudotsuga menziesii*),
Lodgepole pine (*Pinus contorta*),
Alaska yellow cedar (*Chamaecyparis nootkatensis*),
Northern white cedar (*Thuja occidentalis*), and
Western red cedar (*Thuja plicata*).

1.3 The purchaser should note that requirements both within and between species vary and care must be used in selection of specific options for the intended use and service area.

2. Referenced Documents

2.1 ASTM Standards:

D 390 Specification for Coal-Tar Creosote for the Preservative Treatment of Piles, Poles, and Timbers for Marine, Land, and Fresh Water Use²

D 1272 Specification for Pentachlorophenol²

D 1860 Test Method for Moisture and Creosote-Type Preservative in Wood²

D 2085 Test Method for Determining Chloride Used In Calculating Pentachlorophenol in Solutions or Wood (Lime Ignition Method)²

D 2604 Specification for High-Boiling Hydrocarbon Solvent for Preparing Oil-Borne Preservative Solutions²

2.2 Other Standard:

ANSI 05.1 American National Standard Specifications and Dimensions for Wood Poles³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *groundline or setting depth*—the groundline distance from the butt.

4. Description of Treating Process

4.1 The thermal process consists of at least two operations, namely the hot and the cold or cooling cycles. A cold cycle is accomplished by removing the preservative of the hot cycle from the treating tank and replacing it with preservative at a lower temperature. A cooling cycle is accomplished by allowing the preservative of the hot cycle to remain in the treating tank and cool. In addition, a final expansion cycle with hot preservative may be applied.

4.2 At no time during the entire process shall the temperature of the preservative exceed 230°F (110°C).

5. Plant Equipment

5.1 Treating plants shall be equipped with thermometers, gages, clocks, recording devices, and related items to indicate accurately the conditions at all stages of the treating process. Such equipment shall be maintained in acceptable, working condition.

5.2 The apparatus and chemicals necessary for making analyses and tests required shall be provided by plant operators and kept in condition for use at all times.

6. Prior to Treatment

6.1 *Seasoning*—Before treatment, poles shall be air seasoned as defined in ANSI 05.1, Paragraph 4.1.2.1, under proper sanitary conditions to minimize checking after treatment and to permit maximum penetration and retention of preservative. Certain arid areas will require lower moisture contents than the values expressed in this practice.

6.1.1 *Determination of Moisture Content*—Prior to treatment, determine the moisture content of a charge or carload (whichever is less in number) by either of the following methods: (a) Use of an approved resistance type moisture meter equipped with insulated needles. The needles shall be driven to a depth equal to the minimum preservative penetration for standard treatments; (b) Oven-drying increment borer cores. The sample used shall be the aggregate sapwood present

¹ This practice is under the jurisdiction of ASTM Committee D-7 on Wood, and is the direct responsibility of Subcommittee D07.06 on Treatments for Wood Products.

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Some requirements in this practice are similar to those in the Commodities Standards of the American Wood-Preservers' Association for full-length preservative treatment of utility poles by the thermal process with preservative materials and solutions. Acknowledgment is made to the American Wood-Preservers' Association for its development of subject matter used in this practice.

² *Annual Book of ASTM Standards*, Vol 04.10.

³ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, N. Y. 10036.