

APPENDIX G: INSPECTION OF WOOD TIES

G-1. General.

Properly treated, sound, wood crossties and switch ties last many times longer than untreated material; therefore, procurement of high quality, preservative-treated materials is required to maximize service life. Acceptance criteria for wood ties is specified in Fed. Spec. MM-T-371E which includes a requirement that preservative-treated wood ties conform to Fed. Spec. TT-W-00571J. Detailed standards, rejection criteria, certification documentation, requirements for independent inspection agency, and other quality assurance clauses are contained in supply contract specifications and are not shown herein. Technical assistance to prepare purchase contracts or to confirm tie rejection can be obtained through addressees listed in paragraph 1-3 of the main report.

G-2. Responsibility.

Ties shall be checked by receiving activity and spot checked by foreman or contract inspectors prior to installation. Defective ties shall not be installed in any trackage system, except when specifically purchased for temporary trackage. The following quick-checks should be performed by the user after delivery:

G-2.1. Treaters Brand Mark. The brand identifying preservative, supplier, and year of treatment is required at least on one end of each tie. Ties lacking this brand mark should be rejected.

G-2.2. Tie Condition. Ties damaged more than 30 percent (1/3) of their thickness (approximately 2 inches) and split ties without antisplitting devices shall not be installed in any trackage system.

G-2.3. Preservation. Inspection after delivery to determine penetration conformance of treated wood ties is limited to evaluation of creosoted products. Other preservative treatments require special dyes to identify areas containing preservatives. Penetration analysis requires destructively cutting a tie or removal of a core sample with an increment borer, Figure G-1. The sample should be removed near the midsection to avoid effects of end penetration. The degree of penetration required for acceptance varies in accordance with wood species and intended use. These requirements are listed in Table G-1. Batches of ties that lack the required penetration shall not be used in trackage systems and formal complaint/rejection procedures shall be initiated.

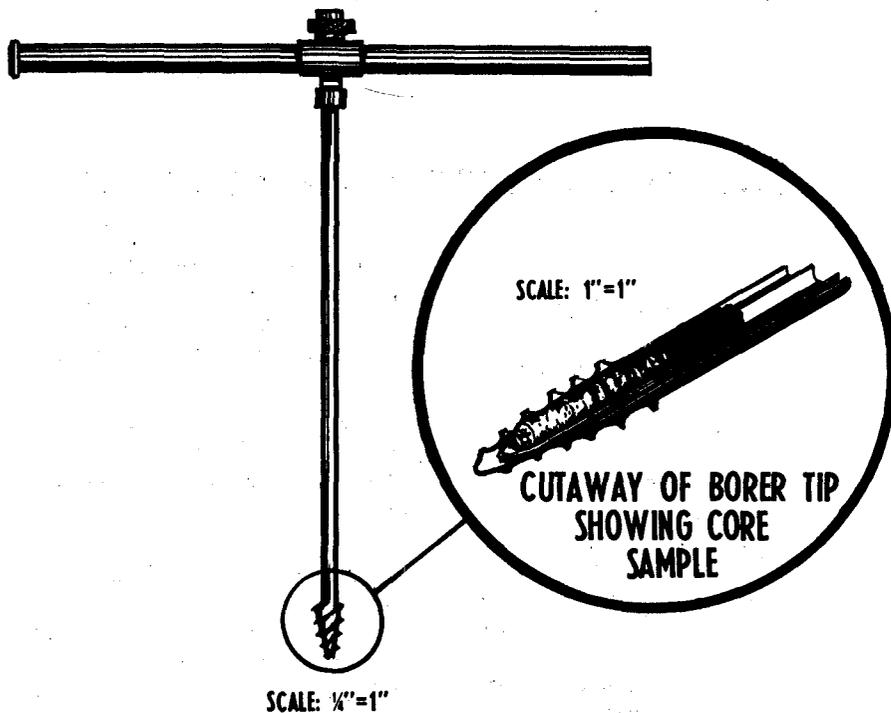


FIGURE G-1. INCREMENT BORER

WOOD SPECIES	MINIMUM PENETRATION IN INCHES	MINIMUM SAPWOOD PENETRATION
Southern or Ponderosa Pine	2.5	85%
Pacific Coast or Interior Douglas Fir; Western Hemlock; Western Larch; Redwood; Jack; Lodgepole; Red and Sugar Pine; and Northern or Western White Pine	0.5 (1/2)	90%
Red Oak	65% of annual rings	—
White Oak	—	95%
Black Oak or Red Gum	1.5	75%

TABLE G-1. ACCEPTANCE REQUIREMENTS FOR PRESSURE TREATED WOOD TIES