

A Guideline for the Physical Inspection of Engineered Laminated Wood Poles

1. Scope

This guideline is designed exclusively for the detection of defects affecting the serviceability of engineered laminated wood poles that have been manufactured per ANSI 05.2 and treated for soil contact per AWWA C28 or U1-10 Commodity Specification D: Poles. Unless mandated by state or local laws for a shorter interval, most utilities inspect round wood poles on a ten year cycle, but some extend this cycle to 15 years in drier regions. It is recommended that laminated wood poles be included with the utilities normal round wood inspection cycle.



2. Preliminary Inspection

Poles that are to be examined should be given a preliminary visual inspection on all sides from top to ground for any defects. Particular attention should be directed towards noting such items as mechanical damage*, woodpecker damage, broken insulators, and damaged braces and arms. Any pole found to be non-serviceable should be replaced without further inspection. Poles found to be serviceable by preliminary visual examination should be sounded with a light hammer around their entire perimeter from the ground line to at least four feet above the ground line. Any area suspected of having internal defects should be further examined by small diameter drill or core boring drill. After inspection, all holes should be flooded with preservative and closed with tight-fitting, tapered, preservative treated wood plugs. In the rare case that woodpecker damage is found, the damaged area should be analyzed for loss of strength. The impact can be repaired with filler or a steel repair system.

3. Ground Line Zone Inspection

Poles found to be serviceable during the preliminary inspection should be given further inspection below the groundline zone.

* Reference LWS Technical Bulletin No. 106, page 4 for damage assesment worksheet.

If decay is detected, we recommend the following actions:

- a. Poles with enclosed pockets should be flooded internally with a preservative and also treated externally.
- b. A supplemental ground line preservative treatment should be considered for all inspected poles. These treatments are in paste form and contain combinations of preservatives to provide a barrier against attack by decay. The paste should be covered with plastic or paper wrap. Some of these chemicals are restricted use pesticides and must be applied under the direction of a licensed applicator.
- c. Any inspection holes shall be plugged with tight-fitting, preservative treated wood plugs.

4. Pole Top Inspection

Pole tops should be visually inspected. The condition of the pole top attachments should also be examined. If defects are noted, a climbing inspection should be done and corrective action taken.

5. Records

The long intervals between inspections of each structure makes accurate record keeping essential. Where possible, records should be included in computerized pole inventory data so that planners can examine these records whenever lines are upgraded. Computer records can also automatically identify lines to be inspected or structures which should be inspected more frequently.

The minimum data collected should include:

- a. Wood species
- b. Chemical treatment
- c. Age of pole
- d. Pole height and class (Example: PEL-1-70)
- e. Type of defect and location
 - i. External defects:
 - a) Maximum depth and size of defect
 - b) Location of defect
 - ii. Internal defects:
 - a) Location of defect
 - b) Shape and size of defect
 - c) Pole loading and configuration
 - d) External treatment applied
 - e) Internal treatment applied

6. Evaluation of Inspection

If defect is identified, the individual structure shall be evaluated to determine if it meets the owner's structural loading requirements.