

## 2302 - WOOD FENCE POSTS

### SECTION 2302

#### WOOD FENCE POSTS

##### 2302.1 DESCRIPTION

This specification governs wood fence posts.

##### 2302.2 REQUIREMENTS

###### a. General

(1) Unless shown otherwise in the Contract Documents, produce all posts provided under this specification to meet the applicable subsections.

(2) Quality Assurance inspection of wood fence posts will be done at the job site on a random, project by project basis as outlined in **subsection 2302.2d**.

(3) Wood species not listed but meeting or exceeding these specifications will be considered by the Bureau Chief of Construction and Materials upon written request.

(4) Unless shown otherwise in the Contract Documents, treat material listed under this section with a preservative treatment according to **subsection 2302.2c**.

###### b. Material Specifications and Grading Rules.

(1) General. Comply with the applicable parts of the following:

(a) Standard grading rules as set forth by Southern Pine Inspection Bureau.

(b) Standard grading rules as set forth by Western Wood Products Association.

(c) Product Standard 20 American Softwood Lumber Standard as set forth by the U. S. Department of Commerce.

(d) Any commercial grading rules that provide material of equal or greater quality may also be used. The burden of proof regarding the equality of the proposed rules lies with the supplier.

(2) Additional Requirements

(a) Provide round posts that comply with the dimensions and details shown in the Contract Documents.

(b) Cut the posts from round, live, sound, and solid trees, free of decayed wood, rot, red heart, and detrimental compression wood. Unsound knots are not permitted. Sound knots will be permitted provided the diameter of the knot does not exceed one-third of the diameter of the post where it occurs.

(c) Groups of knots, or any combination of defects which impair the strength more than the maximum knot size, will not be allowed.

(d) When measured over the outer 2 inch of a radial line from the pith, display the following results:

- Douglas Fir with less than 5 annual rings per inch.
- Southern Pine with less than 4 annual rings per inch.
- None with less than 30% of summer wood.

(e) Provide straight posts such that a line drawn from the center of the top to the center of the bottom does not fall outside the center of the post by more than 1 ½ inch.

(f) Do not permit the diameter of the bottom of the post to exceed the diameter of the top of the post by more than ¼ inch per linear foot of post. The diameter of the post must vary uniformly from top to bottom.

(g) Cleanly peel the posts with by mechanical process or by hand. Follow the natural taper of the post in machine peeling operations. Keep the post free from the glazed surface left by dried sap. Trim all protruding knots flush with the sided of the posts and remove all spurs and splinters. Saw both ends of each post square with the longitudinal axis of the post.

###### c. Preservative Treatment and Handling of Wood Products

(1) General. Treat all wood products with a wood preservative registered by the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide and Rodenticide Act.

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- (a) Unless shown otherwise in the Contract Documents, treat all wood products provided under this specification to meet the applicable subsections in American Wood Protection Association (AWPA) Standard U1, Commodity Section B: Posts, or AASHTO M 133.
- (b) Treatment processes not listed but meeting or exceeding these specifications will be considered by the Bureau Chief, Construction and Materials, upon written request.
- (2) Preservative Types. Use preservatives that comply with AWPA Standard U1, Commodity Specification A: Sawn Products or Commodity Specification B: Posts, or AASHTO M 133.
- (3) Fabrication. Complete all adzing, boring, chamfering, framing, gaining, incising, surfacing, and trimming prior to treatment.
- (4) Treatment Processes.
  - (a) Use preservative treatments that comply with the latest requirements of AWPA Standard U1 or AASHTO M 133.
  - (b) Stamp or tag each treated piece with the plant identification and minimum specified treatment recorded in pounds per cubic foot (PCF).
- (5) Handling. Load, unload or transfer treated posts and blocks using procedures specified in AWPA M4, "Standard for the Care of Preservative-Treated Wood Products".
- (6) Shipments. Do not ship treated material while still dripping. Unless kiln dried, retain it in the treatment yard for a minimum of 3 days. Retain the material in the treatment yard a minimum of 7 days when the ambient temperature remains below 60°F.
- (7) Storage.
  - (a) Place treated wood products on treated or non-decaying skids or cribbing, that are positioned to support the material to minimize distortion.
  - (b) Stack and tightly band with spaced layers to permit air flow between each layer and minimize warping.
  - (c) Place the material in an area free of debris, decayed wood, and dry vegetation, and with sufficient drainage to prevent material from being subjected to standing water.
- (8) Damage During Shipment. Damage affecting the utility of the item is cause for rejection.

### **d. Quality Assurance.**

- (1) Verification Inspections. During the course of each year, the Wichita Regional Materials Laboratory will randomly select a minimum of 1 project or contract containing wood fence posts provided by each of the supplying plants. The Wichita Regional Materials Laboratory will contact the District administering these projects or contracts for scheduling of the field verification testing. Upon notification of a verification inspection, the Contractor is required to store materials in a manner allowing easy access for inspection and, upon arrival of the Engineer's representative, provide adequate manpower for the handling and re-stacking of the product.
- (2) Verification Testing.
  - (a) All materials used on the project are considered to be 1 lot and will be subject to both grade and treatment verification testing. A minimum of 20 randomly selected pieces will be graded. In addition, a single sample, consisting of a single boring from each of the same graded pieces, will be treatment tested. Borings will be taken as described in AWPA Standard M2, "Standard for Inspection of Wood Products treated with Preservatives" and tested in accordance with AWPA Standard A9, "Standard Method for Analysis of treated Wood and Treating Solutions by X-Ray Spectroscopy". If the sample fails to meet the specifications for grading, including additional requirements, or treatment, it is cause for rejecting the entire lot.
  - (b) In the event that the verification samples fail to comply with the preceding, the Engineer's representative may randomly resample the lot 1 time only on a 2 to 1 basis, or reject the lot. If the lot is re-sampled, then both samples must pass, or the entire lot is rejected. The results of the resample specimens will replace the initial test results.
  - (c) The Contractor is to replace the rejected lot at no additional cost to KDOT. Remove the rejected lot from the job storage site.
- (3) Verification Related Costs. KDOT's costs for verification inspection and testing will be borne by KDOT. Excessive inspections for replacement of rejected material may be charged to the Contractor.

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### 2302.3 BASIS OF ACCEPTANCE

**a.** Provide the Engineer's representative of the project with a copy of plant test reports that govern the analysis of the wood fence posts delivered to the project. Include a report of the preservative treatment analysis. Mail a copy of the reports to the Wichita Regional Materials Laboratory, Bldg. 1, 3200 E 45th N, Wichita, KS 67220. Verify that the project number and/or the contract number are on each report.

**b.** Provide the Engineer's representative of the project with shipping orders, an invoice, or cover letter that documents the project number, wood fence post sizes, job, or producer order numbers, and the total number of wood fence posts delivered to the project.

**c.** Provide the Engineer's representative of the project with a certification stating that the wood fence posts delivered to the project comply with this specification, and that the preservative treatment complies with the applicable AWWA standards. The documentation must bear the signature and title of an official of the plant with contract binding authority. This requirement may be included on the test reports referenced in **subsection 2302.3 a.**

**d.** As a minimum, wood fence posts must be legibly stamped with the producers' identification, and minimum specified treatment recorded in PCF.

**e.** The final disposition of the wood fence posts will be completed at the final destination as the result of inspection for the quality of workmanship and the delivery condition and approval of the associated required documentation.