



**TREATED & UNTREATED
TIMBER & LUMBER**

GENERAL

Wood products consist of untreated and treated timber, lumber, piles, sawed wood posts, round wood posts and signposts. Wood products shall be in compliance with AASHTO M 168 and M 133, and shall conform to the requirements of the Iowa Department of Transportation (DOT) Specifications, and as described herein. For general treated wood products requirements refer to [Sections 4160, 4161 and 4163](#). For untreated lumber requirements refer to [Section 4162](#). Wood Sign Posts refer to [Section 4164](#). Timber piling refer to [Section 4165](#).

Treated wood material shall be subject to acceptance and/or verification test samples secured at the project site or from stockpiles as outlined herein. Approved Treatment Plants are listed in [Appendix A](#) of this IM. Approved Treated Wood Suppliers are listed in [Appendix B](#).

In addition to the regular certification-based approval, a treatment plant or treated wood supplier may be granted approval on a project-by-project basis. Project-by-project acceptance means that an acceptance sample is required for each shipment sent to the State of Iowa. The sample shall be secured and tested for retention and penetration prior to incorporation into a project. A wood treatment plant/supplier on the project-by-project approval may be upgraded to the regular approval if its products establish a good history in compliance with Iowa DOT specifications.

Approval of a treatment plant or supplier may be withdrawn because of deficient test results, inadequate documentation, and/or lack of identification of materials.

TYPES OF TIMBER AND LUMBER

Treated and untreated timber and lumber will be classified as follows:

1. Structural Timber and Lumber
 - a. Guardrail posts
 - b. Timber piles
 - c. Timber poles
 - d. Timber structures (bridges, noise and retaining walls)
2. Non-Structural Timber and Lumber
 - a. Sign posts
 - b. Fence posts
 - c. Treated timber edging for slope protection

APPROVAL OF WOOD TREATMENT PLANT

A wood treatment plant must be approved prior to incorporation of wood products into project. The plant shall meet the requirements of Specifications [Sections 4160-4165](#) and [Appendix D](#) of this IM. To request approval, submit the following documents to the Office of Materials:

1. A signed and dated letter requesting approval to treat timber and lumber.
2. A copy of the Treater's Quality Control Plan.
3. A copy of sample Treatment Test Report, typical Bill of Lading showing the project number (or destination if intended for contractor/supplier warehouse stock), type, quantity, and charge numbers in the shipment separated by length and size.
4. A sample of the treater's Identification Stamp. See the Wood Product Marks section for requirements

The treatment plant shall use a fully equipped laboratory to test, analyze, perform, and conduct all required testing.

The treatment plant shall staff and maintain personnel qualified to conduct inspection in the area of sampling and testing of treated wood.

An on-site plant inspection may be required prior to approval. The inspection may be waived if the plant has been certified by other state agency which has a similar inspection requirement to Iowa DOT's. The Materials Office may request to test a split sample of treated wood at the plant laboratory and at the Central Materials Laboratory, respectively.

Upon satisfactory review of the documents submitted and on-site plant inspection and satisfactory sample test result, the treatment plant will be granted approval and placed on the approved list in [Appendix A](#).

APPROVAL OF TREATED WOOD SUPPLIERS

Treated wood suppliers must be approved prior to supplying wood for a project. To be considered for approval the supplier must submit the following:

1. A signed and dated letter requesting approval to supply untreated or treated timber, lumber, piles, posts and signposts.
 2. Suppliers with warehouse stock: a copy of procedures the supplier has established to maintain record of approved stock of wood material. An initial inspection of the supplier's facilities and review material handling procedures may be required prior to approval. The inspection may be waived if the supplier has been certified by other state agency which has a similar inspection requirement to Iowa DOT.
 3. Suppliers without warehouse stock: A detailed description of the supplier's procedures for maintaining a record of material shipped directly to projects from the source.
 4. A list of treated wood sources that will be handled by the company and supplied to Iowa DOT projects.
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5. Provide traceability of shipments, lots, and charges of each treatment.

Upon satisfactory review of the documents submitted and the initial inspection, the supplier will be placed on the approved list in [Appendix B](#).

INSPECTION, SAMPLING AND ACCEPTANCE OF TIMBER AND LUMBER

All treated wood products for structural or non-structural uses shall be furnished from Approved Wood Treatment Plants or Approved Treated Wood Suppliers as listed in [Appendixes A and B](#) of this IM. Any treated wood material furnished from an unapproved wood treatment plant or supplier shall not be accepted.

Treated wood products can be inspected at the plant site, the supplier's yard, contractor's stock, or through shipments to project sites. Prior to shipping their products to Iowa, approved treatment plants or suppliers shall notify the appropriate District Materials Engineer of the shipment. The shipping documents shall include all required details described in the Documentation Section of this IM.

Upon receiving of the shipping notification, the district materials personnel will inspect material at plant sites, or supplier's/contractor's stock yards, prior to shipping to project sites. For the plants and suppliers located at other states, the district materials personnel may inspect the material through shipments to project sites.

The following are inspection, sampling and acceptance requirements for different products.

1. Treated Structural Timber and Lumber

Shipment invoice, grade mark or certification, identification stamp or logo, and treatment test report by supplier shall be inspected and recorded prior to acceptance. At least one verification sample from each shipment shall be taken. The verification sample, together with copies of the treatment test report provided by supplier, shall be sent to the Central Materials Laboratory.

2. Treated Non-Structural Timber and Lumber

Required wood product stamps and markings described in this I.M. Record this as a field book entry or a photograph of stamp and markings on project materials.

3. Treated Structural and Non-Structural Timber and Lumber Approved on Projected-by-Project Basis

The same document inspections as for the treated structural timber and lumber. An acceptance sample from each lot shall be taken and tested by the Central Materials Laboratory or an approved certified laboratory. Material can only be accepted after receiving satisfactory test result of the acceptance sample.

4. Non-Treated Timber and Lumber

Unless otherwise stated, untreated timber and lumber shall conform to the requirements of [Section 4162](#) of the Standard Specifications. All sawn material shall be of the grade as specified under the Iowa DOT Specifications. Product identification, grade mark or certification, and shipping invoice shall be inspected and recorded prior to acceptance.

If needed, random sampling and inspections of treated and untreated wood may be conducted at any time by an Iowa DOT Inspector to ensure conformity to the specification requirements, and lack of damage or defects.

All forms and worksheets required for sampling and inspection can be found on W:\Highway\Materials\LAB\Analytical\Lab Worksheets

WOOD PRODUCT STAMPS AND MARKINGS

1. Identification Stamp/Logo for Treated Products

Each piece of treated structural or non-structural wood product over 3 ft. in length must bear an identification stamp or logo. Logos are used in round wood products only. The stamp/logo shall include treater's name, wood species, treatment type, retention level and year of treatment. Approved ID stamps are shown in [Appendix A](#).

The identification information may be heat branded, hammer stamped, or metal tagged. The information on the metal tag shall be stamped or engraved with a minimum character size of 1/8 inch.

The identification stamp/tag may be placed on the material before or after treatment depending on the applicable industry practice. For material treated with waterborne preservatives, the identification brand may be ink stamped, provided the information is clearly legible.

For round material, the treater shall stamp both ends.

2. Grade Mark

All treated and untreated wood sawn material over 3 ft. length that requires a grade mark, with the exception of 45-inch terminal posts, shall contain a quality grade mark of an accredited grade monitoring and inspection agency approved under the American Lumber Standards Committee (ALSC). A list of typical quality grade marks of grade inspection agencies approved by the ALSC is included in [Appendix C](#).

The 45 inch terminal posts to be used for guardrails that cannot be stamped with a quality grade mark due to sizing of material shall be stamped as **MFG No. 1** to indicate that the terminal posts were cut from an original piece graded as a No. 1. Wane requirements shall be waived.

Round wood posts, round woodpiles, and round wood poles do not require a grade, since the grading rules apply only to sawn material.

Round wood product and material less than three (3) feet in length does not require a grade mark. However, a certification statement from the mill/processor certifying the grade of the material shall be provided. See Documentation Section of this IM.

CONTINUED APPROVAL OF TREATMENT PLANTS OR SUPPLIERS

The supplier shall maintain a detailed inventory of each shipment and provide traceability of material when requested.

Continued approval will be based on the following:

- a. Satisfactory test results of acceptance and/or verification samples.
- b. Strict adherence to quality control procedures.
- c. Compliance with all Iowa DOT Standard Specifications.

Each approved treatment plant or supplier shall provide the Iowa DOT Materials Office a notarized annual certification letter indicating that all treated timber and lumber supplied meet all of the applicable Iowa DOT Specification requirements.

Should there be any discrepancies between the Iowa DOT monitoring test results and the treater's test results, the Iowa DOT results shall be conclusive and binding. Before rescinding approval of a shipment based on test result discrepancies, the Iowa DOT will collect one additional penetration and retention sample on the same shipment for re-testing. A noncompliant result from any additional re-tests shall be considered sufficient cause for rejection.

DOCUMENTATION

1. Certification of Grade

Material less than three (3) feet in length doesn't require a grade mark. However, a certification statement shall be required from the lumber mill that re-sized the material. The certification statement shall be as follows:

“This material of size ___ has been processed from ___ (Fill in Species of Wood) originally graded as (Fill in Grade No.), and it meets the applicable Iowa DOT Specifications and IM requirements.”

2. Treatment Test Report

The treatment plant shall furnish an inspection/treatment test report for each charge of material. The treatment inspection report shall contain the minimum information required under the Inspection Report Guidelines as outlined in [Appendix D](#) of this IM.

3. Shipment Invoice

Each shipment to a project site shall be accompanied by a detailed invoice which includes:

- a. Project number or destination
- b. Treatment plant(s)
- c. Types of wood products
- d. Charge number and quantity of products separated by length and size
- e. Copies of Treatment Test reports for each charge number listed
- f. Copies of any certificates of grade, if required.

The contractor, either directly or through their supplier, shall be responsible to furnish a copy of the above shipment invoice to the appropriate District Materials Engineer prior to incorporating the material into the project.

4. Treatment Plants, Contractors with warehouse stock, and Suppliers shall retain copies of documentation for each shipment for a period of three years.

STORAGE OF TREATED WOOD PRODUCTS

Treated wood products shall be stored off the ground and stacked on treated wood or other non-decaying cribbing. Sufficient support shall be used under treated wood products and shall not produce any noticeable distortion, sagging, or bowing on any of the stored material. Storage area shall be free of debris, vegetation, and have sufficient drainage to prevent treated wood products from contact with standing water.