



WESTERN WOOD PRODUCTS ASSOCIATION

Quality Control Policies and Procedures



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Lumber quality control

The lumber industry is privileged to help establish its standards and oversee quality control activities through a unique partnership with the U.S. Department of Commerce and the voluntary lumber standards program. Thanks to the commitment of lumber manufacturers and an extensive North American grading system, WWPA grade stamps are one of the most well-regarded marks in the building materials market today.

The integrity of the grade stamp rests on the responsibilities each lumber manufacturer must accept in producing products to uniform quality standards. Grading agencies such as Western Wood Products Association, monitored through the American Lumber Standard process, work to assure that all mills equally fulfill these industry responsibilities. These WWPA Quality Control Policies and Procedures outline the responsibilities of both the Association and the mills under its grading supervision in providing Western lumber products of uniform quality.

WWPA grading services

Any qualified lumber manufacturer in the 12 contiguous Western states and Alaska is eligible for WWPA membership or for its grading services. The Association's registered grade stamps are made available upon execution of a grade marking agreement between the mill and WWPA. Use of this official mark is a right granted to WWPA producers and their individual graders only after the Association verifies the graders' competency. Records are established and maintained by WWPA for each qualified grader. Continued use of these grade stamps are contingent on conformance with the Association's published grading rules and adherence to the policies and procedures listed herein.

Official WWPA grade stamps contain information on the grade, species, moisture content, rules under which the lumber is inspected (if other than WWPA), a specific mill identification and the registered WWPA certification mark. Stamps are ordered directly through the Association and are available as the traditional rubber stamp, applied manually or mechanically, or as computer chip or file for ink-jet marking equipment.

Grade stamps are the property of WWPA. The Association maintains detailed records of all grade stamp impressions issued to mills using its grading services. These grade stamps may not be mutilated or changed in any way and should be applied to the lumber by devices or methods approved by the Association. In the event the grade marking agreement is terminated for any cause, all grade stamps in the mill's possession must be returned promptly to WWPA.

Mill inspections

WWPA makes regular — at least monthly — inspections of lumber produced at subscribing mills. Reports on the findings of each inspection, reinspection and correspondence relating to quality control are held in the Association's files for at

least three years. Information from these reports is also entered into WWPA's computers to provide immediate access to mill and individual grader performance statistics. Mill grading information is kept in strict confidence by WWPA and made available only to the mill, the Association and the American Lumber Standard Committee, Inc.

Lumber inspections are performed by a WWPA Lumber Inspector, who conducts a piece-by-piece examination of a representative sample of the mill's current shipping inventory. These inspections also include lumber prepared for shipping under Association certification programs, such as Inspection Certificates, Heat Treatment Certificates, Kiln Drying Certificates and Debark/Grub Hole Control Certificates. Depending on the mill size and variety of products produced, inspections normally take one to two days.

During an inspection, a WWPA Lumber Inspector reviews each piece in the sample to determine if it meets the requirements listed for the specific grade. He also checks the moisture content of stock, where necessary. Whenever possible, mill inspections are made of the lumber in inventory that was graded before the arrival of the Inspector. When inventory loads are not available, the Inspector may check grades behind the planer. The mill will furnish adequate labor to handle the lumber to be inspected and otherwise cooperate with the Inspector.

WWPA Lumber Inspectors, as part of the inspection, will review incorrectly identified pieces with the graders or with their supervisors. Inspectors also will coach graders on proper lumber grading techniques and recommend to plant personnel actions that can improve manufacturing and quality control.

After a mill inspection is completed, a detailed report on the findings is prepared. The WWPA Mill Inspection Report is sent to the mill and a copy is forwarded to the Association's headquarters in Portland, OR, for review. Should grading problems be noted on the report, corrective action will be initiated by letter to the mill or by internal correspondence.

Each Inspection Report shows the amount, grade, species, size and working of the lumber inspected, names of those grading the lumber and the amount found above or below grade. A separate moisture content report shows the number of pieces sampled and the number of pieces with excessive moisture content. Mills receive a copy of all reports associated with an inspection. Should mill personnel have questions about the findings of an inspection, they can discuss it with the Lumber Inspector at the time of the inspection or contact the WWPA Quality Assurance Division at the Portland headquarters.

Acceptable levels of quality

Lumber grading is not an exact science, since it is based on a visual inspection of each piece and the judgment of the grader. This fact is recognized in the lumber grading rules, with a maximum of 5% below grade established as a reasonable variation between graders.

Lumber is considered to be below grade, or as nonconforming, if it fails to meet grade specifications, has incorrect species identification, contains excessive moisture content, has illegible or incorrect grade marks, or is mistrimmed or mispulled.

Because of the countless judgments involved in grading individual pieces, a mill inspection may find items of lumber that exceed the 5% tolerance. An item consists of a grade (such as Construction) or group of grades (such as No. 2 & Better) in a specific size and length. When an item is found more than 5% below grade, WWPA will apply the following procedures for grade nonconformance.

Grade inspection procedures

During a mill inspection, the WWPA Lumber Inspector lays aside below grade pieces and obliterates the grade marks. If the below grade pieces exceed 5% of the item, but are not more than 7.5%, the grader responsible should be made available to discuss the degrades and receive instruction to correct grading deficiencies. Exceptions will be made for illness, vacation, etc. Notations also will be made on the Inspection Report and added to the grader's performance record maintained by WWPA.

If the shipping grade of any item is found to be 7.5% or more below grade (or more than 5% for items covered by a WWPA Inspection Certificate or for gradestamped Scaffold Plank), the Inspector will review additional lumber of that item to determine whether the first sample was valid. If, in the Inspector's judgment, the item is still in nonconformance, all lumber of the same run and grades must be regraded, the grade marks on below grade pieces must be obliterated and the pieces either properly remarked or laid aside. Graders responsible for the below grade pieces shall be made available for discussion and coaching to correct deficiencies, and this action will be noted on the Inspection Report.

When a WWPA Lumber Inspector determines an item must be regraded, a Regrade/Mark Request Report is forwarded to the Association's Portland office. Mill management will be notified, by a copy of this report, that the lumber in question may not be shipped until the grades are corrected, as verified by a follow-up inspection and report. It is the mill's responsibility to notify WWPA within 30 days that the lumber has been regraded and is ready for inspection. If no correction is made in that time, WWPA may assign an Inspector to reinspect and correctly mark the lumber, and the mill will be assessed a normal reinspection charge. The mill will also be responsible for the cost of labor and forklift time required to handle the lumber during the reinspection.

Failure of the mill to regrade lumber of the same run as requested, or to otherwise remedy the problem to the satisfaction of WWPA, may result in the issuance of an Official Warning Notice to the mill, withdrawal of gradestamping privileges or other appropriate action by WWPA to preclude recurrence. These actions will be noted in the mill's permanent file maintained by WWPA.

Nonconformance procedures

Each month, WWPA will review the performance of each mill. When any mill has at least three items sampled for that month and the average of the three or more items is over 5% below grade or any one item sampled is 7.5% or more below grade, WWPA will increase inspections until all items of grademarked lumber sampled average 5% or less below grade with no item equal to or more than 7.5% below grade.

When a mill has less than three items sampled each month, and when the rolling average of the items sampled for the most recent three inspections exceed 5% below grade or any one item sampled in any inspection is 7.5% or more below grade, WWPA will increase inspections until all items of grademarked lumber sampled average 5% or less below grade with no item equal to or more than 7.5% below grade.

WWPA will continuously monitor the mill's progress in correcting grading problems. If the grader or graders authorized to use grade stamps are unable to maintain acceptable quality levels, WWPA may withdraw stamping privileges from any or all graders and these actions will be documented through WWPA correspondence with the mill.

Should stamping privileges be withdrawn for all graders, the Association will place the mill on Official Warning Notice for a minimum of 60 days and will notify ALSC of the imposition of the Warning Notice. The mill can retain its stamping privileges during this time by employing a check grader acceptable to WWPA.

The check grader will work with mill graders, observe their competence, coach them and check sufficient lumber to be assured that lumber being shipped is within acceptable tolerances. Lumber found less than 95% as gradestamped must be regraded and restamped. Failure of the mill to do so is cause for immediate withdrawal of stamping privileges.

Each week, the check grader shall submit a written report to WWPA summarizing the individual graders' abilities and willingness to adhere to grade lines. The report will include a recommendation to continue grade stamping authority with or without check grader supervision. It may also include an evaluation of mill facilities and practices, and such other factors as may have bearing on quality levels, including assessment of the management's dedication to maintaining quality.

WWPA will review the check grader's report and determine whether continued check grading is necessary or whether stamping privileges should be withdrawn. WWPA will also discuss the report with the mill management.

In addition to the above, WWPA will conduct a minimum of two mill inspections each month for at least two consecutive months to assure quality levels of the items identified. Any extra inspections are at the mill's expense, over and above the normal charges for grading services.

Lumber size inspection

Lumber sizes are checked by Association Lumber Inspectors during monthly inspections for grade. Lumber stamped with the official WWPA grade stamp must at least be of the standard manufactured sizes listed in the Western Lumber Grading Rules or, if substandard in size, must be marked showing its substandard dimensions.

If lumber of substandard size is found bearing a grade stamp not designating its substandard dimensions, the Lumber Inspector must require that the grade stamp be obliterated. He must also require the obliteration of grade stamps on all lumber

of the same run and the lumber must be correctly restamped or shipped with no grade stamp.

A Regrade/Mark Request Report will be forwarded to the Association's Portland office noting that the stamps were obliterated. If lumber of the same run is not correctly restamped to the satisfaction of WWP, corrective action will be taken such as issuance of an Official Warning Notice to the mill or withdrawal of stamping privileges.

Moisture content

The Western Lumber Grading Rules establish four levels of moisture content for surfaced dry dimension lumber and boards. If the lumber is dried to 19% or less in moisture content, it may be stamped as S-DRY or, if kiln dried, KD. If the lumber is dried to 15% or less in moisture content, it may be stamped MC 15 or, if kiln dried, KD 15. When Shop or Select lumber is gradestamped MC 15 or KD 15, 85% of the stock must not exceed 12% in moisture content with no piece more than 15%.

Grade stamps indicating S-DRY, KD, MC 15 or KD 15 will be issued by WWP only after Association Lumber Inspectors have made moisture content examinations and have determined that the mill's production is within acceptable moisture content tolerances.

Moisture content inspection

WWP Lumber Inspectors will test samples of lumber gradestamped S-DRY, KD, KD HT, MC 15 or KD 15 for moisture content during each inspection. A report of the findings will be made to the mill and to the Association's offices.

Moisture content is measured with a contact-type moisture meter or with a standard resistance-type meter calibrated prior to use. Moisture content readings are taken between two and four feet from the end of the piece on which the grade stamp appears. Resistance-type meters are equipped with needles to penetrate 1/5 to 1/4 the thickness of the piece and when used the approximate average 24-hour temperature to the nearest 5 degrees on the day of inspection is indicated on the report.

If the meter reading is not more than the maximum moisture content allowed, the piece is judged as conforming. If the reading is more than the maximum moisture content allowed, additional readings are taken to determine if the higher reading was caused by an isolated wet pocket. If the additional readings are also more than the allowable maximum moisture content and not caused by an isolated wet pocket, the piece is judged as nonconforming. Should it be determined there was an isolated wet pocket and the additional readings be less than the allowable maximum moisture content, the piece is considered as conforming.

In end or edge glued lumber, if the first reading exceeds 23% moisture content, the piece is judged as nonconforming and no additional readings are taken. If the first reading is less than 23% but more than 19%, additional readings are taken. If the additional readings are 19% or less, the piece is considered as conforming.

In conducting a moisture content inspection, the Lumber Inspector will measure a minimum of 10% of the item for moisture content and the measurements will be representative. No piece will be determined out of conformance caused by an isolated wet pocket, except for Selects, Finish, Moulding Stock, Shop and other factory grades. Pieces exceeding 19% moisture content (for S-DRY, KD HT and KD stamped lumber)

or 15% (for MC 15 and KD 15 stamped lumber) will be laid aside for correction. If the total number of pieces containing excessive moisture content is less than 7.5% of the sample(s), the production is considered as conforming. If 7.5% or more of the sample(s) contains excessive moisture content, the production is considered as nonconforming.

If a mill's production is found to be in nonconformance, all the stock in the run represented by the sample must be resorted and all pieces exceeding the 19% moisture content must be stamped to denote the net sizes and as S-GRN or S-GRN HT. The S-DRY, KD, KD HT, MC 15 or KD 15 portion of the original stamp must be obliterated (MC 15 or KD 15 stock may be restamped as S-DRY or KD if the piece does not exceed 19%).

WWPA can issue grade stamps complete with the proper size and S-GRN or S-GRN HT mark upon request. If such stamps are used to re-mark the lumber, the S-DRY, MC 15, KD, KD HT or KD 15 portion of the original stamp must be completely obliterated. The mill can also choose to obliterate the full grade stamps and ship the lumber with no grade markings.

It is the responsibility of mill management to notify WWPA when the markings have been corrected and the lumber is ready for inspection prior to shipment. Should a mill fail to comply, or if the mill is found to be in nonconformance in two out of five consecutive monthly moisture content inspections, grade stamps denoting S-DRY, KD, KD HT, MC 15 or KD 15 may be repossessed by the Association.

Mills will be reissued grade stamps only after satisfying WWPA that moisture content tolerances will be maintained. During the reinstatement period, the Association will require no less than two checks of the mill's production in the first month of reinstatement along with any other actions WWPA deems necessary to correct the problems. Any extra checks are at the mill's expense, over and above the normal charges for grading services.

Legibility of grade stamps

Because building officials, regulatory agencies and others depend upon the grade stamp for acceptance of lumber for certain use conditions, legibility of the grade stamp is most important. Illegible gradestamping is considered as serious an infraction as incorrect grading.

If WWPA Lumber Inspectors, during a regular monthly inspection, find more than 10% of the stamps to be illegible, all illegibly stamped pieces in the run will be restamped. Again, it is the responsibility of mill management to notify WWPA when the markings have been corrected and the lumber is ready for a sample inspection prior to shipment.

Official Warning Notices

Mills who fail to correct quality control deficiencies or adhere to the provisions listed herein may be placed on Official Warning Notice. Such action should be considered a serious matter for the mill, as it may lead to withdrawal of grading services.

In most cases, WWPA will inform the mill by letter that it is facing Official Warning Notice. If, after such notification, the quality control problems have not been corrected to the satisfaction of WWPA, the Association will place the mill on Official Warning Notice and notify ALSC.

Mills that are on Official Warning Notice must correct quality control deficiencies within 60 days of receiving the notice, or lose its grade stamping authorization. WWPA will use the nonconformance procedures listed previously, including additional inspections at the mill, to monitor progress in correcting the problems.

During the 60 days when a mill is on Official Warning Notice, no other grading agency may extend its services to the mill. Should grading services be suspended, the mill may not contract with any other authorized grading agency for a minimum of 180 days.

All records and correspondence regarding Official Warning Notices are kept in the mill's permanent file at WWPA. Once grading problems are resolved to the satisfaction of WWPA, the mill can be removed from Official Warning Notice. WWPA will notify the mill by letter that it has been returned to regular grading services. A complete report, outlining the corrective steps taken, will also be forwarded to ALSC.

ALSC inspections

WWPA and other grading agencies operate under the American Lumber Standard Committee, Inc. (ALSC) framework. To assure consistent quality control by mills and lumber grading agencies, ALSC conducts random inspections of mills under its programs. These inspections may take place at a mill or at the destination of a lumber shipment.

ALSC randomly samples mills under WWPA supervision, selecting a volume deemed representative of the total quantity of lumber grademarked or certified under the Association's authority. The inspections are conducted on as nearly a representative cross section as is practical of the mill's gradestamped production. The results of these sample checks are used by the ALSC Board of Review to determine the continued competency and reliability of certified grading agencies.

ALSC inspections are similar in form to those made by WWPA. An ALSC Lumber Inspector will examine the lumber for grade, size, moisture content, and grade stamp legibility, under the same provisions as listed previously. Reports of each ALSC inspection of Association supervised mills are forwarded to WWPA, who in turn will forward copies to the mill.

Should an ALSC mill inspection discover nonconforming lumber graded under WWPA supervision, the Association will be notified. WWPA will then, in turn, notify the mill and initiate the nonconformance procedures. WWPA must respond to the ALSC notification within two weeks, stating in detail the corrective actions it has taken and including any appropriate documentation. ALSC may conduct additional inspections at the mill to determine the effectiveness of WWPA's follow-up and make sure the actions represented have been taken.

In instances where ALSC finds nonconforming lumber at a shipping destination, a reinspection may be called under the procedures listed in Section 5.00 of the Western Lumber Grading Rules. The reinspection will be provided at no cost to the customer, provided the customer holds the stock, furnishes labor (which will be reimbursed by WWPA) and does not assess holding charges for the lumber held for reinspection. WWPA will furnish results of the reinspection to all parties in the transaction, including ALSC. Reinspection costs will be paid by ALSC, unless the lumber is found to be more than 5% below grade, then the mill shall be responsible to WWPA for such costs.



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