NOTICE OF CHANGE

NOT MEASUREMENT SENSITIVE

MIL-STD-731A
NOTICE 1
17 August 1992

MILITARY STANDARD
QUALITY OF WOOD MEMBERS FOR CONTAINERS AND PALLETS

TO ALL HOLDERS OF MIL-STD-731A:

1. THE FOLLOWING PAGES OF MIL-STD-731A HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
9	4 October 1990	9	REPRINTED WITHOUT CHANGE
10	17 August 1992	10	4 October 1990

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-731A will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the military standard is completely revised or cancelled.

Custodians:
Army - ME
Navy - YD
Air Force - 69

Preparing activity:
Navy - YD

(Project 8115-0539)

Review Activities:
Army - ME, SM, MI, GL
Navy - SA, OS, MC
Air Force - 71, 80
DLA - CS

User Activity:
Navy - SH

AMSC N/A

FSC 8115

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5.2 Moisture content. Moisture contents shall be determined by electric type moisture meter (5.2.3.1) or by the ovendrying method (5.2.3.2).

5.2.1 Moisture content in container members and wood pallet members. Wood members in containers and pallets shall have a moisture content at time of fabrication not greater than 19 percent, nor less than 9 percent of their ovendry weight.

5.2.3 Methods of determining moisture content.

5.2.3.1 Moisture meters. Meters measuring moisture contents ranging as high as 30 percent shall be used to determine moisture content of group IV pallet members. Meters measuring moisture contents as high as 23 percent shall be used for all other wood members. In the 7 to 25 percent moisture content range, meter accuracy when properly calibrated shall be within 1 percent, either way, of true moisture content. When electric-type moisture meters are used on roughsawn wood members, they shall be of the resistance type. When electric-type moisture meters are used on surfaced wood members, they may be either the resistance type, capacity type, or the radio frequency power loss type. Readings on the resistance-type moisture meter shall be made only when the pins have penetrated to a depth of one-fourth of the thickness of the member.

5.2.3.2 Ovendrying method. A small sample preferably not less than 1 ounce, shall be cut from the piece to be tested. It shall be weighed immediately on a scale that is accurate to 1/2 of 1 percent. This shall be the original weight. The sample shall be dried in an oven maintained at 212 degrees to 221 degrees F. (100 to 106 degrees C.) until constant weight is attained. This shall be the ovendry weight. The percent moisture content shall be computed by the following formula:

$$\frac{\text{(Original weight) - Ovendry weight)}}{\text{(Ovendry weight)}} \times 100 = \text{percent moisture content}$$

5.3 Defects.

5.3.1 General. Wood members shall be so selected and cut that allowable defects of imperfections will not occur in positions that would interfere with the prescribed fabrication or assembly of the container or pallet (see 3.5 for definitions of defects).

5.3.2 Decay. Any form of visible decay shall not be permitted except in knots. Stains and discoloration not associated with decay will be acceptable, except that discoloration that interferes with marking on the outside of the container will not be permitted. Decay can usually be detected and differentiated from harmless stains and discoloration by use of the pick test. The pick test is performed with a knife or chisel by lifting up some of the grain or fibers in suspicious looking areas. If the material is softer, more punky, or more brash (breaks without splintering) than healthy wood of the same species, it is probably decayed. Suspicious areas usually are abnormally brown, bleached looking, or mottled and indicated by the absence of luster that is present in normal wood.

5.3.3 Through checks, splits and shakes. Through checks, splits, and shakes that are longer than the width of the member will not be permitted. Seasoning checks that do not extend through the full thickness of the members are permitted. For some containers, the limitations on checks, splits, and shakes may be more liberal, especially if repaired in an approved manner, but these requirements shall be so stated in the applicable container specification.

5.3.4 Warp. The bow in a member shall not exceed 1/8-inch per foot of length. The crook in a member shall not exceed 1/16-inch per foot of length. The cup in a member shall not exceed 1/4-inch in an 8 inch width, 1/8-inch in a 4 inch width, or a like proportion in other widths. The twist in a member shall not exceed 1/4-inch per foot of length in an 8 inch width, 1/8-inch per foot of length in a 4 inch width, or a like proportion in other widths.

5.3.5 Knots. Sound knots, loose knots, knotholes, knot clusters, and knots containing decay shall be measured and restricted as specified for knots. The width of the wood member, perpendicular to the length of the piece, figure 1. Knots shall be limited in width in accordance with table II. The sum of the widths of the knots within a length equal to the width of the wood member in which they occur shall not exceed the maximum allowable width of a single knot for that piece.

* 5.3.6 Wane. Wane shall not be permitted.

5.4 Cross grain. The slope of the cross grain, resulting either from diagonal sawing or from twisted or spiral grain in the log or both, shall be limited in accordance with table II. Slope of cross grain shall be measured by the angle between the general direction of the grain and the longitudinal axis of the wood member and shall be expressed as a ratio. Slight local deviations of grain direction shall be disregarded. When a wood member contains both diagonal and spiral grain, figure 2, the combined damaging effect shall be taken into account (see 10.3 for measuring and calculating the combined slope).

5.5 Built-up sheathing members. Members to be used for sheathing of sides, end, tops, or bottoms of boxes or of crates may be built up by joining pieces together at their edges by the following methods: (1) Linderman joint and glue, (2) butt joint and glue, and (3) tongue and groove joint and glue. The glue used shall be urea-resin glue conforming to Specification MMM-A-188. To be acceptable, the joints shall be sampled and shall pass the test described in 5.6.1.