

INCH-POUND

MIL-P-45449B (AR)
AMENDMENT 5
05 December 1994SUPERSEDING
AMENDMENT 4
10 November 1992

MILITARY SPECIFICATION
PALLET, UNITS, WOOD, FOR SHIPMENT OF
PROJECTILE METAL PARTS, AND PROJECTILE
AMMUNITION

This amendment forms a part of MIL-P-45449B (AR), dated 30 August 1984, and is approved for use by the U.S. Army Armaments, Research, Development and Engineering Center, and is available for use by all Departments and Agencies of the Department of Defense.

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2.1.1 SPECIFICATIONS, FEDERAL:

Delete "TT-I-1795" and substitute "A-A-208"

Delete "QQ-S-781 - Steel Strapping, Flat"

Add "MIL-A-48078 - Ammunition, Standard Quality Assurance Provisions, General Specification for"

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2.2 Other publications. Under "AMERICAN SOCIETY FOR TESTING AND MATERIALS", add:

* "ASTM-A777 - Galvanized Round Steel Tying Wire, Standard Specification for
ASTM-D3953 - Strapping, Flat Steel and Seals, Standard Specification for (DoD adopted)"

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3.4.2 Pallet assemblies. Under "d (splits or season checks.....)", add the following sub-paragraph:

AMSC N/A

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"(6) For Type I pallets fabricated with a layer of plywood nailed on top of the cover or base, the defects of this paragraph shall apply only to the lumber beneath the plywood. For the cover assembly, the lumber directly below the plywood shall be considered as part of the cover deckboard and therefore shall meet the requirements of (3) above and the second layer of lumber shall be considered the cover cleat and shall meet the requirements of (4) above. For the base assembly, the lumber directly beneath the plywood shall be considered part of the deckboard and shall meet requirements of (2) above."

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3.8 Preservative treatment. Delete in its entirety and substitute:

"3.8 Preservative treatment. Grade A pallets, individual or the finished wood parts thereof, shall be completely immersed for a minimum of one minute in a solution of wood preservative:

a. PQ56 reduced with water down to 1.8 percent copper-8-quinolinolate as solution (see 6.4).

b. An emulsion of wood preservative M-GARD W550 (zinc naphthenate reduced with water down to 3 percent zinc as metal (see 6.5).

c. An emulsion of M-GARD W510 (copper naphthenate) reduced down with water to 2 percent copper as metal (see 6.13).

d. A solution of Cunapsol 5 (copper naphthenate) reduced down with water to 2 percent copper as metal (see 6.14).

Alternately, Grade A pallets or the finished wood parts thereof, shall be completely flooded for a minimum of one minute in PQ56, M-GARD W550, M-GARD W510, or Cunapsol 5 preservative, as applicable. All interior and exterior surfaces (when finished wood parts are dipped) are to be completely inundated with preservative. Care shall be exercised to assure complete coverage of all surfaces of the board. Immediately following the dip treatment, wood products being treated shall be drained for a period of not less than 5 minutes. If wood products are palletized, the pallet load shall be tipped on edge to facilitate thorough drainage. After the dip treatment, the pallets must be air dried for a period of 24 hours minimum providing thru ventilation thus allowing full air circulation around all surfaces of the wood pallet. Accelerated drying in an oven or kiln is permitted providing oven or kiln temperature does not exceed 160 degrees F. The pallets must be air dried to

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a maximum moisture content of 18% when tested in accordance with 4.5.1 prior to shipment. The pallet manufacturer will be required to obtain and provide all available safety, health and environmental data; i.e., EPA Hazard Data Sheets, OSHA Safety Data Sheets, etc. Of specific interest are the acute, subchronic and chronic toxicity data. Also, the manufacturer will obtain and provide any special safety, health and environmental information (apparatus and procedures) to be used throughout the treated box duty life and disposal.

3.8.1 Presence of PO56 (copper-8-quinolinolate) preservative. When treated with PO56, the pallet shall show evidence of discoloration when tested as specified in 4.5.3."

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After 3.8.2, add new subparagraph as follows:

"3.8.3 Presence of M-GARD W510 (copper naphthenate) or Cunapsol 5 (copper naphthenate) preservative. When treated with M-GARD W510 or Cunapsol 5, the pallet shall show evidence of discoloration when treated as specified in 4.5.5."

3.9 Pallet identification. After the third sentence ("The letters "PB" shall...."), add sentence as follows:

"The letters "PC" shall be annotated on all pallets subjected to either the Cunapsol 5 (copper naphthenate) or the M-GARD W510 (copper naphthenate) preservative treatment in accordance with 3.8.3."

Fifth sentence: Delete "letters "PA" or "PB" as applicable", and substitute "letters "PA", "PB", or "PC" as applicable."

Add new paragraph as follows:

"4.1.2 General provisions. Unless otherwise specified herein, the provisions of MIL-A-48078 apply and form part of this specification."

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4.4.4.3 and 4.4.4.4: Delete in their entirety and substitute:

"4.4.4.3 Presence of wood preservative. (see 3.8), Major defect. A sample of 15 Grade A pallets shall be selected at random for this test. Four members (two cover assemblies and two base assemblies) of the pallets selected shall be subjected to the test specified in 4.5.3, 4.5.4, or 4.5.5 as applicable. If one or more members fail to meet the applicable requirement, the pallet shall be classed defective. Failure of any pallet to comply with the requirement shall be cause for rejection of the lot."

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4.5.4 Presence of M-GARD W550 (zinc naphthenate emulsifiable) preservative. Delete in its entirety and substitute:

"4.5.4 Presence of M-GARD W550 (zinc naphthenate emulsifiable).

4.5.4.1 Materials and equipment. The materials and equipment required are as follows:

a. Reagent. Dissolve 0.1 grams of dithizone (diphenylthiocarbazone) (see 6.10) in either 100 ml of methyl ethyl ketone or 100 ml of chloroform. (Note: This solution may be stored for long periods of time).

b. Eye dropper. An ordinary glass tube eyedropper may be used.

4.5.4.2 Test procedure. Five drops of the solution shall be applied to the wood surface. The indicator will turn red when zinc (M-GARD W550) is present. The color green indicates that the preservative is not present. Both colors fade quickly in the presence of light."

After 4.5.4, add new paragraph as follows:

"4.5.5 Presence of M-GARD W510 (copper naphthenate emulsifiable) or Cunapsol 5 (copper naphthenate) preservative.

4.5.5.1 Materials and equipment. The materials and equipment required are as follows:

a. Reagent. Dissolve 0.5 grams chrome azurol "S" concentrate (see 6.9) and 5.0 grams sodium acetate in 80 ml of distilled water and then dilute further to 500 ml total with distilled water.

b. Sprayer. A common manual (fly) sprayer type applicator shall be used.

4.5.5.2 Test procedure. Spray solution over surface of dried treated wood. A deep blue color reveals the presence of copper (from copper naphthenate)."

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* 5.2.1 Level A. Delete last sentence and substitute as follows:

"Flat strapping shall be a minimum 3/4 inch wide x .028 inch thick, Type 1, Finish A, B, or C conforming to ASTM-D3953. Round strapping shall be Gage No. 8 through 10, Class I, Type 1, conforming to ASTM-A777 or Gage No. 8 through 12, Class II, Type 1 conforming to ASTM-A777."

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5.3.1 Level A. Third line from bottom of paragraph:

Delete "TT-I-1795" and substitute "A-A-208".

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6.10 Change as follows:

"Dithizone. Dithizone (diphenylthiocarbazono) may be obtained from J.T. Baker Chemical Company, Phillipsburg, New Jersey 08865 or equivalent facility."

Add new paragraph as follows:

"6.13 M-GARD W510. M-GARD W510 (copper naphthenate), for 2 percent copper as metal, may be obtained from Mooney Chemicals Inc., 2301 Scranton Road, Cleveland, Ohio 44113-9988 or equivalent facility."

6.14 Cunapsol 5. Cunapsol 5 (copper naphthenate), for 2 percent copper as metal may be obtained from Chapman Chemical Company, P.O. Box 9158, Memphis, TN 38019 or equivalent facility."

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