

MIL-B-46506D
AMENDMENT 5
18 March 1991

SUPERSEDING
AMENDMENT 4
14 July 1989

MILITARY SPECIFICATION

BOXES, AMMUNITION PACKING
WOOD, WIREBOUND

This Amendment forms a part of Military Specification MIL-B-46506D, dated 30 August 1984, and is approved for use by all the Departments and Agencies of the Department of Defense.

PAGE 2

2.1 SPECIFICATIONS, FEDERAL.

Delete "T-R-592 Rope, Jute" and substitute "T-R-650 Rope, Yarn and Twine, Bast Fiber"

PAGE 8

3.5.1 Rope handles. first sentence: Delete "T-R-592" and substitute "T-R-650".

After last sentence, add: "This length is the length of exposed rope. It does not include the length of rope needed for attachment to the box (i.e., that length attached to the cleats). This adds approximately six inches of rope."

PAGE 9

3.6 Box identification. After the fifth sentence, add new sentence as follows:

"The letters "PC" shall be annotated on all boxes subjected to either the Cunapsol 5 (copper naphthenate) or the M-GARD W510 (copper naphthenate) preservative in accordance with 3.10."

MIL-B-46506D
AMENDMENT 5

- * 3.10 Preservative treatment. Delete the first paragraph and substitute:

"3.10 Preservative treatment. Grade A boxes, individual or palletized 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 6.7).

b. An emulsion of wood preservative M-GARD W550 (zinc naphthenate) reduced with water down to 3 percent zinc as metal (see 6.8).

c. An emulsion of M-GARD W510 (copper naphthenate) reduced down with water to 2 percent copper as metal (see 6.15).

d. A solution of Cunapsol 5 (copper naphthenate) reduce down with water to 2 percent copper as metal (see 6.16).

Alternatively, Grade A boxes, individual or palletized or the finished wood parts thereof, shall be completely flooded for a minimum of one minute in PQ56, M-GARD W550, M-GARD 510 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 boxes 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 box. Accelerated drying in an oven or kiln is permitted providing oven or kiln temperature does not exceed 160 degrees F. The boxes must be air dried to a maximum moisture content of 18% when tested in accordance with 4.5.2 prior to shipment.

PAGE 11

After 3.10.2, add new subparagraph as follows:

"3.10.3 Presence of M-GARD W510 (copper naphthenate) or Cunapsol 5 (copper naphthenate) preservative. When treated with M-GARD W510 or Cunapsol 5, the box shall show evidence of discoloration when treated as specified in 4.5.7."

4.4.3.3 and 4.4.3.4: Delete in their entirety and substitute:

"4.4.3.3 Presence of wood preservative. (see 3.10), Major defect. A sample of 15 Grade A boxes shall be selected at random for this test. Four individual boards (cleat, faceboard, endboard and batten) of each box shall be subjected to the test specified in 4.5.3, 4.5.4 or 4.5.7 as applicable. If one or more boards fail to meet the applicable requirement, the box shall be classed defective. Failure of any box to comply with the requirements shall be cause for rejection of the lot."

4.5.1 Load test of rope handles. Delete in its entirety and substitute the following paragraphs:

"4.5.1 Load test of rope handles. The box shall be packed with any suitable material until its gross weight is twice as great as its gross weight when packed with the item for which it was intended. If the resulting weight of the packed box is 250 pounds (lbs.) or less, 4.5.1.1 should be followed. If the resulting weight is greater than 250 lbs. and not greater than 500 lbs., 4.5.1.2 shall be followed.

4.5.1.1 Rope handle load test (250 lbs. or less). The box shall be suspended freely for one minute, minimum, from each rope handle in turn. In the event that one or both handles fail the requirement, the box shall be classed defective.

4.5.1.2 Rope handle load test (from greater than 250 lbs. to 500 lbs., maximum). The box shall suspend freely, for one minute minimum, from both rope handles (at once). In the event that one or both handles fail the requirement, the box shall be classed defective."

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 preservative.

MIL-B-46506D
AMENDMENT 5

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 6.13) 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 4.5.6, add new paragraph as follows:

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

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

a. Reagent. Dissolve 0.5 grams of chrome azurol "S" (see concentrate (see 6.12) 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.

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

PAGE 22

6.13 Change to read as follows:

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

MIL-B-46506D
AMENDMENT 5

Add new paragraph as follows:

6.15 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.

6.16 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."

PAGE 23

Figure 1A. Delete in its entirety and substitute the attached 1A.

Delete Page "23" and substitute Page "24".

PAGE 24

Figure 1: Delete in its entirety and substitute the attached Figure 1.

Delete Page "24" and substitute Page "23".

PAGE 27

Delete "Type 1 Class 1 Box" and substitute "Type 1 Class 2 Box"

Delete "Figure 3" and substitute "Figure 4".

Delete "Page 27" and substitute "Page 28"

PAGE 28

Delete "Type 1 Class 2 Box" and substitute "Type 1 Class 1 Box"

Delete "Figure 4" and substitute "Figure 3"

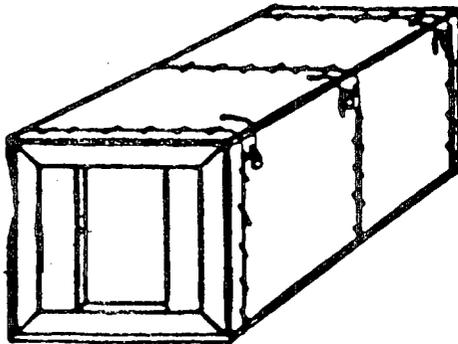
Delete "Page 28" and substitute "Page 27"

PAGE 29

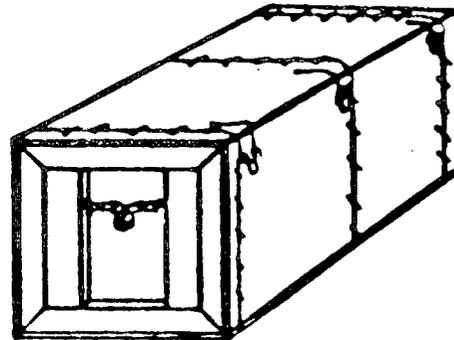
Figure 5: Delete in its entirety and substitute attached Figure 5.

TYPE OF WIREBOUND BOXES

TYPE I BOX
 (without rope handles)

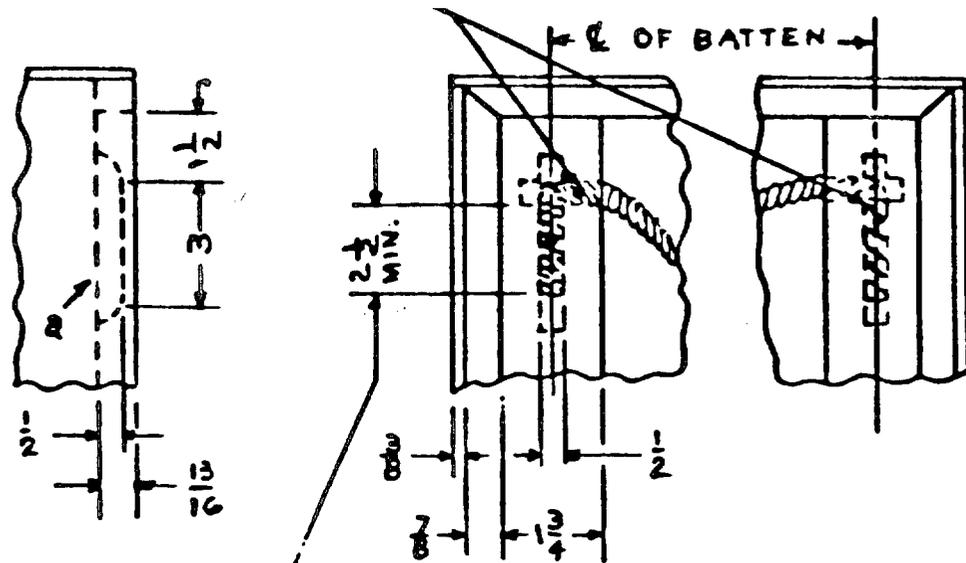


TYPE II BOX
 (with rope handles)



All boxes shall have top and bottom overlap (see 3.7.1) and Figure 2.

Two nails or two staples of size holding end boards to battens shall pass through center of rope as shown (see 3.9.2).



NOTES:

Rope shall extend to this dimension

- a. Routing dimensions shall be 1/2" when 1/2" & 7/16" diameter rope is specified and 5/8" diameter when 5/8" diameter rope is required.
- b. Cleat width, 13/16" or 1-1/8", as specified by class of box.
- c. See para 3.3.2 for staple spacing of blank. On ends first nail or staple shall be 3/4 to 1 inch from end of batten. (See Figure 2).

FIGURE 1
 6 (23)

ROPE HANDLES
FOR
PACKING BOXES,
LENGTH OF ROPE VS DISTANCE X

LENGTH OF ROPE (INCHES)

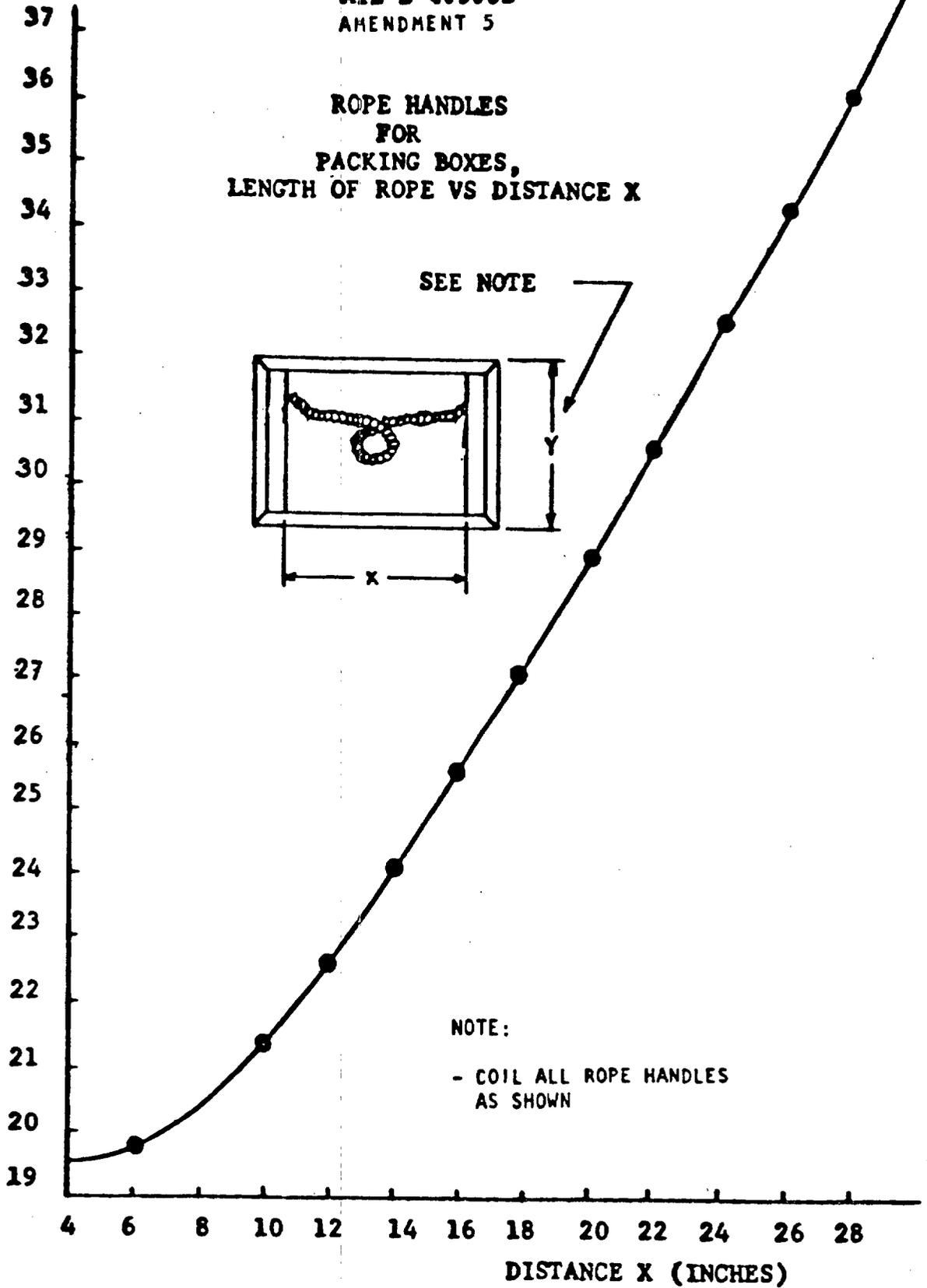
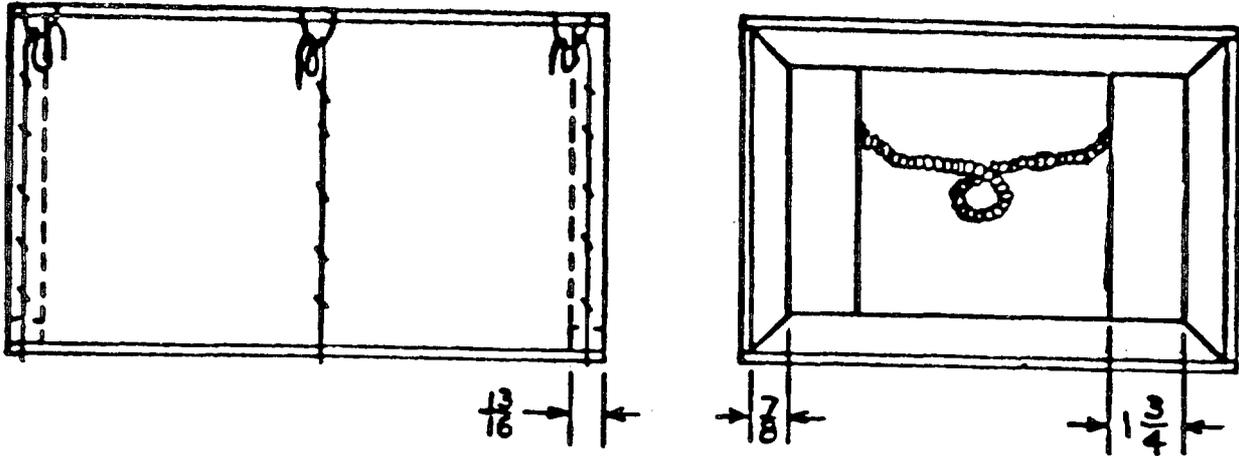


FIGURE 1A.

MIL-B-46506D
AMENDMENT 5



NOTES:

- a. See Figures 1 and 2 for construction of box.
- b. Unless otherwise specified all faceboards shall be $\frac{3}{8}$ " thick, all cleats shall be $\frac{13}{16}$ " x $\frac{7}{8}$ " and all battens on ends shall be $1\frac{3}{4}$ " x $\frac{13}{16}$ ".
- c. See para 3.5.1 for rope handle requirements. See Figure 1A for length of rope.

TYPE II CLASS 1 BOX

FIGURE 5

8 (29)

MIL-B-46506D
AMENDMENT 5

The margins of this amendment are marked with an asterisk or vertical line to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous amendment.

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