

MIL-L-43432A
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MILITARY SPECIFICATION *

LEATHER, PACKAGING AND PACKING OF

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the preservation-packaging, packing, and marking of various kinds of leather for shipment and storage.

1.2 Classification. The leather shall be of the following classes and subclasses as specified:

Class 1 - Cow, steer, and bull

Subclass a - Sides

Subclass b - Backs, bends, strips, and double-shoulders

Subclass c - Whole hides

Subclass d - Offal

Class 2 - Calf and kip

Class 3 - Sheep, goat, pig, lamb, kid, peccary, and ostrich

Class 4 - Horsehide, deer, buffalo, and camel

Class 5 - Aquatic, reptile, and all others

Beneficial comments (recommendations, additions deletions) and any pertinent data which may be of use in improving this docement should be addressed to: US Army Natick Research and Development Command, Natick, MA 01760 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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2. APPLICABLE DOCUMENTS

- * 2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

- QQ-S-781 - Strapping, Steel, and Seals
- UU-P-268 - Paper, Kraft, Wrapping
- CCC-C-429 - Cloth, Osnaburg, Cotton
- CCC-C-467 - Cloth, Burlap, Jute (or Kenaf)
- PPP-B-636 - Boxes, Shipping, Fiberboard
- PPP-B-640 - Boxes, Fiberboard, Corrugated, Triple-Wall
- PPP-B-1055 - Barrier Material, Waterproofed, Flexible
- PPP-P-291 - Paperboard, Wrapping and Cushioning
- PPP-S-760 - Strapping, Nonmetallic (and Connectors)
- PPP-T-45 - Tape, Gummed, Paper, Reinforced and Plain, For Sealing and Securing
- PPP-T-60 - Tape: Packaging, Waterproof

MILITARY

- MIL-T-40625 - Tubing, Bias Sewn (Burlap or Osnaburg), Cloth

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized Unit Loads, For 40" c 48" Pallets

(Copies of specifications and standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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- * 2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 1616 P Street, N.W., Washington, DC 20036.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Material. The materials shall be as specified herein. Materials not covered by applicable specifications or not specifically described herein shall be of the quality acceptable for the purpose intended.

3.2 Preservation-packaging. Preservation-packaging shall be level A or C as specified (see 6.2).

3.2.1 Level A.

3.2.1.1 Class 1. Cow, steer, and bull leather.

- * 3.2.1.1.1 Subclass a. Sides, of like description only, shall be tightly rolled together in multiple sets of three. When a roll of leather consists of more than one set, each additional set shall be alternated so that the heads of one set are adjacent to the butts of the next set. The leather shall be rolled grain side out except that the outer piece shall be rolled flesh side out. Each roll of leather shall be completely wrapped in 80-pound minimum basis weight (130 g/m²) kraft paper conforming to type 1, grade B of UU-P-268. The paper shall be folded to inclose each end of the roll and shall be secured with gummed paper tape conforming to type III, grade C of PPP-T-45. Alternatively, each roll of leather shall be completely wrapped in single-faced corrugated

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paperboard conforming to type III, style 1 of PPP-P-291. The wrap shall be folded over to completely inclose each end of the roll. The wrap shall be secured in place by tying with jute or cotton cord or twine, applied twice around the body, 12 ± 1 inch (305 ± 25 mm) from each end and once lengthwise, using nonslip knots.

- * 3.2.1.1.2 Subclass b. Backs, bends, strips, or double-shoulders, of like description only, shall be neatly and tightly rolled together in multiple sets of six or evenly stacked flat one on top of another. When a roll of leather consists of more than one set of six, each additional set shall be alternated to produce a roll of uniform diameter. The leather shall be rolled grain side out, except that the outer piece shall be rolled flesh side out. When leather is stacked and then bundled, each piece shall be positioned grain side up, except that the top piece shall be flesh side up. Each roll or bundle of leather shall be completely wrapped in 80-pound minimum basis weight (130 g/m^2) kraft paper conforming to type 1, grade B of UU-P-268. The paper shall be folded to inclose each end of the roll or bundle and shall be secured with gummed paper tape conforming to type III, grade C or PPP-T-45. Alternatively, each roll or bundle of leather shall be completely wrapped in single-faced corrugated paperboard conforming to type III, style 1 of PPP-P-291. The wrap shall be folded over to completely inclose each end of the roll or bundle. The wrap shall be secured in place by tying with jute or cotton cord or twine, applied twice around the body, 12 ± 1 inch (305 ± 25 mm) from each end and once lengthwise, using nonslip knots.
- * 3.2.1.1.3 Subclass c. Whole hides shall be individually rolled flesh side out and preserved-packaged as specified in 3.2.1.1.1.
 - 3.2.1.1.4 Subclass d. Offal, of like description only, shall be neatly preserved-packaged in bundles and securely tied with jute or cotton cord or twine.
- * 3.2.1.2 Class 2. Calf and kip leather, of like description only, shall be tightly rolled together in multiples of twelve with each set of six alternated so that the heads of one set are adjacent to the butts of the next set. The leather shall be rolled grain side out on a convolute or spiral wound kraft paper covered chipboard tube. The ends of the tube shall be flush with or extend not more than 1 inch (25 mm) beyond the rolled leather. Each roll of leather shall be completely wrapped in 80-pound minimum basis weight (130 g/m^2) kraft paper conforming to type 1, grade B of UU-P-268. The paper shall be folded to inclose each end of the roll of leather and shall be secured with gummed paper tape conforming to type III, grade C of PPP-T-45. In addition,

each roll of leather shall be protected by overwrapping in single-faced corrugated paperboard conforming to type III, style 1 of PPP-P-291 or solid paperboard of not less than 0.030 inch (0.76 mm) thickness. The overwrap shall extend not less than 1 inch (25 mm) beyond the ends of the roll and shall completely encircle the roll, overlapping not less than 4 inches (102 mm). The overwrap shall be secured in place by tying with jute or cotton cord or twine, applied twice around the body approximately 12 inches (305 mm) (when applicable) from each end, and once lengthwise, using nonslip knots.

3.2.1.3 Class 3. Sheep, goat, pig, lamb, kid, peccary, and ostrich leather, of like description only, shall be neatly stacked with the grain side facing up in a set of one dozen. Multiple sets of one dozen each shall be alternated so that the heads of one set are adjacent to the tails of the next set. The set(s) of leather shall be rolled with the flesh side out and completely wrapped in 80-pound minimum basis weight (130 g/m²) kraft paper conforming to type 1, grade B of UU-P-268. The paper shall be folded to completely inclose each end of the roll and the wrap secured with gummed paper tape conforming to type III, grade C of PPP-T-45. Alternatively, each roll of leather shall be wrapped in single-faced corrugated paperboard conforming to type III, style 1 of PPP-P-291 or solid paperboard of not less than 0.030 inch (0.76 mm) thickness. The wrap shall extend not less than 1 inch (25 mm) beyond the ends of the roll and shall completely encircle the roll, overlapping not less than 4 inches (102 mm). The wrap shall be secured in place by tying with jute or cotton cord or twine, applied twice around the body,, approximately 12 inches (305 mm) (when applicable) from each end, and once lengthwise, using nonslip knots.

- * 3.2.1.4 Class 4. Horsehide, deer, buffalo, and camel leather, of like description only, when in the form of sides, and horsehide, when in the form of fronts shall be preserved-packaged in multiple sets of three as specified in 3.2.1.1.1. When in the form of whole hides, the leather shall be rolled individually and preserved-packaged as specified in 3.2.1.1.3.

3.2.1.5 Class 5. Aquatic, reptile, and other leather varieties shall be preserved-packaged as specified in 3.2.1.3.

- * 3.2.2 Level C. Leather shall be preserved-packaged to afford adequate protection against physical damage during shipment from the contractor to the first receiving activity. The package and the quantity per package shall be the same as that normally used by the contractor for retail distribution.

3.3 Packing. Packing shall be level A, B, or C as specified (see 6.1).

- * 3.3.1 Level A packing. Rolls or bundles of leather, of like description only, preserved-packaged as specified in 3.2, shall be packed in a snug-fitting fiberboard shipping container conforming to style FOL, grade V2s of PPP-B-636;

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or style E, class 2 of PPP-B-640. Each shipping container shall be closed, waterproofed, and reinforced in accordance with the appendix of the applicable container specification. Alternatively, each roll or bundle of leather shall be inclosed in barrier material conforming to PPP-B-1055. The barrier material of each end shall be tightly folded over and sealed with waterproof pressure-sensitive tape conforming to type IV of PPP-T-60. The waterproofed rolls or bundles of leather, of like description only, shall be packed in bias-sewn tubing or a bag (presewn one end) made from cotton osnaburg cloth conforming to class 2 of CCC-C-429, or jute (or kenaf) burlap cloth conforming to class 3 of CCC-C-467. The bias-sewn tubing specified shall conform to MIL-T-40625. Tubing or bag packs shall have the open ends closed with two double-looped wire ties. The wire ties shall be not less than 6 inches (152 mm) long, 0.072-inch (1.83 mm) thick, galvanized soft iron or steel wire, with a 1/2-inch (13 mm) diameter formed eye at each end. The first wire tie shall be applied as close to the leather as possible so there will be a minimum of slack in the tube, the cloth being gathered evenly to form an ear, and all edges of the cloth being at least 3 inches (76 mm) from the wire tie at the base of the ear. The second wire tie shall be applied at a distance not more than 1-1/2 inches (38 mm) from the first wire tie. The twisted ends of the wire ties shall alternate and face in opposite directions. Each pack shall be reinforced with two 5/8-inch (16 mm) wide by 0.015-inch (0.38 mm) thick flat straps conforming to type I, finish A of QQ-S-781 or type II of PP-S-760. The straps shall be applied around the pack placed 10 ± 2 inches (254 ± 51 mm) from each end. Sufficient tension shall be applied to the strapping to insure tight application. The weight of the contents of each pack shall not exceed 100 pounds (45 kg), with a 10 pound (5 kg) plus tolerance permitted.

- * 3.3.2 Level B packing. Rolls or bundles of leather, of like description only, preserved-packaged as specified in 3.2, shall be packed in a snug-fitting fiber-board shipping container conforming to style FTC or style OSC (overlap not less than 3 inches (76 mm)), type CF (variety SW) or type SF, class domestic of PPP-B-636; or style E, class 1, of PPP-B-640. Each container shall be closed and reinforced in accordance with the appendix of the applicable container specification. Alternatively, rolls or bundles of leather, of like description only, shall be packed in bias-sewn tubing or a bag (presewn one end) made from cotton osnaburg cloth conforming to class 2 of CCC-C-429, or jute (or kenaf) burlap cloth conforming to class 3 of CCC-C-467. The bias-sewn tubing specified shall conform to MIL-T-40625. Tubing or bag packs shall have the open ends closed with two double-looped wire ties. The wire ties shall be not less than 6 inches (152 mm) long, 0.072-inch (1.83 mm) thick, galvanized soft iron or steel, with a 1/2-inch (13 mm) diameter formed eye at each end. The first wire tie shall be applied as close to the leather as possible so there will be a minimum of slack

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in the tube, the cloth being gathered evenly to form an ear, and all edges of the cloth being 3 to 5 inches (76 to 127 mm) from the wire tie at the base of the ear. The second wire tie shall be applied at a distance not more than 1-1/2 inches (38 mm) from the first wire tie. The twisted ends of the wire ties shall alternate and face in opposite directions. Each pack shall be reinforced with two 5/8-inch (16 mm) wide by 0.015-inch (0.38 mm) thick flat straps conforming to type I, finish A of QQ-S-781 or type II of PPP-S-760. The straps shall be applied around the pack placed approximately 10 inches (254 mm) (when applicable) in from each end. Sufficient tension shall be applied to the strapping to insure tight application. The weight of the contents of each pack shall not exceed 100 pounds (45 kg), with a 10 pound (5 kg) plus tolerance permitted.

- * 3.3.2.1 Weather-resistant fiberboard container. When specified (see 6.2), the shipping container shall be a grade V3c, V3s, or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of PPP-B-636.
- * 3.3.3 Level C packing. Leather, preserved-packaged as specified in 3.2, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. The quantity per shipping container shall be the same as that normally used by the contractor for retail distribution. Containers shall comply with Uniform Freight Classification or National Motor Freight Classification, as applicable.

3.3.4 Unitization. When specified (see 6.2), leather packed in accordance with 3.3 shall be unitized in accordance with MIL-STD-147.

3.4 Marking. In addition to any special marking required by the contract, unit packs and shipping containers shall be marked in accordance with MIL-STD-129.

4. QUALITY ASSURANCE PROVISIONS

- * 4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated herein.

4.2.1 Component and material inspection. In accordance with 4.1 above, components and materials shall be inspected in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

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4.2.2 Inspection of the end item.

4.2.2.1 Inspection of the preservation-packaging, packing, and marking
 Inspection shall be in accordance with the classification of defects set forth in tables I and II. The sample unit for this inspection shall be one roll, stack, or bundle. The lot size shall be expressed in units of rolls, stacks, or bundles. The inspection level for tables I and II shall be S-2 and the acceptable quality level (AQL) shall be 2.5 for major and 10.0 for total, expressed in defects per 100 units.

* TABLE I. Inspection of the end item for preservation-packaging

| Examine | Defect | Classification | |
|---------------|---|--|-------|
| | | Major | Minor |
| Leather | Sets made up with parts of unlike description | X | |
| | Not tightly rolled, stacked, or bundled when specified | X | |
| | Less than required number specified per set | X | |
| | Outer piece not rolled as specified | X | |
| | Sets not alternated when two or more sets are packaged together | | X |
| | Wrapper | Each roll not completely wrapped in kraft paper when specified | X |
| Wrapper | Ends not folded over and secured with specified gummed paper tape | | X |
| | Single-faced corrugated or solid paperboard wrap missing when specified | X | |
| | Extends less than 1 inch (25 mm) beyond ends of roll (paperboard wrap only) | X | |
| | Less than 4-inch (102 mm) overlap (paperboard wrap only) | | X |
| | Cord or twine | Less than two ties around, and one lengthwise of body | X |
| Cord or twine | More than 13 inches (330 mm) less than 11 inches (280 mm) from each end | | X |
| | Knots slip | X | |

* TABLE I. Inspection of the end item for preservation-packaging (cont'd)

| Examine | Defect | Classification | |
|--------------------------------|--|----------------|-------|
| | | Major | Minor |
| Tube (class 2 leather only) | Not convolute or spiral wound chipboard | X | |
| | Not covered with kraft paper | X | |
| | Ends of tube less than flush with ends of roll | X | |
| | Extends more than 1 inch (25 mm) beyond end of roll | | X |

* TABLE II. Inspection of the end item for packing and marking

| Examine | Defect | Classification | |
|--|--|----------------|-------|
| | | Major | Minor |
| Roll or bundle | Not of like description | X | |
| Shipping container (when specified) | Not snug-fitting container when specified | X | |
| | Overlap less than 3 inches (76 mm) on OSC container when specified | X | |
| | Not waterproofed in accord- ance with the appendix of the applicable specification | X | |
| Wrapper (when specified) | Each roll or bundle not com- pletely wrapped in barrier material | X | |
| | Ends of wrap not tightly folded and secured with tape specified | | X |
| Tubing or bag | | | |
| Closure (when specified) | One or more wire ties missing | X | |
| | First wire tie at each end not applied close to leather | X | |
| | Cloth gathered unevenly and edges less than 3 inches (76 mm) from wire tie | | X |

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* TABLE II. Inspection of the end item for packing and marking (cont'd)

| Examine | Defect | Classification | |
|-----------------------------------|--|----------------|-------|
| | | Major | Minor |
| Tubing or bag (cont'd) | | | |
| Closure (when specified) (cont'd) | Twist on second wire not opposite that on first wire | | X |
| | Wires spaced more than 1-1/2 inches (38 mm) | | X |
| | Less than two straps around pack | X | |
| | Loose strap | X | |
| | Strap more than 12 inches (305 mm) or less than 8 inches (203 mm) from each end | | X |
| | Weight of contents more than 110 pounds (50 kg) | X | |
| Marking | Omitted; incomplete; incorrect; illegible; of improper size, location, sequence or method of application | X | |

- * 4.2.2.2 Inspection of shipping containers. When shipping containers are required to be in accordance with PPP-B-636 or PPP-B-640, inspection for closure and strapping shall be in accordance with the applicable appendix of those specifications.

5. PACKAGING

(Not applicable).

6. NOTES

6.1 Intended use. The levels A and C packaging and the levels A, B and C packing are intended to provide adequate protection for various types of leather in accordance with conditions specified in DOD instructions.

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6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Selection of applicable levels of preservation-packaging and packing (see 3.2 and 3.3).
- (c) When weather-resistant grade fiberboard shipping containers are required for level B shipments (see 3.3.2.1).
- (d) When unitization is required (see 3.3.4).

6.3 Metric equivalents. Metric equivalents, indicated in parentheses throughout this document, are based on practices, conversion factors, and symbols specified in ASTM E 380 Standard for Metric Practice, and are for information only. In each instance, the value stated in US customary units shall be controlling.

- * 6.4 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue 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 issue.

Custodians:

Army - GL
Navy - SA
Air Force - 11

Preparing activity:

Army - GL
Project No. 8330-0173

Review activities:

Army - SM
Air Force - 45, 99
DLA - CT

User activities:

Navy - OS, SH

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DOCUMENT IDENTIFIER (Number) AND TITLE

MIL-L-43432A LEATHER, PACKAGING AND PACKING OF

NAME OF ORGANIZATION AND ADDRESS OF SUBMITTER

VENDOR USER MANUFACTURER

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2. REMARKS

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1 OCT 76

EDITION OF 1 JAN 72 WILL BE USED UNTIL EXHAUSTED.