

INCH-POUND

MIL-DTL-32071
July 28, 2000
SUPERSEDING
KK-L-291G
April 1, 1970

DETAIL SPECIFICATION SHEET

LEATHER, CATTLEHIDE, UPHOLSTERY

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

1. SCOPE This Military Detailed Specification covers the requirement for cattlehide leather for use in upholstering furniture and motor vehicle seats.

2. CLASSIFICATION. The leather will be in the following types and finishes:

- Type I - full grain
- Type II - hand buff
- Type III - Machine buff
- Type IV - deep buff
 - Finish a - Smooth grain
 - Finish b - Boarded (hand or machine)
 - Finish c - Embossed in fine grain
 - Finish d - Embossed in coarse grain
 - Finish e - Equal to an approve sample

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center Philadelphia, Clothing and Textiles Directorate, Attn: DSCP-COC, bld 6-1-D, 700 Robbins Ave, Philadelphia, PA 19111-5096.

AMSC N/A

FSC 8330

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2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS

D-5053 Resistance to Crocking of Leather
D-3111 Tackiness of Finish on Leather
D- 2031 Breaking Strength of Leather by the Grab Method
D- 6341 Hexane Extraction of Leather
D- 6621 pH of Leather

(Applications for copies should be addressed to American Society For Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428.)

ANSI/ASQC Z1.4

(Applications for copies should be addressed to ANSI/ASQC American Society for Quality Control 611 East Wisconsin Ave. , Milwaukee WI 53202)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of Precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or specification sheets), the text of this document takes precedence. Nothing in this document however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Materials The material shall be cattlehide leather. The flesh side shall be smooth and free from loose flesh.

3.2 Tannage. The leather shall be tanned by a vegetable, mineral, or synthetic tanning process, or suitable combinations of such processes.

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3.3 Types.

3.3.1 Type I, full grain. The leather shall be a hide from which nothing except the hair and scud has been removed from the grain side. Superficial scars, scratches, and other grain defacements may be lightly buffed by hand, but not by machine. The total area so affected shall be not more than 5 percent of the total area of the hide.

3.3.2 Type II, hand buff. The leather shall be a full grain hide except that the entire grain area may be scuffed, but not to more than the depth required to remove only the top portions of the hair follicles.

3.3.3 Type III, machine buff. The leather shall be a hide from which not more than the Grain layer has been removed, leaving no characteristics of the grain pattern on any part of the underlying surface.

3.3.4 Type IV, deep buff. The leather shall be a hide from which not more than the grain layer has been removed, leaving no characteristics of the grain pattern on any part of the underlying surface.

3.4 Physical requirements.

3.4.1 Trim (form and area) . The leather shall be whole hides, evenly trimmed, with the head cut off behind the natural openings, the shanks cut off above the knees, and the tail not more than 2 inches long. Unless otherwise specified (see 6.2 and 6.4) the minimum area of each hide shall be 36 square feet. The maximum area of each hide shall be 55 square feet. The area, expressed in terms of square feet, shall be legibly marked in the butt area of the flesh side of each hide.

3.4.2 Thickness. Unless otherwise specified (see 6.2), the leather shall be $3 \pm \frac{1}{2}$ ounces in thickness. The flesh side may be buffed shaved or skived to produce a uniform thickness. Note: 1 ounce = 1/64 inch.

3.4.3 Color. The color of the finished leather shall be as specified (see 6.2 and 6.3). For types I and II leather, the color (dye) shall penetrate not less than the full depth of the grain leather. For types III and IV leather, the color (dye) shall penetrate the grain side of the leather in a depth of not less than two ounces.

3.4.4 Finish. The grain surface of the leather shall be smooth, boarded, or embossed as required for the finish specified (see 6.2). the finish coat shall be a suitable material that is securely anchored to the grain surface of the leather. When finish "c" is specified, the finish of the grain surface shall be equal to an approve sample (see 6.3).

3.4.5 Cracking, low temperature. The leather shall not crack when tested as specified in 4.3.

3.4.6 Colorfastness (resistance to rubbing). The leather shall be tested for resistance to dry and wet crocking in accordance with 4.3. Staining of the dry cloth shall be not lower than Munsell value 8.5 and staining of the wet cloth shall be not lower than Munsell value 6.5.

3.4.7 Tackiness. The leather shall show no tendency toward tackiness when tested as specified in 4.3.

3.4.8 Breaking force and elongation. Not less than 80 percent of the specimens tested shall conform to the requirements indicated in table I when tested as specified in 4.3.

TABLE I. Breaking force and elongation

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Type	Breaking force <u>1</u> / Pounds (minimum)	Elongation <u>1</u> / percent (maximum)	Elongation load (pounds)
I and II	90.0	40	50.0
III and IV	135.0	40	100.0

1/ Not applicable to leather less than 2 ½ ounces in thickness

3.5 Chemical requirements.

3.5.1 The leather shall conform to the chemical requirements of table II when tested as specified in 4.3

TABLE II. Chemical requirements

Characteristics	Minimum	Maximum
Chloroform-soluble material (percent) <u>1</u> /	8.0	20
PH value	3.3	5.0

1/ Calculated on a moisture free basis.

3.6 workmanship. The finished leather shall conform to the quality established by this specification. The occurrence of defects shall not exceed the applicable acceptable levels.

4.0 VERIFICATION.

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

4.1.1 Certificate of compliance. Where certificates of compliance are submitted, the government reserves the right to check test such items to determine the validity of the certification.

4.2 Quality conformance inspection. Sampling for inspection shall be in accordance with the provisions of ANSI/ASQC Z1.4, except where otherwise indicated hereinafter.

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

4.2.2 Examination of the end item. The classification of defects found during the examination shall be in accordance with the lists shown in 4.2.2.1 and 4.2.2.2. The sample unit for these examinations shall be one side, back, bend, or double shoulder. The lot size shall be expressed in

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terms of one side, back, bend, or double shoulder. A sample size of 15 and a rejection number of 2 shall be applicable for thickness determinations on lots consisting of 51 or more units of product. Separate examinations shall be performed for visual and dimensional characteristics, but the same sample may be used for each examination.

4.2.2.1 Examination for visual characteristics.

Examine	Defect
Material	Not cattlehide
Type	Not as specified
Trim	Not whole hide with head removed Not evenly trimmed Shanks not cut off above the knees
Color Types I and II Type III and IV	Not as specified Dye does not completely penetrate leather Dye penetrates grain side to a depth of less than two ounces
Finish	Grain surface not smooth, not boarded, not Embossed as required or not equal to approved Sample for the finish specified Grain side does not have finish coat
Quality of leather	Stain or foreign matter Flesh side not free of loose flesh or not smooth Cut, scratch, hole, band, broken grain, hip mark, Vein, wrinkle, rough shoulder, or the imperfection That individually or collectively cause more than A 6% loss in the total area of the hide

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4.2.2.2 Examination for dimensional characteristics.ExamineDefect

Area (expressed in
Terms of square feet)

Area not as marked on hide
Unless otherwise specified (see 3.4.1), area less
Than 36 square feet.
Area greater than 55 square feet.

Marking

Omitted, illegible, or not in area specified

Thickness 1/

Not as specified

1/ Thickness shall be measured in accordance with ASTM-D-1814. No individual thickness value shall be less than the minimum or greater than the maximum specified.

4.3 End item testing. The methods of testing specified in ASTM wherever applicable and as listed in table IV, shall be followed. Sampling procedure and location from which the sample unit is to be obtained shall be in accordance with ANSI/ASQC Z1.4. All test reports shall contain the individual values utilized in expressing the final result . The lot shall be rejected if any one of the following conditions exists:

- a. More than three test failures occur for breaking force or elongation.
- b. More than one test failure occurs for the remaining requirements applicable to the sample unit.
- c. Any composite fails to meet the specified requirement.

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TABLE IV Tests

Characteristic	Requirement paragraph	Test method	Sample unit	Requirement <u>Applicable to</u> Composite sample
Material identification	3.1	<u>1/</u>		–
Tannage	3.2	<u>1/</u>		–
Colorfastness (resistance to rubbing)	3.4.6	ASTM-D-6012	X	
Cracking , low temperature	4.5	ASTM-D-6075	X	
Breaking force	3.4.8	ASTM-D-2208	X	
Elongation	3.4.8	ASTM-D-2208	X	
Chloroform-soluble material	3.5.1	ASTM-D-3495	–	X
pH value	3.5.1	ASTM-D-2810	–	X

1/ Unless otherwise specified, a certificate of compliance is required and will be acceptable for the stated requirement.

4.3.1 Cracking. The leather shall be tested for cracking in accordance with ASTM-D-6075, except that the specimen shall be a 4 by inch rectangle of leather and shall be folded twice upon itself in accordance with the following procedure: the specimen shall be folded upon itself along the length dimension with the flesh side in and then folded at right angles to the original fold.

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5. PACKAGING.

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

6.1 Intended use. The leather is primarily intended for use in upholstering furniture and motor vehicle seats.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification
- b. Type and finish required (see 2.0)
- c. Minimum area when 36 square feet is not sufficient (see 3.4.1 and 6.4)
- d. Thickness required (see 3.4.2).
- e. Color required (see 3.4.3)
- f. Packaging requirements (see 5.1)

6.3 For access to samples, address the procuring agency issuing the invitation for bids.

6.4 Area. When the minimum area of 36 square feet is not sufficient to accommodate the dimensions or the components to be obtained from the leather, an appropriate minimum area should be specified for the leather (see 3.4.1).

6.5 Subject term (key word) listing.

Full grain
Hand buff
Machine buff
Deep buff
Embossed

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MILITARY INTERESTS:

Custodians

Army – GL
Air Force - 11
Navy YD

Review Activities

ARMY – MD, AT
Navy - MC ,SH
Air Force - 82

CIVIL AGENCY COORDINATING
ACTIVITY:

DLA
GSA - FSS

PREPARING ACTIVITY:

DLA - CT

Project 8330-0203

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7 and send to preparing activity.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-DTL-32071	2. DOCUMENT DATE (YYYYMMDD) JULY 28, 2000
3. DOCUMENT TITLE LEATHER, CATTLEHIDE, UPHOLSTERY		
4. NATURE OF CHANGE <i>(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)</i>		
5. REASON FOR RECOMMENDATION		
6. SUBMITTER		
a. NAME <i>(Last, First, Middle Initial)</i>	b. ORGANIZATION	
c. ADDRESS <i>(Include Zip Code)</i>	d. TELEPHONE <i>(Include Area Code)</i> (1) Commercial (2) DSN <i>(If applicable)</i>	7. DATE SUBMITTED (YYYYMMDD)
8. PREPARING ACTIVITY		
a. NAME DEFENSE SUPPLY CENTER PHILADELPHIA DSCP-COCT BLDG 6-1-D	b. TELEPHONE <i>(Include Area Code)</i> (1) Commercial (2) DSN (215) 737- 8035 444-8035	
c. ADDRESS <i>(Include Zip Code)</i> 700 Robbins Ave (Bldg 6, C&T) PHILADELPHIA, PA 19111-5092	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Standardization Program Office (DLSC-LM) 8725 John J. Kingman Road, Suite 2533 Fort Belvoir, Virginia 22060-6221 Telephone (703) 767-6888 DSN 427-6888	

DD Form 1426, FEB 1999 (EG)

WHS/DIOR, Feb 99

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