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AVIS

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SPECIFICATION FOR LEATHER, GOATSKIN, ANILINE, CHROME TANNED, GLOVING

1.1 Scope

This specification covers the requirements for chrome tanned, aniline goatskin leather used for gloving end-item applications.

1.2 Classification

The fabric must be classified as: Leather, Goatskin, Aniline, Chrome Tanned, Gloving.

1.3 Applicable Documents

The following documents form part of this specification to the extent specified, and are supportive of this specification when referenced; all other document references are to be considered supplemental information only. In the event of a conflict between the documents referenced and the contents of this specification, then the contents of this specification must take precedence:

CAN/CGSB Standards (email: ncr.cgsb-ongc@pwgsc.gc.ca)

- CAN/CGSB-4.2-M Textile Test Methods

American Society for the Testing of Materials (www.astm.org)

- ASTM E 96 Standard Test Methods for Water Vapour Transmission of Materials
- ASTM D1813 Standard Test Method for Measuring Thickness of Leather Test Specimens
- ASTM D1814 Standard Test Method for Measuring Thickness of Leather Units
- ASTM D1815 Standard Test Method for Water Absorption (Static) of Vegetable Tanned Leather
- ASTM D2212 Standard Test Method for Slit Tear Resistance of Leather
- ASTM D2807-93 Standard Test Method for Chromic Oxide in Leather (Perchloric Acid Oxidation)
- ASTM D2810-93 Standard Test Method for pH of Leather
- ASTM D4966 Standard Test Method for Abrasion Resistance of Textile Fabrics (Martindale Abrasion Tester Method)

American Association of Textile Chemists and Colorists Standards (www.aatcc.org)

- AATCC Test Method 118 Oil Repellency: Hydrocarbon Resistance Test

International Standards Organization (ISO) (www.iso.org)

- ISO 811 International Standard for Textiles - Determination of Resistance to Water Penetration - Hydrostatic Pressure Test

British Standards Organization (www.bsigroup.com)

- BS EN ISO 5403-1:2011 Determination of Water Resistance of Flexible Leather. Repeated linear compressions (penetrometer)

KES Kato Tech Co. (www.keskato.co.jp)

- KES-FB-2A Pure Bending Tester: The Standardization and Analysis of Hand Evaluation

FED Standards (Download Documents: <http://assist.daps.dla.mil/quicksearch/>)

- FED-STD-311 Leather Methods of Sampling and Testing

1.4 Order of Precedence

In the event of any inconsistency in contract documents such as contract, specification and sealed patterns, the order of precedence must be contract, specification, and sealed pattern. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification must take precedence. For any inconsistency in technical details between languages, the language of the original document, which in this case is English, must take precedence. Nothing in this document supersedes applicable laws and regulations, unless a specific exemption has been obtained.

2.0 **REQUIREMENTS**

2.1 Fabric Structure

The leather must be chrome tanned from green or salted goat hides. The finished leather must be thoroughly tanned and mellow and of good fiber. Pipey (flanky) leather will not be accepted. Materials used in tanning and finishing must have no injurious effects on the leather or the ultimate user of the leather.

2.2 Finish

The leather must be full grain (not buffed or snuffed) and free from imperfections or blemishes that may affect its appearance or serviceability. The leather must be soft, smooth, and pliable. Unless otherwise specified, the finish must not have an excessive amount of pigment. The flesh side must be smooth and free from loose flesh.

2.3 Testing

When tested in accordance with the applicable test methods, the finished leather must comply with the requirements specified in Table 1.

2.4 Trim

The edges of the belly and the forepart must be trimmed in accordance with standard tannery practice and must be free from ragged edges.

2.5 Surface Tackiness

To achieve enhanced surface gripping ability, the goatskin leather must be treated with non-drying, tackifying oil penetrating into the entire thickness of the leather.

2.6 Color

The goatskin leather must be drum dyed using aniline dyes, with thorough color penetration from flesh side to the grain side of the leather. The color must be as specified in the contract.

2.7 Workmanship

The materials covered by this specification must be free of imperfections or blemishes such as may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes must be considered defects when clearly visible at a normal inspection distance of approximately 1 m (3.3 ft) under good, preferably Northern Light, lighting conditions.

Table 1: Chemical and Physical Properties of the Goatskin Leather

Property	Test Method	Requirement	Minimum Acceptable	Maximum Acceptable
Chromium Oxide in Leather	ASTM D 2807-93		2%	
pH of Leather	ASTM D 2810-93		3.5	
Thickness	ASTM D 1813 OR ASTM D 1814 - 70 (Woburn Gauge)		0.8 mm	0.9 mm
Oil and Stain Release (Note 1)	AATCC Technical Manual Test Method 118		4	
Colour Fastness to Crocking Colour Change	CAN/CGSB-4.2 Test Method 22	Wet & Dry: Grey Scale 4		Wet & Dry: Grey Scale 3
Water Resistance	CAN/CGSB-4.2-M Method 26.3 or ISO 811 60 cm water/min 10 cm ² test area (Note 2)		30 kPa	
Static Water Absorption	ASTM D1815			0.20 grams/cm ³
Water Vapour Diffusion	ASTM E 96 (Desiccant Method)			No specimen can be less than 50 g/m ² /h

Property	Test Method	Requirement	Minimum Acceptable	Maximum Acceptable
Tear Strength Initial and After Abrasion	BS EN ISO 5403-1:2011 OR ASTM D 2212 5 specimens / direction ASTM D 4966 1600 cycles 5 specimens per direction		Initial and After Abrasion: 44 N (average of all 10 specimens) (Note 3)	
Shrinkage Temperature	FED STD 311 Method 7011.1		90° C	
Stiffness	Kawabata Evaluation System (Note 4): Sensitivity: 5x1 Specimen Width: 15 cm			Length: 1.5 gf.cm ² /cm Width: 1.0 gf.cm ² /cm

Notes:

1. Liquids will lose contact angle on leather and droplets will spread out. This is not to be considered a failure. However, liquids soaking into the leather constitutes a failure.
2. For Water Resistance, a stiff wire mesh (8 holes/inch) must be placed in contact with the leather (on the leather face side which is not in contact with the water) to prevent distension of the leather while under pressure.
3. No more than one specimen per direction may be less than 44 N.
4. The Kawabata bending test is to be carried out on new fabric. A new roll or bolt of fabric must be submitted to the laboratory. The laboratory must cut test specimens from fabric taken directly from the new roll or bolt. It is imperative that the new fabric and the test specimens be handled as little as possible prior to conducting the Kawabata bending test. References for test procedure: (i) Kawabata, S (1980) The Standardization and Analysis of Hand Evaluation (2nd Edition), Chapter IV. Measurement of the Mechanical Properties of Fabrics, para 2.2 Bending property; and (ii) KES Kato Tech Co. Ltd, Manual for Tensile & Shear Tester, KES-FB-1.