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AVIS

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MANUFACTURING DATA FOR PANTS, FLEECE, BROWN

1.0 SCOPE

1.1 Scope

This Manufacturing Data covers the materials, design and construction requirements for the Pants, Fleece, Brown for use by the Canadian Special Operations Forces Command (CANSOFCOM).

1.2 Intended Use

The Pants, Fleece, Brown is worn with the Shirt, Fleece, Brown.

1.3 Classification

Pants covered by this Manufacturing Data are classified as follows: Pants, Fleece, Brown.

2.0 GENERAL

2.1 Intellectual Property

The information, data, know-how, formulas, algorithms, software, processes, systems, methods, designs, text, works, figures, tables, sketches, photographs, plans, drawings, specifications, samples, reports, names, inventions and/or ideas contained herein (hereinafter "Intellectual Property") is the exclusive property of Her Majesty The Queen in Right of Canada as represented by the Minister of National Defence (hereinafter referred as "DND"). No one has the right to reproduce, disclose, disseminate, or utilize, in any manner or in any form, this Intellectual Property, or any part thereof, without the prior written consent of DND. For further information on the restrictions applicable to this Intellectual Property, or to request consent from DND, please contact the Contracting Authority.

2.2 Applicable Documents

The following documents form part of this Manufacturing Data to the extent specified, and are supportive of this Manufacturing Data 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 Manufacturing Data, then the contents of this Manufacturing Data must take precedence:

DND Specifications and Standards (provided upon request)

- D-80-001-028/SF-001 Specification for Cord, Plaited, Spun Synthetic Fiber
- D-80-001-055/SF-001 Specification for Label, Clothing and Equipment

- D-83-001-005/SF-001 Specification for Fastener, Slide, Interlocking
- D-LM-008-002/SF-001 Specification for Marking for Storage and Shipment

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

- CAN/CGSB-54.1 Stitches and Seams
- CAN/CGSB-86.1-2003 Care Labelling of Textiles

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

- A-A-55126B Commercial Item Description - Fastener Tapes, Hook and Loop, Synthetic
- A-A-50199 Commercial Item Description - Thread, Polyester Core, Cotton or Polyester-Covered
- FED-STD-595C - Colors Used in Government Procurement

2.2.1 Order of Precedence

The order of preference is as follows:

- (a) In the event of inconsistency between contract documents, such as contract, Manufacturing Data, drawing and sealed pattern, the order of precedence must be contract, Manufacturing Data, drawing and sealed patterns;
- (b) In the event of a conflict between the text of this manufacturing data and the references cited herein, the text of this manufacturing data must take precedence;
- (c) In the event of inconsistency within this manufacturing data, the Contracting Authority must be contacted for clarification; and
- (d) Nothing in this document supersedes applicable laws and regulations, unless a specific exemption has been obtained.

2.3 Material Standards

The following material standards are supplemental to this standard:

- (a) Specification for Cloth, Knit, Polyester, Double-Sided Pile (Velour), Brown; and
- (b) Specification for Cloth, Twill, Nylon/Cotton, Brown, Oil and Water Repellent Treated.

2.4 Definitions

Earth Tone	By definition, earth tone is considered a color scheme that draws from a color palette of browns, tans, grays, greens, oranges, whites and some reds. The colors in an earth tone scheme are muted and flat in an emulation of the natural colors found in soils, moss, trees and rocks. For the purpose of this specification, the earth tone color (where specified) must be based on the predominantly brown, tan and gray color series (lusterless) within FED STD-595C, where those colors do not include any elements of orange, red and white.
Hook and Loop Fastener	A fastening consisting of two strips of nylon fabric, one having hooked threads and the other a coarse surface, that form a strong bond when pressed together, trademarked under the name VELCRO®.
Slide Fastener	A fastener for locking together two toothed edges by means of a sliding tab,

	commonly referred to as a zipper.
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2.5 Layout Sketches

Schematic layout sketches for the Pants are included as part of this Annex. The sketches are designed to provide a general layout of the Pants only. They are not to scale and are not representative of the style, fit, colour scheme or form of the final garment. The following sketches are included in Appendix 1:

- (a) Figure 1: Front and Back Views; and
- (b) **Error! Reference source not found.:** Marking and Care Label.

2.6 Patterns

DND will provide patterns as follows:

- (a) Sealed pattern: DSSPM 107-03 - Sweatpants, Combat, CADPAT™ Temperate Woodland (TW), Integrated Clothing Ensemble (ICE); and
- (b) Paper patterns - Paper patterns for all sizes under Style Code SPIECS13. Size 7034 (Regular/Medium) will be used for tendering purposes.

Note: The patterns for the Sweatpants, Combat, CADPAT™ Temperate Woodland (TW), Integrated Clothing Ensemble (ICE) are to be used for the construction of the Pants, Fleece, Brown. For bidding purposes, bidders are provided with the paper patterns for Size 7034 only. The full set is provided to the successful bidder after contract award and is available in paper as individual sizes or as a graded nest.

3.0 **REQUIREMENTS**

3.1 Design

The design must be in accordance with Sealed Patterns DSSPM 107-03 and must incorporate the following features:

- (a) Relaxed fit;
- (b) Slide fastener front closure;
- (c) Front slanted pockets with slide fastener closures
- (d) Elasticized, adjustable waistband;
- (e) Seat and knee patches;
- (f) Bottom leg slide fastener closure with suppression tab; and
- (g) Brown outer finish.

3.2 Materials

The following applies:

- (a) Shell Material - The shell material must be Cloth, Knit, Polyester, Double-Sided Pile (Velour), Brown;

- (b) Reinforcement Patches - The reinforcement patches for the seat and knees must be Cloth, Twill, Nylon/Cotton, Brown, Oil and Water Repellent Treated;
- (c) Tricot - The tricot for the pocket bags must:
- i. Be made from 44/12 filament dtex nylon, 62 to 65 g/m², constructed on a 28 gauge full width warp knit machine; and
 - ii. Be black in colour;
- (d) Elastic - The elastic for the waistband must be:
- i. 4.5 cm (1.75 in) wide;
 - ii. Knitted construction, using 43% extruded rubber, 19% clear polyester monofilament, and 38% textured polyester;
 - iii. Weight: 1.5 kg (3.3 lbs) per 91.4 m (100 yds) (+/- 10%);
 - iv. Have 90% to 100% stretch; and
 - v. Be black in colour;
- (e) Slide Fasteners - The slide fasteners must be as follows:
- i. Front Fly: Class 2, Type 1;
 - ii. Pocket Openings and Leg Suppression: Class 3, Type 1;
 - iii. Have coil type monofilament interlocking members, automatic lock slider, a short slider pull and 100% polyester tape in accordance with D- 83-001-005/SF-001; and
 - iv. Be a non-florescent earth tone colour to match the shell material;
- (f) Hook and Loop Fastener Tape - The hook and loop fastener tape must:
- i. Be plain backed Type I, Class 1, 100% nylon in accordance with A-A-55126B;
 - ii. Be a non-florescent earth tone colour to match the brown shell material; and
 - iii. Width: 18 mm (0.75 in);
- (g) Twill Tape - The twill tape to reinforce the back seam of the waistband and the drawcord buttonhole must be:
- i. Commercially available 100% nylon or 100% polyester
 - ii. Width: 2.5 cm (1 in);
 - iii. Weight: 218 m/kg (110 yds/lb); and
 - iv. A non-florescent earth tone colour to match the shell material;
- (h) Drawcord – The waistband drawcord and the slide fastener thongs must:
- i. Be Type I, spun synthetic fiber, plaited cord in accordance with D-80-001-028/SF-001; and
 - ii. Be a non-florescent earth tone colour to match the shell material;
- (i) Drawcord Locks - The drawcord locks must:
- i. Be commercially available black acetyl;
 - ii. Self-locking, wheel lock type; and
 - iii. Have approximate dimensions as follows:
 - a. Length: 22.3 mm (0.875 in);
 - b. Width: 20.3 mm (0.8125 in); and
 - c. Thickness: 5 mm (0.22 in);
- (j) Thread - The following applies:

- i. The thread for seaming and stitching must:
 - a. Be polyester-covered, polyester thread (R 45 Tex) conforming to the requirements specified in A-A-50199; and
 - b. Be a non-florescent earth tone colour to match the shell material;
- ii. The thread for serging must:
 - a. Be polyester-covered, polyester thread (R 27 Tex) conforming to the requirements specified in A-A-50199; and
 - b. Be a non-florescent earth tone colour to match the shell material;

(k) All material must be sourced and supplied by the Contractor.

3.3 Sizing

The Pants must be available in the following sizes in accordance with the Scale of Measurements at Appendix 2:

Inseam (in)	Waist (in)					
	26	30	34	38	42	46
64	X	X	X			
67		X	X	X	X	
70		X	X	X	X	X
73		X	X	X	X	X
76			X	X	X	X

The Pants must also be available in custom sizes where the above sizes are not suitable.

3.4 Cutting

The following applies:

- (a) The Pants must be cut using duplicates of Government supplied paper patterns as follows:
 - i. Paper patterns include seam allowance but do not include ‘make-up’ allowance; and
 - ii. The Contractor is responsible for adding ‘make-up’ allowance to suit their production methods without changing the design, grade or requirements for the Pants;

Note: Paper patterns will not be supplied to the Contractor for special/extended sizes.

- (b) The shell parts of the Pants must:
 - i. Be cut and used in accordance with best commercial standards;
 - ii. Be cut in the direction as specified on the paper patterns; and
 - iii. Be cut so there is no variation in shade between pieces cut from like materials.

3.5 Sewing

The following applies:

- (a) Seams and stitches must:
 - i. Have smooth and regular formed seams with even seam allowances;
 - ii. Have stitching that is accurately and evenly placed from seam edges as specified;
 - iii. Have thread ends trimmed and removed;

- iv. Have the beginning and end of lock stitched seams and stitching, and any breaks in stitching, securely backstitched with three (3) to four (4) stitches if there is no other method used to secure the end of the seam; and
 - v. Have thread tension adjusted to ensure balanced and correctly formed stitches. Skips, puckers or stitching malfunctions are not acceptable;
- (b) Unless otherwise specified:
- i. Seams must be in accordance with CAN/CGSB-54.1;
 - ii. Seam allowances must be a minimum of 9.5 mm (0.375 in) wide;
 - iii. Seaming and serging may be done in one (1) or two (2) operations;
- (c) When specified:
- i. Serging must be done with a three thread serger with a minimum of eight (8) stitches per 2.54 cm (1 in);
 - ii. When seaming and turning, the edges must be completely worked out;
 - iii. Seaming and topstitching must be lockchain or lockstitch using eight (8) to ten (10) stitches per 2.54 cm (1 in);
 - iv. Double-needle stitching must be stitched with the needles set 6.4 mm (0.25 in) apart;
 - v. Bartacks must be 12.7 mm (0.5 in) long with not less than twenty (20) cover stitches;
 - vi. Cover seaming must be done using six (6) threads including four (4) needle threads, one (1) top looper thread and one (1) bottom looper thread; and
 - vii. Zig-zag stitching must be done using three (3) threads with two (2) needle threads and one (1) bottom looper thread;
- (d) Buttonholes must:
- i. Be eyelet type with not less than 22 stitches per 2.5 cm (1 in);
 - ii. Have ends fishtailed or bartacked; and
 - iii. Only the eyelet of the buttonhole is to be cut for extrusion of the drawcord;

Note: As an option, circular thread eyelets may be used.

- (e) Hook and loop fastener tape must be stitched around all edges 3.2 mm (0.125 in) gauge, taking care to ensure stitching is formed into the hook and loop portion of the tape;

3.6 Marking and Care Label

The Pants must include a Marking and Care label (see **Error! Reference source not found.**) as follows:

- (a) Labels positioned 5-10 cm (2-4 in) from the center back and stitched around all edges 1.6 mm (0.0625 in) gauge;
- (b) Light sand or brown in colour with black printing, in English and French, in characters not less than 3.2 mm (0.125 in) nor more than 6.4 mm (0.25 in) in height, with the exception of the size identification which must be twice the height;
- (c) Marking label in accordance with D-80-001-055/SF-001 including the following:
 - i. The abbreviated nomenclature:

PANTS, FLEECE, BROWN
PANTALONS EN MOLLETON, BRUN

- ii. NATO Stock Number as required for each size;
 - iii. Size by height and chest;
 - iv. NATO size designation;
 - v. Contract Number;
 - vi. Month/Year of manufacture;
 - vii. Fiber Content;
 - viii. Care Symbols; and
 - ix. Care Instructions;
- (d) Care symbols in accordance with CAN/CGSB-86.1-2003 as follows:
- i. Table 1 – Washing – Symbol 11;
 - ii. Table 2 – Bleaching – Symbol 3;
 - iii. Table 3 – Drying – Symbol 4;
 - iv. Table 4 – Ironing/Pressing – Symbol 5; and
 - v. Table 5 – Professional Textile Care – Symbol 3;
- (e) Include a bar code in accordance with D-LM-008-002/SF-001, Appendix 3 that identifies the NATO stock number.

3.7 Construction

The Pants are to be manufactured in accordance with the following requirements:

- (a) **General** - The Pants must be a full-length pant (see **Error! Reference source not found.**) with the following:
- i. Elasticized waistband and front fly for easy donning and doffing;
 - ii. Front pockets with zippered closure;
 - iii. Reinforced back and knees for comfort and durability; and
 - iv. Bottom leg suppression for easy donning and doffing;
- (b) **Waistband** - The waistband must consist of the following:
- i. A reinforced circular eyelet or buttonhole for a drawcord;
 - ii. A drawcord threaded through a drawcord clamp;
 - iii. The ends of the waistband elastic stitched to the back seam; and
 - iv. A piece of twill tape covering the seam on the inside and outside of the waistband;
- (c) **Front Fly Opening** - The front fly opening must consist of the following:
- i. A fly facing of twill material;
 - ii. The fly edges lapped to effect proper closure;
 - iii. The bottom of the opening reinforced with a triangle;
 - iv. The top of the front closure secured with a 19.1 mm (0.75 in) box stitch above the slide fastener stop; and
 - v. A slide fastener thong threaded through the slide fastener pull tab, with the ends knotted and fused;
- (d) **Pockets** - The front pockets must consist of the following:
- i. Slide fastener closure, closing to the bottom; and
 - ii. Pocket bags made of the tricot material;
- (e) **Reinforcement Patches** – The seat and knees must have reinforcement patches of twill material;

- (f) **Bottom Leg Suppression and Hems** - Each leg bottom must consist of the following:
- i. A slide fastener on each outseam;
 - ii. A slide fastener thong threaded through the slide fastener pull tab, with the ends knotted and fused;
 - iii. A tab of fleece material with a piece of hook fastener tape;
 - iv. A piece of loop fastener tape for the tab adjustment; and
 - v. The hems secured with a zig zag cover stitch.

APPENDIX 1 LAYOUT SKETCHES

Figure 1: Front and Back Views

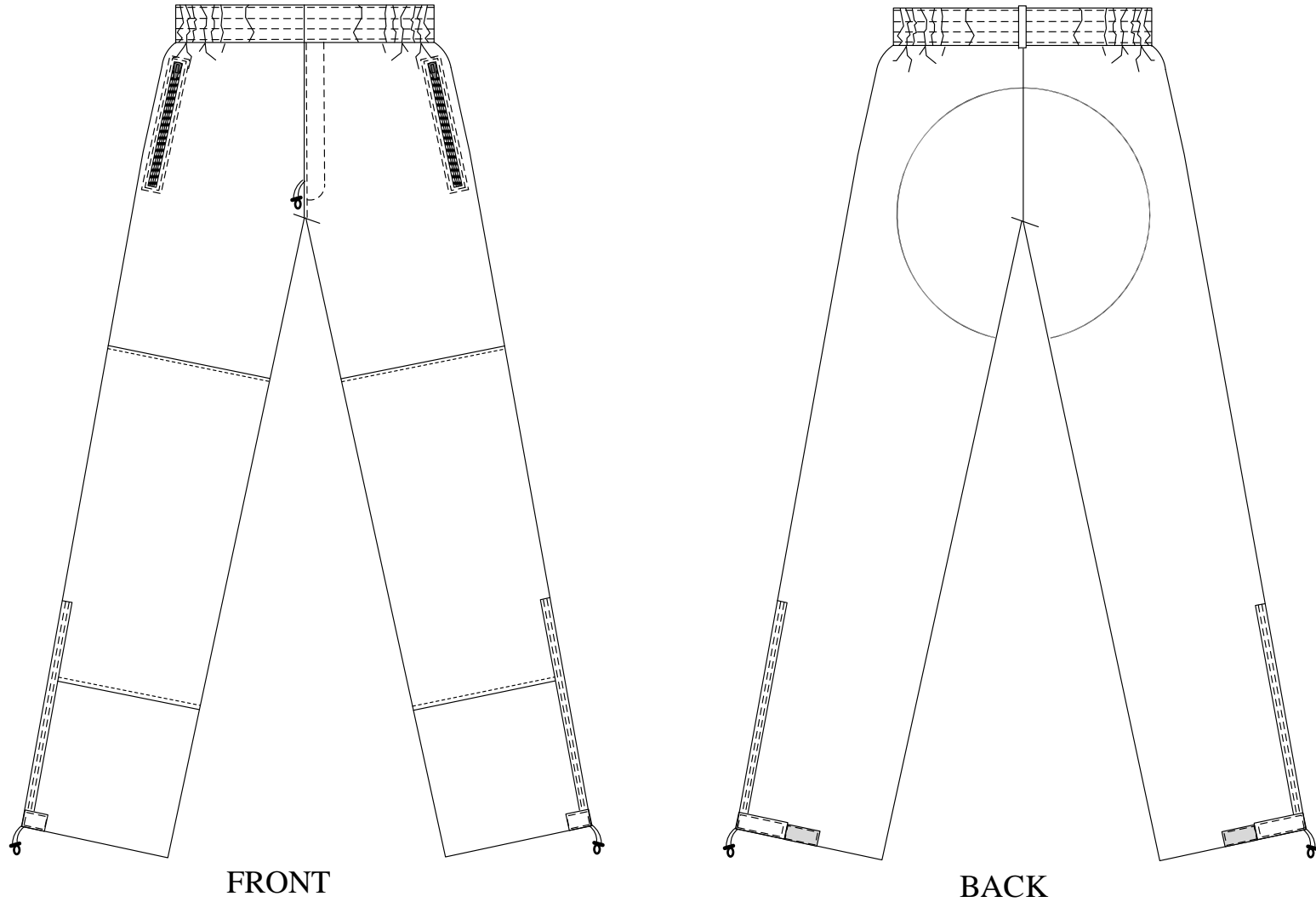


Figure 2: Marking and Care Label

PANTS, FLEECE, BROWN
PANTALON EN MOLLETON, BRUN
NSN/NNO: 8415-21-XXX-XXXX

SIZE/TAILLE 7034

NATO SIZE/TAILLE OTAN: XXXX-XXX
Contract No./No. de contrat: WXXXX-XXXXXX
Date de/of manufacture: mm/yy
FIBRE CONTENT: 100% POLYESTER



1. MACHINE WASH IN LUKEWARM WATER (NOT EXCEEDING 40 DEGREES CELCIUS) WITH REDUCES AGITATION.
2. DO NOT BLECH.
3. TUMBLE DRY AT LOW TEMPERATURE AND REMOVE ARTICLE AS SOON AS IT IS DRY.
4. DO NOT IRON OR PRESS.
5. DO NOT DRY CLEAN.

1. LAVAGE A L'EAU TIEDE (TEMPERATURE MAXIMALE DE 40 DEGRES CELSIUS) AVEC CADENCE DE BRASSAGE MODEREE.
2. NE PAS UTILISIER D'AGENTS DE BLANCHMENT CHLORES.
3. SECHAGE EN MACHINE A TAMBOUR A BASSE TEMPERATURE RETIRER L'ARTICLEDE LA DECHEUSE DES QU'IL EST SEC.
4. NE PAS REPASSER NI PRESSER.
5. NE PAS NETTOYER A SEC.

I.D. _____

APPENDIX 2 SCALE OF MEASUREMENTS

MEASUREMENTS OF BODY						MEASUREMENTS OF GARMENT						
SIZES BY HEIGHT AND WAIST	HEIGHT WITHOUT SHOES		WAIST	NATO STOCK NUMBER	NATO SIZES	WAIST RELAXED	SEAT 4" ABOVE CROTCH SEAM	THIGH 1" BELOW CROTCH SEAM	BOTTOM LEG OPENING WITH CLOSED ZIPPER	INSEAM	OUTSEAM FROM TOP OF WAISTBAND	BOTTOM LEG ZIPPER
6426	5' 1" to	X-SHORT	23-26	8415-20-011-8096	7075-6070	22	38	24	15	26	37	12
6430	5' 3 1/2"		27-30	8415-20-011-8097	7075-7080	26	42	26				
6434			31-34	8415-20-011-8098	7075-8090	30	46	28				
6730	5'4"	SHORT	27-30	8415-20-011-8099	7580-7080	26	42	26	15	28	40	13
6734	to		31-34	8415-20-011-8100	7580-8090	30	46	28				
6738	5'6 1/2"		35-38	8415-20-011-8101	7580-9000	34	50	30				
6742			39-42	8415-20-011-8102	7580-0010	38	54	32				
7030	5'7" to 5'9 1/2"	REG.	27-30	8415-20-011-8103	8085-7080	26	42	26	15	30	43	14
7034			31-34	8415-20-011-8104	8085-8090	30	46	28				
7038			35-38	8415-20-011-8105	8085-9000	34	50	30				
7042			39-42	8415-20-011-8106	8085-0010	38	54	32				
7046			43-46	8415-20-011-8107	8085-1020	42	58	34				
7330	5'10" to 6'1/2"	TALL	27-30	8415-20-011-8108	8590-7080	26	42	26	15	32	46	14
7334			31-34	8415-20-011-8109	8590-8090	30	46	28				
7338			35-38	8415-20-011-8110	8590-9000	34	50	30				
7342			39-42	8415-20-011-8111	8590-0010	38	54	32				
7346			43-46	8415-20-011-8112	8590-1020	42	58	34				
7634	6'1" to 6'3 1/2"	X-TALL	31-34	8415-20-011-8113	9095-8090	30	46	28	15	34	48 1/2	14
7638			35-38	8415-20-011-8114	9095-9000	34	50	30				
7642			39-42	8415-20-011-8115	9095-0010	38	54	32				
7646			43-46	8415-20-011-8116	9095-1020	42	58	34				
TOLERANCE PLUS OR MINUS						1	1	1/2	1/2	1/2	3/4	0