

PURCHASE DESCRIPTION

JACKET, SOFTSHELL, UNISEX

1. SCOPE

This purchase description describes the requirement for materials, design, construction and inspection of a water resistant, windproof, unisex fit jacket to be used by Border Service Officers (BSO) within the Canada Border Services Agency (CBSA).

2. GENERAL REQUIREMENTS

- 2.1. **DESIGN** - The softshell jacket shall be a semi-fitted, waist length jacket designed to be worn as a standalone garment as well as an additional layer in the outerwear garments. The shell material shall be water resistant and windproof. Five pockets shall be incorporated into the front; one horizontal right chest, two vertical chest pockets and two vertical lower side pockets. The right horizontal chest pocket and the back yoke shall be designed to house a concealable style pull-out panel for the application of the agency reflective tape.
- 2.2. All articles or materials covered by this purchase description shall be free from imperfections or blemishes such as may affect its appearance or serviceability.
- 2.3. In the event of any inconsistency in the contract documents, purchase description, drawings, or sealed samples. The aforementioned shall prevail in the following order:
 - Contract
 - Purchase Description
 - Drawings
 - Sealed Sample

3. SEALED SAMPLE

A sealed sample, identified by the purchase description number noted in the contract, will be supplied to the successful tenderer when available. This will constitute the standard in regards to any properties not identified within. Variation from the purchase description may appear in the sample in which case the purchase description shall govern unless otherwise identified on the sealed sample tag.

The sealed sample will be sent "prepaid" and is to be returned "prepaid".

The sealed sample is to be returned to CBSA in the same condition as received by the manufacturer. Lost or damaged sealed samples shall be replaced by an identical item or the CBSA shall be reimbursed for the cost of an acceptable replacement.

4. APPLICABLE SPECIFICATIONS

- 4.1. CAN/CGSB, 4.2, Textile Test Methods.
- 4.2. CAN/CGSB 4.131-93, Thread, Polyester, Polyester or Cotton Covered.
- 4.3. FED-STD-191A, Federal Standard, Textile Test Methods.
- 4.4. ASTM, American Society for Testing and Materials.
- 4.5. AATCC-135, American Association of Textile Chemists and Colorists - Technical Manual.
- 4.6. ISO 4916:1991, Textiles - Stitch Types.
- 4.7. ISO 4916:191, Textiles - Seam Types.
- 4.8. CAN/CGSB-86.1-M91, Care Labelling of Textiles.
- 4.9. CBSA Purchase Description, CBSA/ASFC-2013-08-128, Shoulder Insignia.
- 4.10. CBSA Purchase Description, Reflective Tape Large & Small, CBSA/ASFC-2013-08-129.

5. DETAILED REQUIREMENTS

5.1. MATERIALS

5.1.1. Shell Material I:

Meeting testing outlined in TABLE I

- 94% Nylon
- 6% Elastane
- 2-way stretch
- Colour: Dark blue
- DWR (Durable Water Repellant) finish

5.1.2. Shell Material II (Fleece):

Meeting testing outlined in Table II

- 100% Polyester fleece
- Colour: Black

5.1.3. Shell Material III (Water Resistant, Windproof, Moisture Vapour Permeable Membrane):

Meeting testing outlined in TABLE III (after lamination)

- Water resistant, windproof and breathable
- 3-layer laminated membrane
 - Outer later - shell material I
 - Middle layer - membrane
 - Inside layer - shell material II (Fleece)
- All layers joined together by suitable lamination process as per ASTM D 337-96 Option C

5.1.4. Shell Material IV:

- Trilaminate material
 - 100% Nylon supplex
 - 100% nylon knit backer
- Combined weight $315 \text{ g/m}^2 \pm 15 \text{ g/m}^2$
- Dark blue to match Shell material I
- Colourfastness to Light (Face material) - Not less than L3-4
- Water repellency of 0 after 10 home launderings
- W.L. Gore part number WCJX287103D is known to meet this requirement

5.1.5. Pocketing:

- Nylon or polyester warp knit mesh
- $62 \text{ g/m}^2 \pm 6 \text{ g/m}^2$
- Colour: Black

- 5.1.6. **Dome Fasteners:**
- 24 Ligne
 - Standard brass dome fastener
 - 15mm matte black with a powder coated cap
 - Universal SW61
- 5.1.7. **Elastic - Side Seam Straps :**
- Colour: Black
 - Preshrunk polyester
 - Double layer, 2.5cm wide woven elastic
- 5.1.8. **Elastic Drawcord - Hem:**
- Colour: Black
 - 3.3mm round elastic
- 5.1.9. **Hook and Loop Tape:**
- Colour: Black
 - Woven Nylon
 - Length-wise shear strength: (combined performance)
Initially (not less than): 8 P.S.I
After 1000 cycles: 4 P.S.I
 - Peel strength: (combined performance)
Initially (not less than): 1 P.I.W
After 1000 cycles: .5 P.I.W
- 5.1.10. **Thread (meeting CAN/CGSB 4.131-93):**
- Polyester core, polyester wrap
 - Class B, Type 1
 - R50 Tex
 - Colour: Matching shell
- 5.1.11. **Ribbon:**
- Colour: Black
 - Commercially available gross grain ribbon
 - **Elastic drawcord holder** - 1cm wide
 - **Coat Hanger** - 1cm - 1.5cm wide, 6-7cm total finished length
 - **Microphone Strap** - 2.5cm wide, 5cm total finished length
- 5.1.12. **Eyelets:**
- Colour: Black
 - 5-6mm diameter hole
 - Brass, aluminum or thread

5.1.13. **Cordlock - Hem:**

- Colour: Black
- Commercially available
- Nylon composition
- Spring loaded mini cordlock

5.1.14. **Drawcord Cap:**

- Colour: Black
- Commercially available
- Nylon composition

5.1.15. **Slide Fastener Ribbon Pulls:**

- Colour: Black
- Commercially available ribbon pull

5.1.16. **Slide Fasteners: Colour - Black for all**

Location	Type/Description	Part #
Front	<ul style="list-style-type: none"> • Open-end separator • Injection molded • DA Automatic slider 	Vison® YKK 5VS
Vertical Chest and Lower Side Pockets	<ul style="list-style-type: none"> • Closed end • Coil type • DF non-lock slider • Long black enamel pull tabs 	YKK CNFC 51L 5/8
Right Horizontal Chest Pocket - "Pull-out" ID Panel	<ul style="list-style-type: none"> • Closed end • 45CF CH 9/16 Coil type • DFBWO slider • Round black enamel pull tabs • Tape faces outside 	YKK CFC 451 DFBWO E 9/16 *TBO*GAP- 0*REV* or 45 CF CH 9/16*200MTS/RL* with 45 CF DFBWO E
Side Seam	<ul style="list-style-type: none"> • Coil type • 3 black enamel round DFBW sliders • Arranged in head-to-head position • Opening from bottom • Tape faces outside 	YKK CNFMC 51/1/1 DFBW E 5/8 * BB - HH* GAP-0 * T-B-0 * REV * or 5CNF CH 5/8 *200MTS/RL with 5 CN DFBW E

5.1.17. Slide Fastener - Lengths - Measurements in Inches

HEIGHT	SIZES	FRONT	SIDE SEAM	VERTICAL CHEST POCKETS	LOWER FRONT POCKETS	HORIZONTAL RIGHT CHEST POCKET (“PULL-OUT” ID PANEL)
X-Short	XXSmall	16"	13½"	7½"	6½"	6½"
	XSmall	17"	14"	7½"	6½"	6½"
	Small	17½"	14½"	7½"	6½"	6½"
	Medium	18"	15"	7½"	6½"	6½"
	Large	19"	15½"	7½"	6½"	6½"
	XLarge	19½"	16"	7½"	6½"	6½"
	2XLarge	20½"	16½"	7½"	6½"	6½"
	3XLarge	21"	17"	7½"	6½"	6½"
	4XLarge	22"	17½"	7½"	6½"	6½"
	5XLarge	22½"	17½"	7½"	6½"	6½"
Short	XXSmall	18"	16"	7½"	7"	6½"
	XSmall	18½"	16½"	7½"	7"	6½"
	Small	19½"	17"	7½"	7"	6½"
	Medium	20"	17½"	7½"	7"	6½"
	Large	20½"	17½"	7½"	7"	6½"
	XLarge	21½"	18"	7½"	7"	6½"
	2XLarge	22½"	18½"	7½"	7"	6½"
	3XLarge	23"	19"	7½"	7"	6½"
	4XLarge	24"	19½"	7½"	7"	6½"
	5XLarge	24½"	19½"	7½"	7"	6½"
Regular	XXSmall	20"	17½"	7½"	7½"	6½"
	XSmall	20½"	18"	7½"	7½"	6½"
	Small	21½"	18½"	7½"	7½"	6½"
	Medium	22"	19"	7½"	7½"	6½"
	Large	23"	19½"	7½"	7½"	6½"
	XLarge	23½"	20"	7½"	7½"	6½"
	2XLarge	24"	20½"	7½"	7½"	6½"
	3XLarge	25"	21"	7½"	7½"	6½"
	4XLarge	25½"	21½"	7½"	7½"	6½"
	5XLarge	26½"	21½"	7½"	7½"	6½"
Tall	XXSmall	22"	19½"	7½"	8"	6½"
	XSmall	22½"	20"	7½"	8"	6½"
	Small	23"	20½"	7½"	8"	6½"
	Medium	24"	21"	7½"	8"	6½"
	Large	24½"	21½"	7½"	8"	6½"
	XLarge	25½"	22"	7½"	8"	6½"
	2XLarge	26"	22½"	7½"	8"	6½"
	3XLarge	27"	23"	7½"	8"	6½"
	4XLarge	27½"	23"	7½"	8"	6½"
	5XLarge	28½"	23½"	7½"	8"	6½"

HEIGHT	SIZES	FRONT	SIDE SEAM	VERTICAL CHEST POCKETS	LOWER FRONT POCKETS	"PULL-OUT" ID PANEL POCKET
XTall	XXSmall	23½"	21½"	7½"	8"	6½"
	XSmall	24½"	22"	7½"	8"	6½"
	Small	25"	22½"	7½"	8"	6½"
	Medium	26"	23"	7½"	8"	6½"
	Large	26½"	23½"	7½"	8"	6½"
	XLarge	27"	24"	7½"	8"	6½"
	2XLarge	28"	24½"	7½"	8"	6½"
	3XLarge	28½"	24½"	7½"	8"	6½"
	4XLarge	29½"	25"	7½"	8"	6½"
	5XLarge	30"	25½"	7½"	8"	6½"

5.1.18. **Reflective Tape Large & Small:** CBSA Purchase Description CBSA/ASFC-2013-08-129, Government Supplied Materials.

5.1.19. **Shoulder Insignia:** CBSA Purchase Description, CBSA/ASFC-2013-08-128, Shoulder Insignia, Government Supplied Materials.

6. GENERAL CONSTRUCTION:

6.1.1. Stitching :

- Lockstitch Type 301
- No less than three or more than five stitches per centimetre
- Overedge seaming and serging, .63cm(¼") Type 501
- Topstitching - (2mm gauge) as specified in the drawings

7. CONSTRUCTION:

7.1. Body:

7.1.1. Back

- Made from shell material III (para.5.1.3)
- 2-piece back
- "beaver tail" style back extension
- Construction equivalent to the sealed sample and drawings

7.1.2. Back Yoke

- Outer back yoke made from shell material III (para.5.1.3)
- Incorporates envelope style opening for pull-out ID panel
- Faced with Shell Material IV (para.5.1.4) and topstitched from sleeve seam to sleeve seam

- 3 pieces of loop tape (para. 5.1.9) applied to the inside facing material in corresponding position to the pull-out ID panel
- Construction equivalent to the sealed sample and drawings

7.1.3. **Back Pull-out ID Panel:**

- Single piece of shell material IV (para.5.1.4) folded, turned, top-stitched
- Dimensioned to fit large size reflective tape (para.5.1.18)
- 3 pieces hook tape (para. 5.1.9) applied to rear of the pull-out ID panel to attach to corresponding loop tape contained inside the back yoke
- Construction equivalent to the sealed sample and drawings

7.1.4. **Back Hem Channel:**

- Hem facing made from shell material IV, sewn face side out to create a channel for the elastic drawcord
- Eyelet (para.5.1.12) applied 4cm from left sideseam
- Ribbon loop (para.5.1.11) sized to fit elastic only sewn directly above sideseam zipper seam
- Elastic drawcord (para.5.1.8) attached at the right side seam, threaded through the channel outside the eyelet through the cordlock and ribbon loop in the sideseam at the zipper edge, knotted and finished with a drawcord cap (para.5.1.14)
- Construction equivalent to the sealed sample and drawings

7.1.5. **Front:**

- Made from shell material III (para.5.1.3)
- Inside storm flap on right front, made from shell material IV (para.5.1.4)
- Center front slide fastener (para.5.1.16); lengths (para.5.1.17)
- Right horizontal chest pocket - zippered opening for storage of pull-out ID panel
- Four front pockets; 2 vertical chest pockets parallel to the center slide fastener, and 2 lower side pockets and with slide fasteners
- Name tag holder - 8.5cm x 2.5 cm piece of loop tape (para. 5.1.9) sewn above right upper chest zippered opening
- 2.5cm x 5cm ribbon (para.5.1.11) for the microphone loop sewn to right and left upper fronts
- Construction equivalent to the sealed sample and drawings

7.1.6. Right Horizontal Chest Pocket:

- 1 right horizontal chest pocket for storage of pull-out ID panel
- Chest pocket with slide fastener (para.5.1.16) slide fastener lengths (para.5.1.17) and ribbon pulls (para.5.1.15)
- Slider facing center front position when pocket is closed
- Lined with mesh pocketing material (para.5.1.5)
- Inside pocket bag for all pockets constructed from continuous single layer of mesh pocketing
- Pocket houses pull-out ID panel complete with reflective tape (para.5.1.18)
- Construction equivalent to the sealed sample and drawings

7.1.7. Front Pull-out ID Panel:

- Single piece of secondary shell material IV (para.5.1.4) folded, turned, top-stitched
- Dimensioned to fit small size reflective tape (para.5.1.18) which is sewn to the top of the pull-out panel and built into the right horizontal chest pocket
- Construction equivalent to the sealed sample and drawings

7.1.8. Vertical Chest Pockets:

- Vertical right and left chest pockets with slide fasteners (para.5.1.16) slide fastener lengths (para.5.1.17) and ribbon pulls (para.5.1.15)
- Installed parallel to the center front slide fastener
- Slider shall be in an upright position when pocket is closed
- Lined with mesh pocketing material (para.5.1.5)
- Construction equivalent to the sealed sample and drawings

7.1.9. Lower Side Pockets:

- Built into front panels at sideseams
- Compete with slide fasteners (para.5.1.16) slide fastener lengths (para.5.1.17) applied so that the slider is in an upright position when the pocket is closed
- Lined with mesh pocketing material (para.5.1.5)
- Construction equivalent to the sealed sample and drawings

7.1.10. Front Storm Flap:

- Made from shell material IV (para.5.1.4)
- Storm flap applied to the right front under the slide fastener rolling over the top edge at the neckline
- Center Front slide fastener (left front) - retaining box and slider
- Center Front slide fastener (right front) - insert pin
- Ribbon pulls (para.5.1.15) on all slide fasteners tabs

- Construction equivalent to the sealed sample and drawings

7.1.11. Side Seams:

- 2 slide fasteners (para.5.1.16) slide fastener lengths (para.5.1.17) on right and left sideseams, underarm to hem
- 3 sliders, two closest to the underarm should be in a head to head position. Third slider opening from the bottom upwards
- Slide fastener tape shall be visible from the outside of the jacket with tape facing inside
- Ribbon pulls (para.5.1.15) on all slide fasteners tabs
- Elastic (para. 5.1.7) closure strap 8cm \pm .5cm when finished sewn to lower back sideseam flipping towards front with female dome fastener (para.5.1.6). Corresponding male dome fastener applied to front of jacket hem
- Construction equivalent to the sealed sample and drawings

7.1.12. Collar:

- Made from two layers of shell material III (para.5.1.3)
- The undercollar shall have the face material against the outside of the jacket
- The topcollar shall have the back (fleece portion) facing the inside of the garment against the wearers neck
- Construction equivalent to the sealed sample and drawings

7.1.13. Sleeve & Sleeve Cuffs (Jacket) :

- Made from shell material III (para.5.1.3)
- 2 piece sleeve
- Sleeve hem - 3cm wide with 12.5 \pm 0.5cm x 2cm loop tape (para.5.1.9)
- Sleeve adjustment strap (9.5cm x 2.5cm) - made from shell material IV (para. 5.1.4) with hook tape 7.5 \pm 0.5cm x 2cm (para.5.1.9)
- Construction equivalent to the sealed sample and drawings

7.1.14. Shoulder Straps:

- Made from one layer of shell material III one layer of shell material IV
- Shell material side of shoulder strap shall be face up
- Sewn into sleeve head secured to jacket with dome fastener (para.5.1.6)
- Construction equivalent to the sealed sample and drawings

7.1.15. Shoulder Insignia:

- Shoulder insignia (para.5.1.19) to be centered on sleeve head 2.5cm below sleeve-head seam

- Construction equivalent to the sealed sample and drawings

7.1.16. **Coat Hanger:**

- Made from ribbon (para.5.1.11)
- 6cm long, centered at back neckline
- Construction equivalent to the sealed sample and drawings

7.1.17. **LABELING:**

7.2. All labeling must be in a bilingual format. The text on all labels shall be of permanent inks of a contrasting colour which shall remain visible and withstand a minimum of 40 washes.

7.3. **Identification Label**

- 1 label containing the following:
 - a. Size Designation (as referenced in the contract documents)
 - b. Fibre Content
 - c. Manufacturers' Name & Contract #
 - d. Material Master Number (reference contract documents)
 - e. Name: (Empty space for wearers name)

7.4. **Cleaning Instructions**

- 1 label containing the following:
 - a. Machine wash - warm (40°C)
 - b. Do not bleach
 - c. Tumble dry - low
 - d. Steam Iron - low
 - e. Do not dry clean

7.5. **Care Instructions:** Each completed jacket shall have an instruction sheet folded and inserted into the inside chest pocket bag, with the information included in Appendix 'A' English and French, forming a part of this specification.

8. **TECHNICAL INSPECTION**

The contractor shall be responsible for the performance of all inspections and tests necessary to demonstrate that the material and services being supplied conform to the requirements of this purchase description. This may be accomplished by performing the test specified in this purchase description or by demonstrating to the satisfaction of the CBSA, Technical Authority that conformity to the purchase description and manufacturing process is assured. The contractor may use any independent, ISO 9001 certified and ISO 17025 "Textile" certified testing facilities acceptable to the CBSA Technical Authority.

Certification documents will be required.

The CBSA Technical Authority reserves the right to perform any inspection considered necessary to ensure the material and services conform to the specified requirements. For the purpose of inspection, a portion of each delivery not exceeding two percent or two out of any number delivered fewer than 100 may be put to tests that could destroy the articles. If found to be inferior or not in accordance with this specification, all articles so destroyed shall be replaced by others of proper quality at the expense of the contractor. The entire delivery may also be rejected if it is found that articles previously rejected, due to non-repairable defects, are redelivered for inspection.

The contractor will be promptly notified when any articles are not accepted and such articles will be returned at the contractor's risk and expense.

9. DELIVERY, PACKING & MARKING OF CONTAINERS

It is the responsibility of the manufacturer to ensure that goods are packaged in a suitable manner to be delivered in an undamaged condition. Any goods received in a damaged condition will be returned to the manufacturer for replacement at his full cost.

Packing and marking of shipping containers shall be as specified in the invitation to tender.

A packing slip shall be enclosed showing the contents of each shipment.

The contractor shall also identify clearly on the outside of each package (box) the following items

- Size
- Material Master Number
- Quantity of each size contained in the box
- Contract Number

10. APPENDICES

TABLE I - Shell Material I - Properties

TABLE II - Shell Material II (Fleece) - Properties

TABLE III - Shell Material I, II, & III - Properties of Laminated Material
Test Procedures

Appendix "A" - Care Instructions

Scales of Measurements

Drawings

TABLE I
Shell Material I - Properties

	REQUIREMENT	TESTED BY CAN/CGSB-4.2
Colour	Dark Blue to match sealed sample	
Fiber Content	94% Nylon, 6% Elastane \pm 2%	No.14-2005
Weave	Plain	
Mass	112 g/m ² \pm 8g/m ²	No. 5.1-M90(2004)
Yarns per cm	Warp - no less than 35 per cm Weft - no less than 34 per cm	No. 6-M89
Colour Fastness		
To Light	Equal to AATCC Standard L4 or better	No. 18.3-97
To Crocking, Dry and Wet	Dry - Grey scale 4 or better Wet - Grey scale 3 or better	No. 22-2004
To Washing	Colour change and staining on polyester and cotton - Grey scale 4 or better	No. 19.1-2004 Test 2/ ISO 105-A2:1994

TABLE II
Shell Material II (Fleece) - Properties

	REQUIREMENT	TESTED BY CAN/CGSB-4.2
Colour	Black to match sealed sample	
Fiber Content	100% Polyester	No.14-2005
Weave	Knit	
Mass	145 g/m ² \pm 8g/m ²	No. 5.1-M90(2004)
Yarns per cm	Courses - no less than 12 per cm Wales - no less than 16 per cm	No. 7-M88(2001)
Colour Fastness		
To Crocking, Dry and Wet	Dry - Grey scale 4 or better Wet - Grey scale 3 or better	No. 22-2004
To Washing Colour change and staining	Colour change and staining on polyester and cotton - Grey scale 4 or better	No. 19.1-2004 Test 2
To Perspiration	Colour change and staining (Acid 7 Alakine) - Grey scale 4 or better	No. 23-M90(2004)

TABLE III
PROPERTIES OF LAMINATED MATERIAL
 (Shell Material I, II, & III)

Test	Duration	Specification	Test Method
Mass		305 g/m ² ± 10 g/m ²	CAN/CGSB-4.2 No: 5.1-M90(2004)
Colourfastness to Light	- Face	Equal to or better than L4	CAN/CGSB-4.2 No: 18.3-97
Resistance of Materials to Water Vapour Diffusion	- Initial - After 5 launderings - After ageing (70°C & 95% RH for 168 hrs)	No more than 5mm	CAN/CGSB-4.2 No: 49-M99, Option 1 *See test procedure #1 CAN/CGSB-4.2 No: 58-2004, 3, E, 2
Air Permeability	- Initial - After 5 launderings	<0.30 cm ³ /cm ² x S-1	CAN/CGSB-4.2 No: 36-M-89(1997) No: 58-2004, 3, E, 2
Low Pressure Water Permeability	- Initial - After 5 launderings	No Leakage	CAN/CGSB-4.2 No: 26.3-2010 * See test procedure #2 No: 58-2004, 3, E, 2
	- After 100 hours of continuous wet flex (Agitation))	No delamination	AATCC 135-2001/Test procedure 6 * See test procedure #3
	After abrasion	No delamination No leakage	ASTM D 3886-99(2007) e, 1 - modified * See test procedure #4
Water Repellency	- Initial - After 10 launderings	Initial – 100 After 10 launderings – no less than 80	CAN/CGSB-4.2 No: 26.2-94 (2003)/ISO 4920:1981 No: 58-2004, 3, E, 2
Thermal Resistance (CLO)	- Initial - After 5 launderings	No less than 0.25 and no more than 0.4	ISO 11092-1993(dry) CAN/CGSB 4.2 No: 58-2004, 3, E, 2
Burst Strength	- Initial	No less than 875 N	CAN/CGSB-4.2 No: 11.2-M89(2004)
Tear Strength	- Initial - After 5 launderings	No less than Warp – 200 N Weft – 100 N	CAN/CGSB-4.2 No: 12.2-95 No: 58-2004, 3, E, 2
Fabric Thickness	- Initial	No less than 1.23mm and no more than 1.33mm	CAN/CGSB-4.2 No. 37-2002
Kawabata Evaluation System	- Stiffness (gf.cm ² /cm) - Length - Width	Length – no more than 0.7 Width – no more than 0.5	Kawabata Evaluation System Bending property(B mean) sensitivity: 5 X 1 Specimen width: 10cm *see test procedure #5
Dimensional Change to Domestic Washing	- After 3 cycles	No more than Warp – 3.5%	CAN/CGSB-4.2 No. 58-2004, 3, E, 2

		Weft – 3.5%	
Stretch Recovery		No more than Length – 3% Width – 4%	ASTM D 2594-04(2008) e, 1
Abrasion Resistance	- After 4000 Cycles	Colour change – No less than 4-5 Appearance change – No less than 4-5	ASTM D 4966-98(2007) e, 1 Pressure – 9kPa Abradant – worsted wool

NOTE: It will be the responsibility of the manufacturer to provide test data from a single certified independent testing facility meeting the approval of the CBSA in order to show compliance of their products to the requirements of this specification.

Testing for each Table shall:

- Be performed in its entirety on the same garment and/or piece of material after laminating as indicated.
- Adhere to all specified test methods and conditions.
- Contain test performed dates not predating the latest specification or amendment date with the exception of multiple contracts which may include different garments using the same fabric(s), at the discretion of the CBSA.
- Any amendments affecting the shell materials requires new test data containing the same received dates and not predating the newest amendment date specific to these tables.
- If amendments to the specification do not affect shell materials the last specification date and/or amendment date would be acceptable provided they meet the above requirements.

The fabric should not show any visible signs of delamination* or loss of film during the garment's useful life (approximately 5 years). Not meeting these requirements will be a probable cause for rejection.

*Delamination is defined as any irreparable separation of the bonded layers of the Laminated Shell Material(s).

TEST PROCEDURES

- #1. The fleece side of the laminated cloth shall face the water. The tests shall be completed as outlined in CAN/CGSB 4.2 Method 49-99, Option #1. The samples shall be conditioned at $21^{\circ}\text{C} \pm 1^{\circ}\text{C}$ ($69.8^{\circ}\text{F} \pm 2^{\circ}\text{F}$) and relative humidity shall be $65 \pm 2\%$. The test specimen shall be placed approximately equidistant between the dry airflow and the water cell. Four specimens shall be tested per condition. The tests shall be completed initial, after 5 launderings according to CAN/CGSB-4.2 No.58-2004, 3, E, 2 and after ageing according to ASTM F392-93.
- #2. The shell side of the laminated cloth shall face the water. The hydrostatic head shall be 13.78 kPa (2.0 psi) and shall be held for 3 minutes. Leakage is defined as the appearance of water any place within the 11.43 cm (4.5") diameter test area. The test may be performed using any device which tests the same specimen area at the equivalent pressure. In case of dispute, the apparatus described in FED-STD-191A Method 5516 shall be used.
- #3. One 35.56 cm (14") by full width specimen shall be selected from each sample unit. The specimens shall be agitated using the 'normal' cycle in an automatic home laundering as specified in AATCC 135-2001 except that the machine shall be capable of continuous agitation. The water level shall be maintained at $72.74\text{l} \pm 4.55\text{l}$ ($16 + 1$ gallons), and the water temperature shall be $32^{\circ}\text{C} + 9^{\circ}\text{C}$. The load shall be $.91\text{ kg} \pm .09\text{ kg}$ ($2\text{ lbs} + 0.2\text{ lbs}$). The specimen shall be removed from the washer after 100 hours of continuous agitation. The specimen shall be air dried and then tested for water permeability according to test procedure #2.
- #4. Five (5) specimens shall be abraded for 800 cycles on the face side and for 800 cycles on the back side. The abrasant is to be 3M 600A grit sandpaper using four (4) psi pressure with 1 lb weight. Following abrasion, test for water permeability as per procedure #2.
- #5. The Kawabata bending test is to be carried out on the new fabric. A new roll or bold fabric shall be submitted to the laboratory. The Laboratory shall cut specimens from fabric taken directly from the roll or bold. It is imperative that the new fabric and test specimens be handled as little as possible prior to conducting the Kawabata bending test.

Appendix "A"**CARE INSTRUCTIONS – SOFT SHELL JACKET**

This garment is designed to be both waterproof and water repellent. The best way to maintain its performance is to **keep it clean by washing it regularly.**

- DO NOT COMMERCIAL LAUNDRER
- DO NOT USE FABRIC SOFTENER OR DRYER SHEETS
- DO NOT USE BLEACH
- DO NOT DRY CLEAN

Machine Wash:

Close all zippers, fasteners and Velcro before washing.

Wash in warm water (40°C), permanent press, separately.

Use a small amount of detergent or specialty wash products for softshell garments. **Do not use fabric softener.**

At the end of the final rinse cycle, re-adjust the garment in the washer, and put it through an additional rinse cycle. This will assure complete rinsing of detergent that may have been trapped during washing, therefore preserving water repellency.

Drying:

Close all zippers, fasteners and velcro before drying.

Tumble dry separately on a normal setting using low heat for 50 minutes to reactivate the durable water repellency (DWR.)

If necessary, touch up with steam iron or dry iron at low temperature.

Long Term Care:

After extended use (when the water no longer beads up and rolls off) the use of a water based, solvent free, nonflammable DWR product (ie. Revivex™ or Nikwax Tx-Direct™) for softshell garment to restore the water repellency.

INSTRUCTIONS D'ENTRETIEN – Blouson à coquille souple

Ce vêtement est conçu pour être imperméable et résistant au vent. La meilleure façon de l'entretenir est de le **garder propre en le lavant régulièrement.**

- NE PAS LAVER DANS UNE BUANDERIE COMMERCIALE
- NE PAS UTILISER D'AGENT ASSOUPLEISSANT NI D'ASSOUPLISSANT EN FEUILLES
- NE PAS UTILISER D'AGENT DE BLANCHIMENT
- NE PAS NETTOYER À SEC

Lavage à la machine :

Fermer toutes les fermetures, attaches et velcro avant de laver.

Laver séparément à l'eau tiède (40°C), au cycle pressage permanent.

Utiliser une petite quantité de détergent ou un produit spécifique conçu spécialement pour les vêtements à coquille souple. **Ne pas utiliser d'agent adoucissant.**

À la fin du dernier cycle de rinçage, réajuster le vêtement dans la machine et entreprendre un autre cycle de rinçage, afin d'éliminer complètement le détergent qui peut être resté durant le lavage et de préserver les propriétés hydrofuges.

Séchage :

Fermer toutes les fermetures à glissière, attaches et velcro avant de faire sécher.

Sécher par culbutage, à basse température pendant 50 minutes, afin de réactiver les propriétés hydrofuges.

Au besoin, repasser légèrement à basse température.

Soin à long terme :

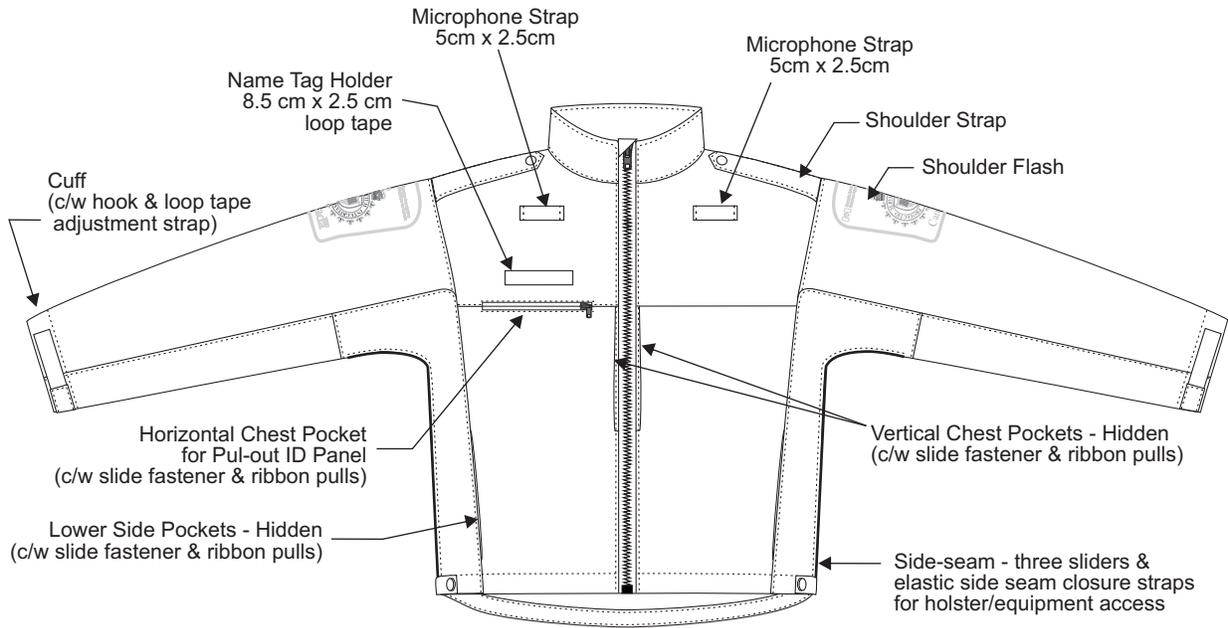
Après un usage prolongé (lorsque l'eau ne perle plus) utiliser un produit commercial à base d'eau, sans solvant et ininflammable (c.-à-d. Revivex™ ou Nikwax Tx-Direct™) pour restaurer les propriétés hydrofuges des vêtements à coquille souple.

SIZE DESIGNATION		BODY MEASUREMENTS		JACKET, SOFTSHELL, UNISEX										
GARMENT MEASUREMENTS (Dimensions shown in centimetres)														
Height	Size	Chest		Chest Width (½ only)	Bottom Width (½ only)	Front Length (Top of collar to hem)	Side Seam Length (Underarm to hem)	Full Shoulder Width (Shoulder point to shoulder point at armhole)	Sleeve Length		Sleeve Hem Width (½ only)	Back Length (Bottom of collar at back to hem)	Back Width	Collar Length (Top edge, zipper to zipper)
		Inches	cm						Overarm (Shoulder seam to sleeve hem)	Underarm (Underarm seam to sleeve hem)				
X Short 4'11" - 5'2" 150cm - 157.5cm	XXS	31" - 33"	79 - 84	50.75	48.25	43	20	12.5	50.25	37.75	13.25	50.5	39.25	46
	XS	34" - 36"	86 - 91	54.5	52	45	21	13.5	52	39	13.75	52.5	41.75	47.75
	S	37" - 39"	94 - 99	58.25	55.75	47	22	14.5	53.75	40.25	14.25	54.5	44.25	49.5
	M	40" - 42"	102 - 107	62	59.5	49	23	15.5	55.5	41.5	14.75	56.5	47	51.5
	L	43" - 45"	109 - 114	65.75	63.25	51	24	16.5	57.25	42.5	15.25	58.5	49.5	53
	XL	46" - 48"	117 - 122	69.5	67	53	25	17.5	59	43.75	15.75	60.5	52	54.75
	2XL	49" - 51"	124 - 129	73.25	70.75	55	26	18.5	60.75	45	16.25	62.5	54.5	56.5
	3XL	52" - 54"	132 - 137	77	74.5	57	27	19.5	62.5	46.25	16.75	64.5	57	58.25
	4XL	55" - 57"	140 - 145	80.75	78.25	59	28	20.5	64.25	47.5	17.25	66.5	59.5	60
5XL	58" - 60"	147 - 152	84.5	82	61	29	21.5	66	48.75	17.75	68.5	62	61.75	
Short 5'3" - 5'6" 160cm - 167.5cm	XXS	31" - 33"	79 - 84	50.75	48.25	48	25	12.5	54.25	41	13.25	55.5	39.25	46
	XS	34" - 36"	86 - 91	54.5	52	50	26	13.5	56	42.25	13.75	57.5	41.75	47.75
	S	37" - 39"	94 - 99	58.25	55.75	52	27	14.5	57.75	43.5	14.25	59.5	44.25	49.5
	M	40" - 42"	102 - 107	62	59.5	54	28	15.5	59.5	44.75	14.75	61.5	47	51.5
	L	43" - 45"	109 - 114	65.75	63.25	56	29	16.5	61.25	46	15.25	63.5	49.5	53
	XL	46" - 48"	117 - 122	69.5	67	58	30	17.5	63	47	15.75	65.5	52	54.75
	2XL	49" - 51"	124 - 129	73.25	70.75	60	31	18.5	64.75	48.25	16.25	67.5	54.5	56.5
	3XL	52" - 54"	132 - 137	77	74.5	62	32	19.5	66.5	49.5	16.75	69.5	57	58.25
	4XL	55" - 57"	140 - 145	80.75	78.25	64	33	20.5	68.25	50.75	17.25	71.5	59.5	60
5XL	58" - 60"	147 - 152	84.5	82	66	34	21.5	70	52	17.75	73.5	62	61.75	
MEASUREMENT LOCATION				A	B	C	D	E	F	G	H	K	L	M
TOLERANCES±				2 cm	2 cm	2 cm	1.5 cm	1 cm	1.5 cm	1.5 cm	1 cm	2 cm	1 cm	1 cm

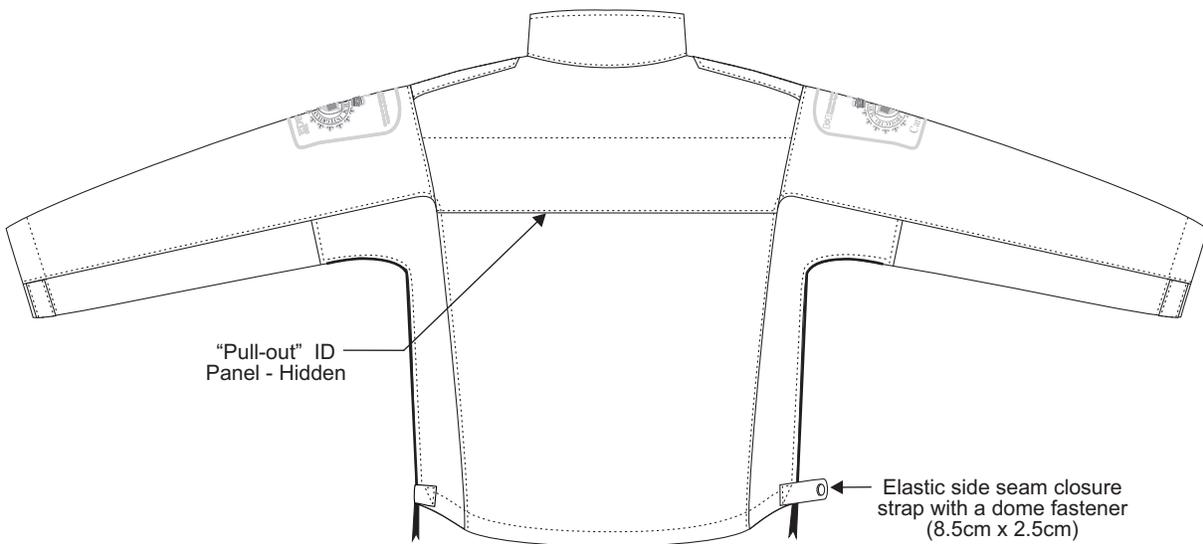
SIZE DESIGNATION		BODY MEASUREMENTS		JACKET, SOFTSHELL, UNISEX										
GARMENT MEASUREMENTS (Dimensions shown in centimetres)														
Height	Size	Chest Inches cm		Chest Width (½ only)	Bottom Width (½ only)	Front Length (Top of collar to hem)	Side Seam Length (Underarm to hem)	Full Shoulder Width (Shoulder point to shoulder point at armhole)	Sleeve Length		Sleeve Hem Width (½ only)	Back Length (Bottom of collar at back to hem)	Back Width	Collar Length (Top edge, zipper to zipper)
									Overarm (Shoulder seam to sleeve hem)	Underarm (Underarm seam to sleeve hem)				
Regular 5'7" - 5'10" 170cm - 178cm	XXS	31" - 33"	79 - 84	50.75	48.25	53	30	12.5	58.25	44.5	13.25	60.5	39.25	46
	XS	34" - 36"	86 - 91	54.5	52	55	31	13.5	60	45.75	13.75	62.5	41.75	47.75
	S	37" - 39"	94 - 99	58.25	55.75	57	32	14.5	61.75	47	14.25	64.5	44.25	49.5
	M	40" - 42"	102 - 107	62	59.5	59	33	15.5	63.5	48	14.75	66.5	47	51.5
	L	43" - 45"	109 - 114	65.75	63.25	61	34	16.5	65.25	49.25	15.25	68.5	49.5	53
	XL	46" - 48"	117 - 122	69.5	67	63	35	17.5	67	50.5	15.75	70.5	52	54.75
	2XL	49" - 51"	124 - 129	73.25	70.75	65	36	18.5	68.75	51.75	16.25	72.5	54.5	56.5
	3XL	52" - 54"	132 - 137	77	74.5	67	37	19.5	70.5	53	16.75	74.5	57	58.25
	4XL	55" - 57"	140 - 145	80.75	78.25	69	38	20.5	72.25	54	17.25	76.5	59.5	60
5XL	58" - 60"	147 - 152	84.5	82	71	39	21.5	74	55.25	17.75	78.5	62	61.75	
Tall 5'11" - 6'2" 180.5cm- 188cm	XXS	31" - 33"	79 - 84	50.75	48.25	58	35	12.5	62.25	47.75	13.25	65.5	39.25	46
	XS	34" - 36"	86 - 91	54.5	52	60	36	13.5	64	49	13.75	67.5	41.75	47.75
	S	37" - 39"	94 - 99	58.25	55.75	62	37	14.5	65.75	50.25	14.25	69.5	44.25	49.5
	M	40" - 42"	102 - 107	62	59.5	64	38	15.5	67.5	51.5	14.75	71.5	47	51.5
	L	43" - 45"	109 - 114	65.75	63.25	66	39	16.5	69.25	52.5	15.25	73.5	49.5	53
	XL	46" - 48"	117 - 122	69.5	67	68	40	17.5	71	53.75	15.75	75.5	52	54.75
	2XL	49" - 51"	124 - 129	73.25	70.75	70	41	18.5	72.75	55	16.25	77.5	54.5	56.5
	3XL	52" - 54"	132 - 137	77	74.5	72	42	19.5	74.5	56.25	16.75	79.5	57	58.25
	4XL	55" - 57"	140 - 145	80.75	78.25	74	43	20.5	76.25	57.5	17.25	81.5	59.5	60
5XL	58" - 60"	147 - 152	84.5	82	76	44	21.5	78	58.5	17.75	83.5	62	61.75	
MEASUREMENT LOCATION				A	B	C	D	E	F	G	H	K	L	M
TOLERANCES±				2 cm	2 cm	2 cm	1.5 cm	1 cm	1.5 cm	1.5 cm	1 cm	2 cm	1 cm	1 cm

SIZE DESIGNATION		BODY MEASUREMENTS		JACKET, SOFTSHELL, UNISEX										
GARMENT MEASUREMENTS (Dimensions shown in centimetres)														
Height	Size	Chest		Chest Width (½ only)	Bottom Width (½ only)	Front Length (Top of collar to hem)	Side Seam Length (Underarm to hem)	Full Shoulder Width (Shoulder point to shoulder point at armhole)	Sleeve Length		Sleeve Hem Width (½ only)	Back Length (Bottom of collar at back to hem)	Back Width	Collar Length (Top edge, zipper to zipper)
		Inches	cm						Overarm (Shoulder seam to sleeve hem)	Underarm (Underarm seam to sleeve hem)				
X Tall 6'3" - 6'6" 190.5cm - 198cm	XXS	31" - 33"	79 - 84	50.75	48.3	63	40	12.5	66.25	51.25	13.25	46	39.25	46
	XS	34" - 36"	86 - 91	54.5	52	65	41	13.5	68	52.25	13.75	47.75	41.75	47.75
	S	37" - 39"	94 - 99	58.25	55.8	67	42	14.5	69.75	53.5	14.25	49.5	44.25	49.5
	M	40" - 42"	102 - 107	62	59.5	69	43	15.5	71.5	54.75	14.75	51.5	47	51.5
	L	43" - 45"	109 - 114	65.75	63.3	71	44	16.5	73.25	56	15.25	53	49.5	53
	XL	46" - 48"	117 - 122	69.5	67	73	45	17.5	75	57.25	15.75	54.75	52	54.75
	2XL	49" - 51"	124 - 129	73.25	70.8	75	46	18.5	76.75	58.25	16.25	56.5	54.5	56.5
	3XL	52" - 54"	132 - 137	77	74.5	77	47	19.5	78.5	59.5	16.75	58.25	57	58.25
	4XL	55" - 57"	140 - 145	80.75	78.3	79	48	20.5	80.25	60.75	17.25	60	59.5	60
XX Tall 6'7" - 6'10" 200.5cm - 208.5cm	5XL	58" - 60"	147 - 152	84.5	82	81	49	21.5	82	62	17.75	61.75	62	61.75
	XXS	31" - 33"	79 - 84	50.75	48.3	68	45	12.5	70.25	54.5	13.25	46	39.25	46
	XS	34" - 36"	86 - 91	54.5	52	70	46	13.5	72	55.75	13.75	47.75	41.75	47.75
	S	37" - 39"	94 - 99	58.25	55.8	72	47	14.5	73.75	57	14.25	49.5	44.25	49.5
	M	40" - 42"	102 - 107	62	59.5	74	48	15.5	75.5	58	14.75	51.5	47	51.5
	L	43" - 45"	109 - 114	65.75	63.3	76	49	16.5	77.25	59.25	15.25	53	49.5	53
	XL	46" - 48"	117 - 122	69.5	67	78	50	17.5	79	60.5	15.75	54.75	52	54.75
	2XL	49" - 51"	124 - 129	73.25	70.8	80	51	18.5	80.75	61.75	16.25	56.5	54.5	56.5
	3XL	52" - 54"	132 - 137	77	74.5	82	52	19.5	82.5	63	16.75	58.25	57	58.25
4XL	55" - 57"	140 - 145	80.75	78.3	84	53	20.5	84.25	64	17.25	60	59.5	60	
5XL	58" - 60"	147 - 152	84.5	82	86	54	21.5	86	65.25	17.75	61.75	62	61.75	
MEASUREMENT LOCATION				A	B	C	D	E	F	G	H	J	K	L
TOLERANCES±				2 cm	2 cm	2 cm	1.5 cm	1 cm	1.5 cm	1.5 cm	1 cm	2 cm	1 cm	1 cm

APPENDIX A
 Jacket, Softshell, Unisex
 CBSA/ASFC-2014-07-133
 Dwg 1

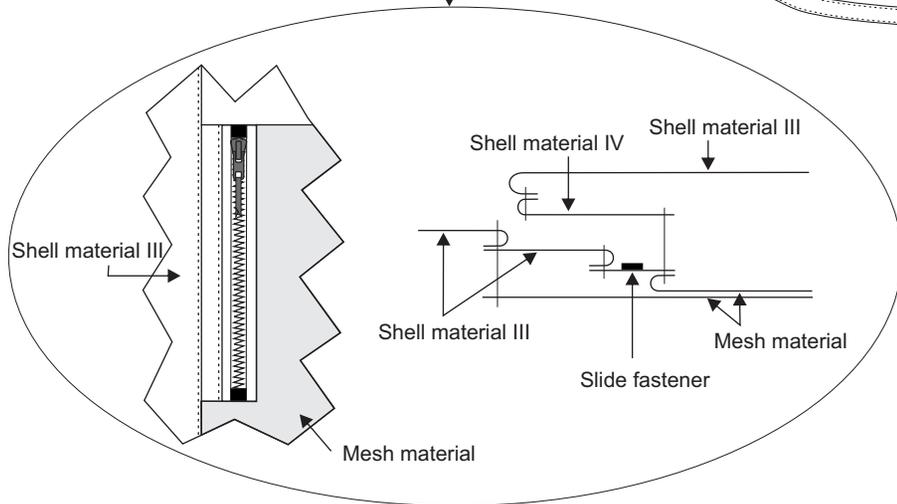
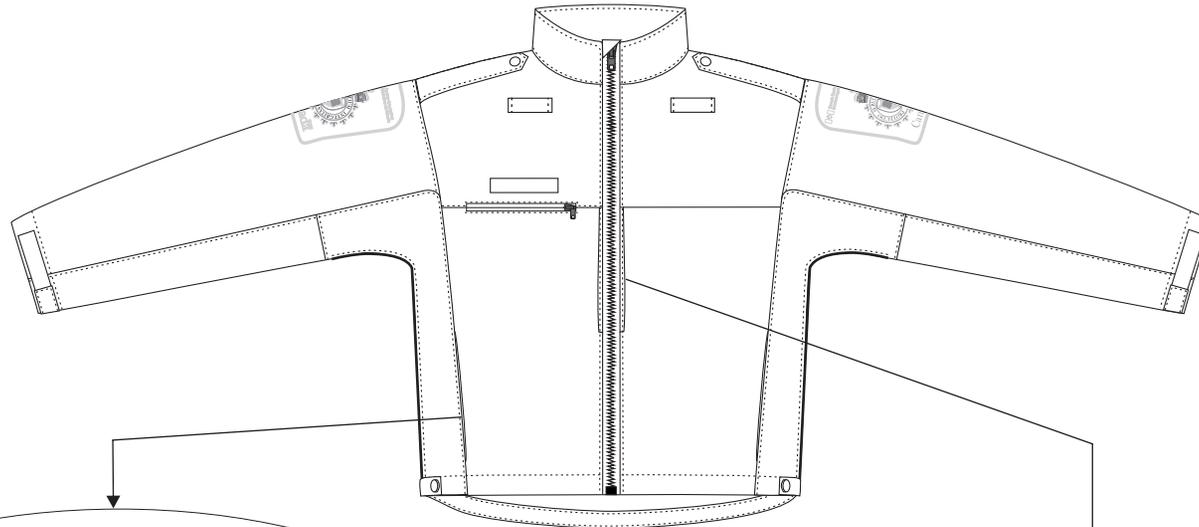


Front View

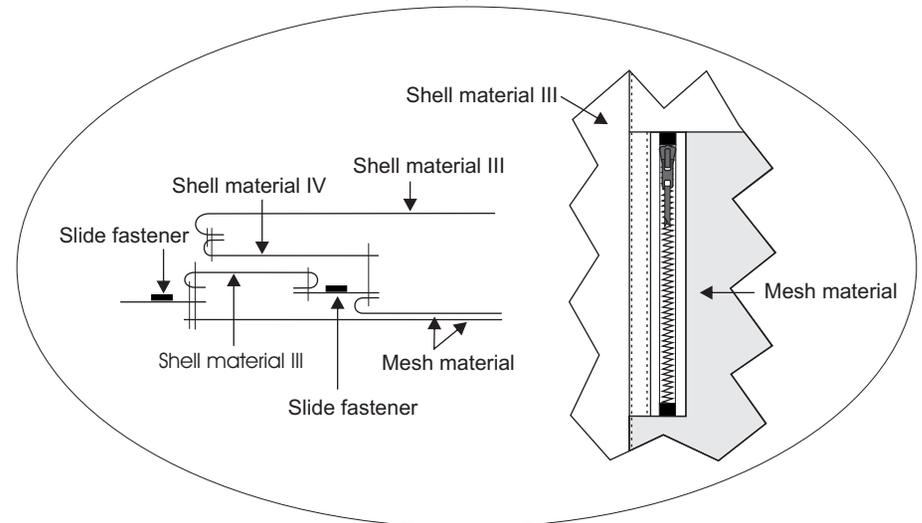


Rear View

NOT TO SCALE
 All measurements are shown in centimeters.
 ± 0.3cm tolerance acceptable unless otherwise indicated.

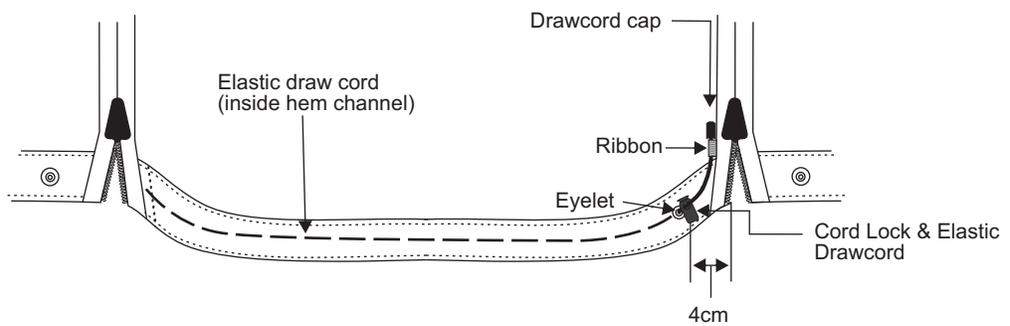
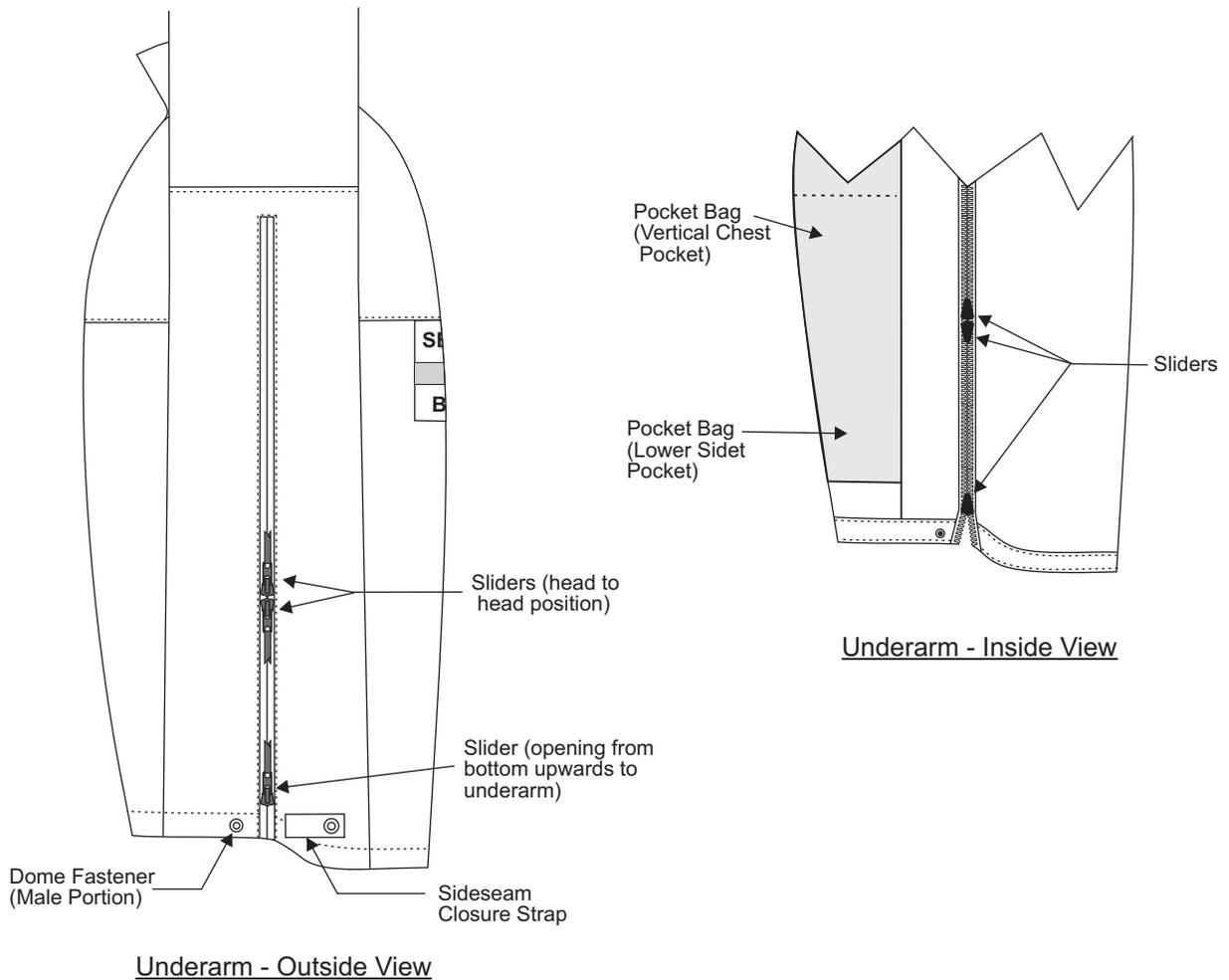


Lower Side Pocket Detail



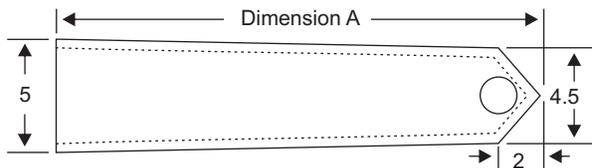
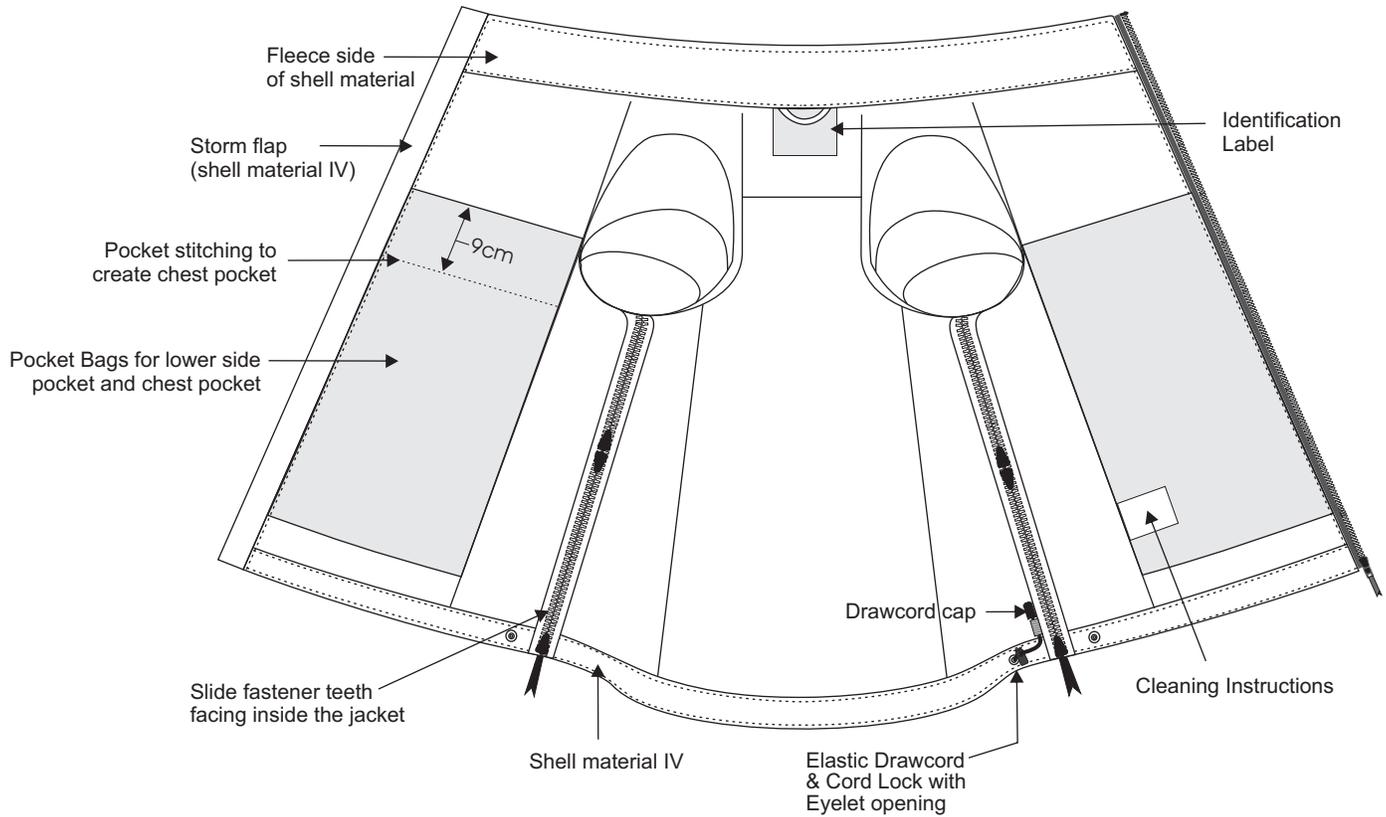
Vertical Chest Pocket Detail

NOT TO SCALE
 All measurements are shown in centimeters.
 ± 0.5cm tolerance acceptable unless otherwise indicated.



Back Hem Channel - Inside View

NOT TO SCALE
 All measurements are shown in centimeters.
 ± 0.5cm tolerance acceptable unless otherwise indicated.

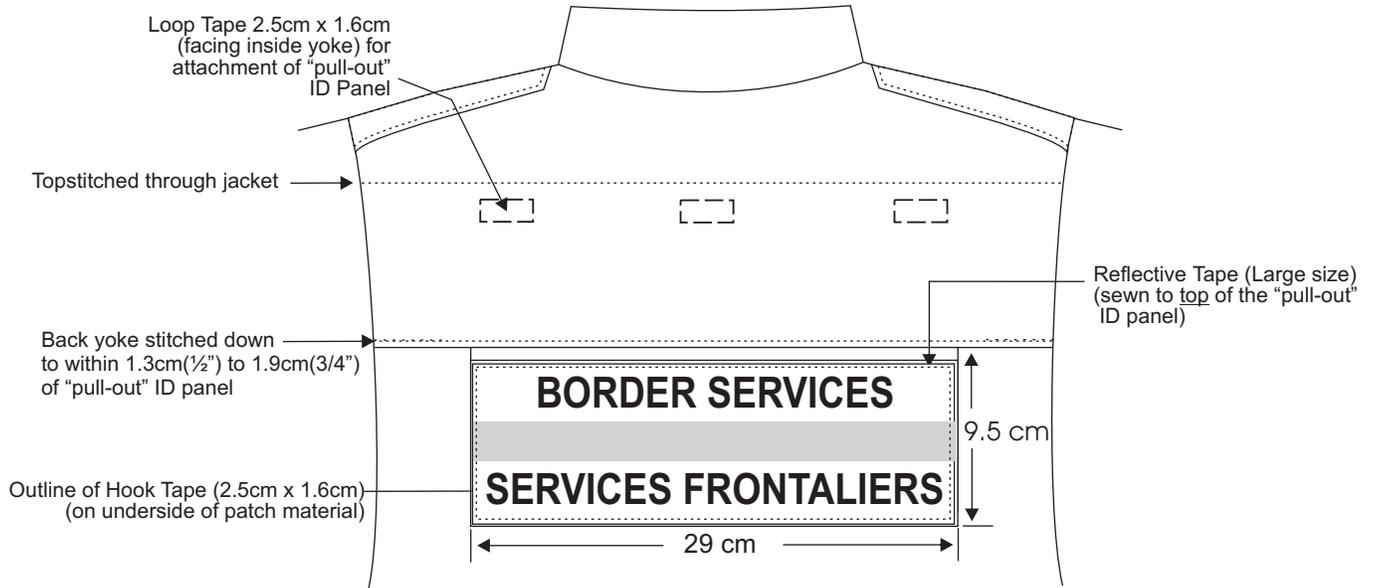


Shoulder Strap Detail

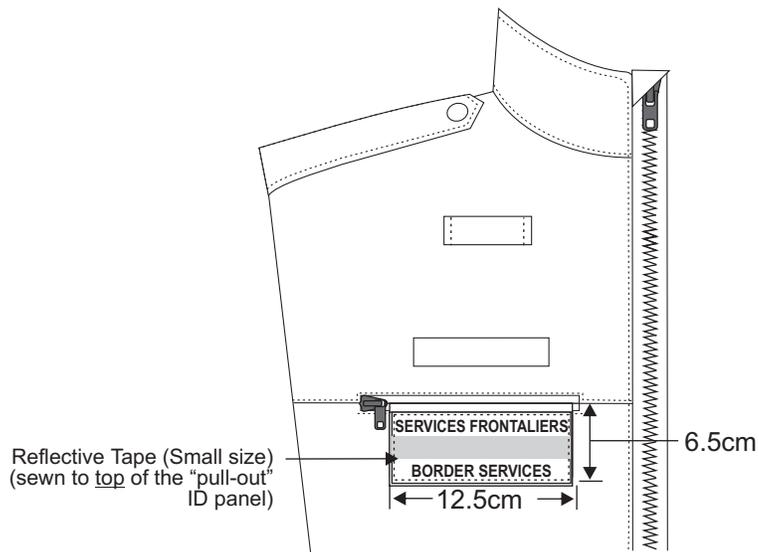
Jacket Size (All Heights)	Dimension A
X-Small	13.5
Small	14.5
Medium	15.5
Large	16.5
X-Large	17.5
2X-Large	18.5
3X-Large	19.5
4X-Large	20.5
5X-Large	21.5

Shoulder Strap Length
 (Finished)

NOT TO SCALE
 All measurements are shown in centimeters.
 ± 0.5cm tolerance acceptable unless otherwise indicated.



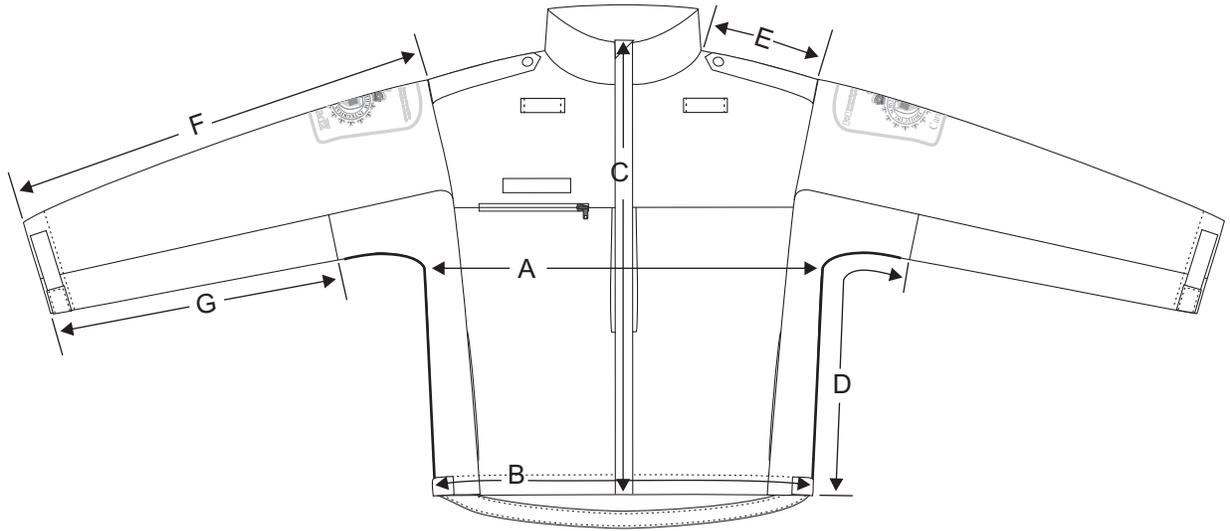
Back "Pull-out" ID Panel Detail



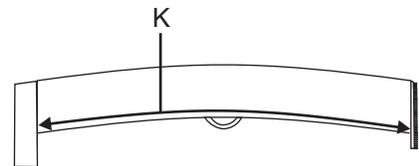
Chest Pocket Detail
 showing "pull-out" ID Panel

NOT TO SCALE
 All measurements are shown in centimeters.
 ± 0.5cm tolerance acceptable unless otherwise indicated.

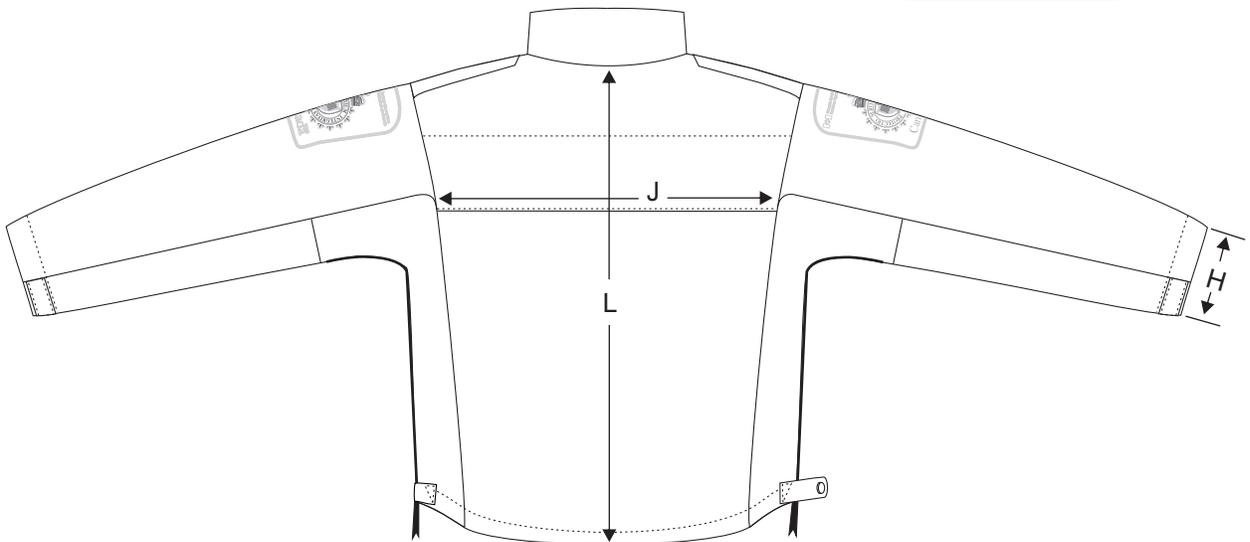
APPENDIX A
Jacket, Softshell, Unisex
CBSA/ASFC-2014-07-133
MEASUREMENT LOCATON
Dwg 6



Front View



Inside Collar View



Rear View

NOT TO SCALE