



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des
soumissions - TPSGC**
11 Laurier St./ 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

**REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Clothing and Textiles Division / Division des vêtements et des textiles
11 Laurier St./ 11, rue Laurier
6A2, Place du Portage
Gatineau, Québec K1A 0S5

Title - Sujet Tactical Helicopter Shirts+Trousers	
Solicitation No. - N° de l'invitation W8486-184672/A	Date 2018-03-16
Client Reference No. - N° de référence du client W8486-184672	
GETS Reference No. - N° de référence de SEAG PW-\$\$PR-760-74625	
File No. - N° de dossier pr760.W8486-184672	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-05-03	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Richard, Josette	Buyer Id - Id de l'acheteur pr760
Telephone No. - N° de téléphone (613) 462-4128 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE 25 CFSD MONTREAL 6363 RUE NOTRE DAME ST E. MONTREAL Quebec H1N3V9 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

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PART 1 - GENERAL INFORMATION

1.1 Security Requirement

There is no security requirement associated with this bid solicitation.

1.2 Requirement

The requirement is detailed under Annex A and Appendix 1 to Annex A of the resulting contract clauses.

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.4 Trade Agreements

The requirement is subject to the provisions of the the Canadian Free Trade Agreement (CFTA).

1.5 Phased Bid Compliance Process

The Phased Bid Compliance Process applies to this requirement.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2017/04/27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 120 days

2.1.1 SACC Manual clauses

[A9130T](#) 2014/11/27 Controlled Goods Program - Bid

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.4 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.5 Technical Data and/or Sample(s)

Technical data and sample(s) may be viewed (by appointment only) at the following offices:

Public Works & Government Services Canada

Supply Directorate
6th floor
1550 ave D'Estimauville
Quebec, Que. G1J 0C7
TEL: 418-649-2714
FAX: 418-648-2209
Attention: Micheline Naud
(micheline.naud@tpsgc-pwgsc.gc.ca)

Public Works & Government Services Canada

Suite 480, 33 City Centre Drive
Mississauga, Ont. L5B 2N5
TEL: 905-615-2070
FAX: 905-615-2023
Attention: Rosy Gupta
(rosy.gupta@tpsgc-pwgsc.gc.ca)

Public Works & Government Services Canada

Place Bonaventure, South-East Portal
800 de La Gauchetière Street West
7th Floor
Montreal, Quebec H5A 1L6
TEL: 514-496-3404
FAX: 514-496-3822
Attention: Debbie Brault
(Debbie.brault@tpsgc-pwgsc.gc.ca)
Or Umberto Fanelli (umberto.fanelli@tpsgc-pwgsc.gc.ca)

Public Works & Government Services Canada

Suite 100, 167 Lombard Avenue
P.O. Box 1408
Winnipeg, Manitoba R3C 2Z1
TEL: 204-983-3774
FAX: 204-983-7796
Attention: Bev Laurin (bev.laurin@tpsgc-pwgsc.gc.ca)

**Public Works & Government Services
Canada**

Telus Plaza North
10025 Jasper Avenue, 5th Floor
Edmonton, AB T5J 1S6
TEL: (780) 497-3517
FAX: (780) 497-3510
Attention: Nicole Boucher (wst-pa-
edm@tpsgc-pwgsc.gc.ca)

**Public Works & Government Services
Canada**

Pacific Region, SOSB, Industrial &
Commercial Products
219 - 800 Burrard Street
Vancouver, B.C V6Z 0B9
TEL. : 604-666-1785 (Min Jee) **OU**
TEL. : 604-658-2799 (Betty Chan)
FAX : 604-775-7526
Attention: Min Jee (min.jee@tpsgc-
pwgsc.gc.ca)
OR Betty Chan (betty.chan@tpsgc-
pwgsc.gc.ca)

2.6 Technical Data

In order to receive Technical Data Packages against this solicitation, Bidders must send their request by email to name of josette.richard@tpsgc-pwgsc.gc.ca and provide the following details:

- Company Name
- Complete mailing & physical address (p.o. box numbers not acceptable)
- Area code and telephone number
- Contact name
- E-mail address
- Solicitation Number & Closing Date
- **Controlled Goods Program*** (CGP) registration number or written proof of exemption or exclusion of the Bidder and of any other person to whom the Bidder will give access to the controlled goods.

It is imperative that the request be done as soon as possible to ensure timely receipt.
Notwithstanding Canada must not be held responsible for untimely release of the technical data.

**Please note that the Technical Data Package includes controlled goods information or technology, therefore, the Bidder must be registered, exempt or excluded under the Controlled Goods Program (CGP) before receiving the information requested.*

2.7 Sealed Patterns - Return to Sender

The sealed patterns which may have been sent to you, are to be returned to the sender, if you are the unsuccessful Bidder. The sealed patterns are not to be mutilated or cut, and must be returned in the same condition as sent to the Bidder.

2.8 Specifications and Standards

2.8.1 United States Military Specifications and Standards

The Bidder is responsible for obtaining copies of all United States (US) military specifications and standards which may be applicable to the requirement. These specifications and standards are available commercially, or may be obtained by visiting the US Department of Defense Website, at the following address: http://assistdocs.com/search/search_basic.cfm

2.8.2 Canadian General Standards Board (CGSB) - Standards

A copy of the CGSB Standards referred to in the bid solicitation is available and may be purchased from:

Canadian General Standards Board
Place du Portage III, 6B1
11 Laurier Street
Gatineau, Québec
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)
Fax: (819) 956-5740
E-mail: ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca
CGSB Website: <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html>

2.9 Transportation Costs Information

The Bidder is requested to provide the following information concerning transportation costs for the delivery of the units to destination:

- (a) shipping weight by unit; _____
- (b) number of items by unit; _____
- (c) cubic measurement by unit; _____
- (d) number of units per shipment: _____
- (e) name of shipping point; _____
- (f) recommended method of shipment and carrier _____
- (g) Unit cost per Destination WB941: \$ _____ W248A: \$ _____
- (h) Total cost \$ _____

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

- Section I: Technical Bid (2 hard copies)
- Section II: Financial Bid (1 hard copy)
- Section III: Certifications (1 hard copy)
- Section IV: Additional Information (1 hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation;

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.
- 3) Green Initiatives (for PWGSC information only)
Bidders are requested to provide details of their policies and practices in relation to the following initiatives:
 - environmentally responsible manufacturing;
 - environmentally responsible waste disposal;
 - waste reduction;
 - packaging;
 - re-use strategies;
 - recycling.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work (reference Part 4, Evaluation Procedures, 4.1.1.1 Mandatory Technical Criteria).

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment.

3.1.1 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Appendix 1 to Part 3 - Electronic Payment Instruments, to identify which ones are accepted.

If Appendix 1 to Part 3 - Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 Exchange Rate Fluctuation

[C3011T](#) 2013/11/06 Exchange Rate Fluctuation

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

Section IV: Additional Information

3.1.3. Origin of Work

For each line item, bidders must identify the name(s) of the country or countries where the apparel goods are cut (or knit to shape) and sewn, regardless of whether the work is to be performed by the Bidder or one of its subcontractor(s).

The following information must be provided for each location where any of the goods are cut (or knit to shape) or sewn:

Line Item number _____

Country: _____

(Bidders must add additional lines if there is more than one manufacturer or one country per line item.)

Bidders must immediately inform Canada in writing of any and all changes affecting the information provided under this clause during the entire bid validity period.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) Canada will use the Phased Bid Compliance Process (PBCP) described below.

4.1.1 Phased Bid Compliance Process (PBCP)

4.1.1.1 General

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, bidders are and will remain solely responsible for the accuracy, consistency and completeness of their bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

The Bidder acknowledges that the reviews in Phase I and II of this PBCP are preliminary and do not preclude a finding in Phase III that the bid is non-responsive, even for mandatory requirements which were subject to review in Phase I or II and notwithstanding that the bid had been found responsive

In such earlier phase. Canada may deem a bid to be non-responsive to a mandatory requirement at any phase.

The Bidder also acknowledges that its response to a notice or a Compliance Assessment Report (CAR) (each defined below) in Phase I or II may not be successful in rendering its bid responsive to the mandatory requirements that are the subject of the notice or CAR, and may render its bid non-responsive to other mandatory requirements.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.

- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).
- (e) Canada will send any Notice or Compliance Assessment Report (CAR) by any method Canada chooses, in its absolute discretion. The Bidder must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.1.1.2 Phase I: Financial Bid

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.

- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.
- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

4.1.1.3 Phase II: Technical Bid

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such

compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional

changes, provided that its response must not include any change to the Financial Bid.

- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.
- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid. but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid.
- (h) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid. but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid.
- (i) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.

- (j) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.1.1.4 Phase III: Final Evaluation of the Bid

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

4.1.2 Technical Evaluation

4.1.2.1 Mandatory Technical Criteria

The Phased Bid Compliance Process (PBCP) will apply only to the evaluation of the Certificates of Compliance (CofC), the submission of the Test Reports and the submission of the Pre-Award Samples (PAS). The evaluation of the test reports and the PAS will not be subject to the Phased Bid Compliance Process. Therefore, rejection of the pre-award samples or test reports will automatically result in the bid being declared non-responsive.

Bid Samples (i.e. Pre-Award Samples) and Supporting Documentation

As part of the technical evaluation, to confirm a Bidder's capability of meeting the technical requirements, pre-award samples and its supporting documentation must be included with the bid as outlined in *Annex F - Bid Technical Evaluation Plan for the Shirt and Trousers Tactical Helicopter Crew Flame Resistant (FR) CADPAT™*.

The Bidder must ensure that the required pre-award samples are manufactured in accordance with the technical requirement and are fully representative of the bid submitted. Rejection of the pre-award samples will result in the bid being declared non-responsive.

The Bidder must deliver the required pre-award samples, test results and certificates of compliance at no charge to Canada and must ensure that they are received with the bid at time and place of bid closing. Failure to submit the required pre-award samples, test results and certificates of compliance within the specified time frame will result in the bid being declared non-responsive. The samples submitted by the Bidder will remain the property of Canada.

The pre-award samples will be evaluated for quality of workmanship and conformance to specified materials and measurements.

The requirement for a pre-award samples, test results and certificates of compliance will not relieve the successful bidder from submitting samples, test results and certificates of compliance as required by the contract terms or from strictly adhering to the technical requirement of this Request for Proposal and any resultant contract.

MATERIAL SUBSTITUTIONS: Refer to Annex F, para. 2.6

TEST REPORTS – DEFINITION

- i. All testing and test methods must be in accordance with the reference criteria. Test results must be applicable to the specific samples submitted.

- ii. An accredited independent laboratory familiar with textile related testing must conduct all testing unless otherwise stated. Testing carried out by university textile testing laboratories will also be acceptable. Additional information about accredited laboratories is available on the Standards Council of Canada website (<http://www.scc.ca/en/accreditation/laboratories>). Should a non-accredited laboratory be required for specific tests, approval must be sought and received in writing from the Contracting Authority in advance.
- iii. All Test Reports must clearly include:
 - a. Test results must be on official test laboratory stationary;
 - b. Test results must be dated maximum six (6) months before the Request for Proposal posting date.
 - c. Test results must specify a descriptive nomenclature for each type of test specimen including (where applicable) the production date, lot number, and a unique identifier for each test specimen;
 - d. Test results must make reference to the applicable test methods or specifications;
 - e. Test results must specify testing conditions/procedures followed;
 - f. The document must include:
 - (1) The name and contact information of the supplier of each test sample;
 - (2) The name, contact information and signature for the primary person(s) that performed the test(s) and prepared the report;
 - (3) The name, contact information, and signature of the company's designated representative; and
 - (4) If they differ from those of the reporter's designated representative, the name and contact information of the entity that issued the report.
 - (5) The date the first measurement was obtained for the reported test(s).

Canada reserves the right to verify the statements made on the test report. Canada reserves the right to carry out testing of any specified property in order to confirm the compliance of the end item or material components with the applicable specification(s).

CERTIFICATE OF COMPLIANCE-DEFINITION

A Certificate of Compliance (C of C) is a written statement from the supplier guaranteeing the full compliance of the product to the specification, or portion thereof, referenced.

Each Certificate of Compliance must clearly include the following:

- a. The document must be on official company stationary;
- b. The document must be dated within a maximum six (6) months before the Request for Proposal posting date.
- c. The document must include a statement to the effect that the referenced product complies with the referenced criteria. The criteria that the product are certified to comply with must be included;
- d. The document must include a descriptive nomenclature of each type of product being certified. When certifying product lots, the descriptive nomenclature must also include the supplier name and lot number;
- e. Any terms or conditions of the products' compliance must be included in the document;
- f. All reported test measurements must have been performed no more than one (1) year before the Request for Proposal posting date;

- g. The document must include the name and contact information of the company's designated representative; and
- h. A complete Test Report will be accepted in lieu of a C of C, if the test results demonstrate compliance with the applicable criteria.

Canada reserves the right to verify the statements made in the C of C. Canada reserves the right to carry out testing of any specified property in order to confirm the compliance of the end item or material components with the applicable specification(s).

4.1.3 Financial Evaluation

4.1.3.1 Mandatory Financial Criteria

- a. The Bidder must submit firm unit price(s) in Canadian dollars, applicable taxes are excluded, DDP (Montreal, QC) Incoterms 2000, transportation costs included, all applicable Customs Duties and Excise taxes included.
- b. The Bidder must submit firm unit pricing for all items and all destinations including options and "as and when requested" quantities. The Bidder is requested to quote firm unit pricing at no more than two decimal points.

4.1.2.2 SACC MANUAL CLAUSE

[A9033T](#) 2012/07/16 Financial Capability

4.2 Basis of Selection

A bid must comply with all requirements of the bid solicitation and meet all mandatory technical and financial evaluation criteria to be declared responsive.

The responsive bid with the lowest evaluated aggregate price will be recommended for award of a contract (1 contract only). Evaluation will be established using the firm quantities for all items, including all destinations and 100% of the option quantities and 100% of the "as and when requested" quantities.

4.3 Contract Financial Security

1. If this bid is accepted, the Bidder may be required to provide contract financial security, after the bid closing date and within 10 calendar days from receipt of a written request from the Contracting Authority.
 - i. a security deposit as defined in clause "Security Deposit Definition" in the amount of up to ten percent (10%) of the contract price.
2. Security deposits in the form of government guaranteed bonds with coupons attached will be accepted only if all coupons that are unmatured, at the time the security deposit is provided, are attached to the bonds. The Contractor must provide written instructions concerning the action to be taken with respect to coupons that will mature while the bonds are pledged as security, when such coupons are in excess of the security deposit requirement.
3. If Canada does not receive the required financial security within the specified period, Canada may, as its discretion, accept another offer, issue a new bid solicitation, award a contract or reject all the bids.

4.4 Security Deposit Definition

1. "security deposit" means
 - (a) a bill of exchange that is payable to the Receiver General for Canada, and certified by an approved financial institution or drawn by an approved financial institution on itself; or
 - (b) a Government guaranteed bond; or
 - (c) an irrevocable standby letter of credit, or
 - (d) such other security as may be considered appropriate by the Contracting Authority and approved by Treasury Board;
2. "approved financial institution" means
 - (a) any corporation or institution that is a member of the Canadian Payments Association;
 - (b) a corporation that accepts deposits that are insured by the Canada Deposit Insurance Corporation or the "Régie de l'assurance-dépôts du Québec" to the maximum permitted by law;
 - (c) a credit union as defined in paragraph 137(6) the *Income Tax Act*;
 - (d) a corporation that accepts deposits from the public, if repayment of the deposits is guaranteed by Canadian province or territory; or
 - (e) the Canada Post Corporation.
3. "government guaranteed bond" means a bond of the Government of Canada or a bond unconditionally guaranteed as to principal and interest by the Government of Canada that is:
 - (a) payable to bearer;
 - (b) accompanied by a duly executed instrument of transfer of the bond to the Receiver General for Canada in accordance with the *Domestic Bonds of Canada Regulations*;
 - (c) registered in the name of the Receiver General for Canada.
4. "irrevocable standby letter of credit"
 - (a) means any arrangement, however named or described, whereby a financial institution (the "Issuer"), acting at the request and on the instructions of a customer (the "Applicant"), or on its behalf,
 - (i) will make a payment to or to the order of Canada, as the beneficiary;
 - (ii) will accept and pay bills of exchange drawn by Canada;
 - (iii) authorizes another financial institution to effect such payment, or accept and pay such bills of exchange; or
 - (iv) authorizes another financial institution to negotiate, against written demand(s) for payment, provided that the conditions of the letter of credit are complied with.
 - (b) must state the face amount which may be drawn against it;
 - (c) must state its expiry date;
 - (d) must provide for sight payment to the Receiver General for Canada by way of the financial institution's draft against presentation of a written demand for payment signed by the authorized departmental representative identified in the letter of credit by his/her office;
 - (e) must provide that more than one written demand for payment may be presented subject to the sum of those demands not exceeding the face amount of the letter of credit;
 - (f) must provide that it is subject to the International Chamber of Commerce (ICC) Uniform Customs and Practice (UCP) for Documentary Credits, 2007 Revision, ICC Publication No. 600. Pursuant to the ICC UCP, a credit is irrevocable even if there is no indication to that effect; and
 - (g) must be issued (Issuer) or confirmed (Confirmer), in either official language, by a financial institution that is a member of the Canadian Payments Association and is on the

letterhead of the Issuer or Confirmer. The format is left to the discretion of the Issuer or Confirmer.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the Forms for the Integrity Regime website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex titled Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

5.2.3 Samples and Production Certification

The Bidder certifies that:

() the manufacturer that produced the pre-award sample(s) will remain unchanged for the pre-production sample(s) and full production of the contract quantity.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

There is no security requirement applicable to the Contract.

6.2 Requirement

The Contractor must provide the items detailed according to Annex A and Appendix 1 of Annex A.

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual* (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2030](#) (2016/04/04), General Conditions - Goods (Higher Complexity), apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery - Firm Quantity - Phased

(a) **Tactical Helicopter Crew Shirt** (*identified as item 01 and 02 in Appendix 1 to Annex A*)

The first delivery must be made within _____ calendar days from the date of the written notice of approval of pre-production samples. The quantity delivered must be _____ units. The balance must be delivered at the rate of _____ units weekly after the first delivery until completion of the Contract.

(b) **Tactical Helicopter Crew Trousers** (*identified as item 03 and 04 in Appendix 1 to Annex A*)

The first delivery must be made within _____ calendar days from the date of the written notice of approval of pre-production samples. The quantity delivered must be _____ units. The balance must be delivered at the rate of _____ units weekly after the first delivery until completion of the Contract.

6.4.2 Delivery - Option Quantity

The Contractor will notify DND of when an option will have to be exercised in order to have sufficient lead time to source fabric and ensure continuous production.

(a) **Tactical Helicopter Crew Shirt** (*identified as item 07 and 08 in Appendix 1 to Annex A*)

The delivery of the option quantity must commence within _____ calendar days from receipt of the contract amendment and after final delivery of the contract quantity. The quantity delivered must be _____ units. The balance must be shipped at a rate of _____ units weekly after the first delivery until completion of the option quantity.

(b) Tactical Helicopter Crew Trousers (identified as items 09 and 10 in Appendix 1 to Annex A)

The delivery of the option quantity must commence within _____ calendar days from receipt of the contract amendment and after final delivery of the contract quantity. The quantity delivered must be _____ units. The balance must be shipped at a rate of _____ units weekly after the first delivery until completion of the option quantity.

6.4.3 Delivery - Appointments

The Contractor must make deliveries to Canadian Forces (CF) Supply Depots by appointment only. The Contractor or its carrier must arrange delivery appointments by contacting the Depot Traffic Section at the appropriate location shown below. The consignee may refuse shipments when prior arrangements have not been made.

- (a) 25 CF Supply Depot Montreal
Montreal, Qué.
514-252-2777, ext. 2363
25dfactrafficrdv@forces.gc.ca
- (b) 7 CF Supply Depot Lancaster Park
Edmonton, Alta
780-973-4011, ext. 4524

6.4.4 Preparation for Delivery

The Contractor must prepare all items for delivery in accordance with the latest issue of the Canadian Forces Packaging Specification D-LM-008-036/SF-000, DND Minimum Requirements for Manufacturer's Standard Pack.

The Contractor must package item number as identified in size roll quantities of 1 per package to a maximum of 50 per box.

6.4.5 Shipping Instructions - Delivery at Destination

1. Goods must be consigned to the destination specified in the Contract and delivered:

- (a) Delivered Duty Paid (DDP) (Montreal, QC; Edmonton, AB) Incoterms 2000 for shipments from commercial contractor.

6.4.6 Packaging - Commercial

The Contractor must prepare all items for delivery as per the Statement of Work, Annex A, s.2.3.4 entitled "Packaging".

6.4.7 SACC Manual Clauses

<u>D2025C</u>	2017/08/17	Wood Packaging Materials
<u>D5510C</u>	2017/08/17	Quality Assurance Authority (DND) - Canadian-based Contractor
<u>D5515C</u>	2010/01/11	Quality Assurance Authority (DND) - Foreign-based and United States Contractor
<u>D5540C</u>	2010/08/16	ISO 9001:2008 - Quality Management Systems - Requirements (QAC Q)
<u>D5604C</u>	2008/12/12	Release Documents (DND) - Foreign-based Contractor
<u>D5606C</u>	2017/11/28	Release Documents (DND) - Canadian-based Contractor
<u>B4060C</u>	2011/05/16	Controlled Goods
<u>A9131C</u>	2014/11/27	Controlled Goods Program – Contract

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Josette Richard

Public Works and Government Services Canada
Acquisitions Branch
Commercial and Consumer Products Directorate (CCPD)
Clothing & Textiles Division
Place du Portage, Phase III, 6A2
11 Laurier Street
Gatineau, Quebec K1A 0S5
Telephone : 613-462-4128 Facsimile: 819-956-5454
E-mail address: josette.richard@tpsgc-pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Technical Authority

The Technical Authority for this Contract is:

Mailing/Shipping Address

Department of National Defence
101 Colonel By Drive
Ottawa, Ontario
K1A 0K2
Attn: DSSPM _____(to be advised at contract)

The Technical Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Procurement Authority

The Procurement Authority for the Contract is: (to be advised at contract)

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.4 Quality Assurance Authority

The Quality Assurance Authority for the Contract is:

Mailing/Shipping Address

Department of National Defence
101 Colonel By Drive
Ottawa, Ontario
K1A 0K2
Attn: DQA (to be advised at contract)

The Quality Assurance Authority is a representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning quality assurance under the Contract. The Contractor may discuss quality assurance matters identified in the Contract with the Quality Assurance Authority however the Quality Assurance Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.5 Contractor's Representative

The person responsible for :

General enquiries

Name: _____
Telephone No.: _____
Facsimile No.: _____
E-mail address: _____

Delivery follow-up

Name: _____
Telephone No.: _____
Facsimile No.: _____
E-mail address: _____

6.6 Payment

6.6.1 Basis of Payment – Firm Unit Prices

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices, as specified in Appendix 1 to Annex A for a cost of \$ (amount to be inserted at contract award). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.2 SACC Manual Clauses

[H1001C](#) 2008/05/12 Multiple Payments

6.6.3 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):
(to be advised at contract)

6.7 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.
2. Invoices must be distributed as follows:
 - a. One (1) copy must be forwarded to the following address :

National Defence Headquarters
MGen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A 0K2
Attn: DLP _____
Email: _____ (to be inserted at contract award)
 - b. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.
 - c. The original and one (1) copy must be forwarded to the consignee for certification and payment.

6.7.1 Release Documents - Distribution

The Contractor must prepare the release documents in a current electronic format and distribute them as follows:

- (a) One (1) copy mailed to consignee marked: "Attention: Receipts Officer";
- (b) Two (2) copies with shipment (in a waterproof envelope) to the consignee;
- (c) One (1) copy to the Contracting Authority;
- (d) One (1) copy to:

National Defence Headquarters
Mgen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A 0K2
Attention: _____
Email: _____ (to be inserted at contract award)

- (e) One (1) copy to the Quality Assurance Representative;
- (f) One (1) copy to the Contractor; and
- (g) For all non-Canadian contractors, one (1) copy to:

DQA/Contract Administration
National Defence Headquarters
Mgen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A 0K2
E-mail: ContractAdmin.DQA@forces.gc.ca

6.8 Certifications and Additional Information

6.8.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "[FCP Limited Eligibility to Bid](#)" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- a) the Articles of Agreement;
- b) the general conditions [2030](#) (2016/04/04), General Conditions - Goods (Higher Complexity);
- c) Annex "A" - Statement of Work and Appendix 1 to Annex A – Requirement and Basis of Payment;
- d) Specifications, i.e. Annex B, C, D, E, F, G and H;
- e) Drawings;
- f) Sealed Patterns/Samples;
- g) the Contractor's bid dated _____ .

6.11 Defence Contract

SACC Manual clause [A9006C](#) (2012/07/16) Defence Contract

6.12 SACC Manual Clauses

C2801C	2017/08/17	Priority Rating - Canadian-based Contractors
C2800C	2013-01-28	Priority Rating

6.13 Materials: Contrator Total Supply

The Contractor will be responsible for obtaining all materials required in the manufacture of the items specified. The delivery stated for the items allows the necessary time to obtain such materials.

6.14 Procedures for Design Change/Deviations

The Contractor must follow these procedures for any proposed design change/deviation to contract specifications.

The Contractor must complete Part 1 to 12B the Design Change/Deviation form DND 675 and forward one (1) copy to the Technical Authority and one (1) copy to the Contracting Authority.

The Contractor will be authorized to proceed upon receipt of the design change/deviation form signed by the Contracting Authority. A contract amendment will be issued to incorporate the design change/deviation in the Contract.

6.15 Plant Closing

The Contractor's plant closing for Christmas and Summer holidays are as follows. During this time there will be no shipments.

Fiscal Year 2018-2019

Summer Holiday FROM _____ TO _____
Christmas Holiday FROM _____ TO _____

Fiscal Year 2019-2020

Summer Holiday FROM _____ TO _____
Christmas Holiday FROM _____ TO _____

Fiscal Year 2020-2021

Summer Holiday FROM _____ TO _____
Christmas Holiday FROM _____ TO _____

6.16 Plant Location

Items will be manufactured at: _____

6.17 Subcontractor(s)

The following subcontractor(s) will be utilized in the performance of the contract.

Name of Company: _____

Location: _____

Value of subcontract: \$ _____

Nature of subcontracting work performed: _____

Subcontractors, other than those listed above, may not be utilized without the written permission of Canada.

6.18 Origin of Work - Disclosure of Information

1. For each line item, the Contractor must specify the name(s) of all countries where the apparel goods are cut (or knit to shape) or sewn, regardless of whether the work is to be performed by the Contractor or one of its subcontractor(s).
2. The Contractor agrees that Canada may publicly disclose the information provided with respect the countries of origin.

3. The Contractor must immediately inform Canada in writing of any and all changes affecting the information provided under this clause during the entire contract period.

6.19 Overshipment

Overshipment will not be accepted unless prior approval is obtained from the Contracting Authority.

6.20 Ownership of Product - CADPAT

All products and materials provided to perform the work and any modifications made by the Contractor are the property of Canada.

Patterns and technical data are patented and copyrighted to Her Majesty the Queen of Canada.

The printed textile and any garments made are for the sole end use of the Department of National Defence. The contractor acknowledges that it must not manufacture, sell or offer for sale goods incorporating the CADPAT pattern and colours to any person or entity other than Canada without the Minister's prior written authorization.

It is an explicit condition of this agreement that any second quality garments or goods produced pursuant to the contract will not be released, sold or offered to be sold, directly or indirectly to any person or corporation other than Canada without the Minister's prior written authorization.

6.21 Post Contract Award Meeting

The Design Authority or his delegated representatives at National Defence Headquarters and the applicable DND Quality Assurance Representative (DNDQAR) must be afforded access to the Contractor's plant and all other premises where pertinent processes are being performed, on the same basis as afforded the representative of National Defence Headquarters, DGQA.

A post contract award meeting may be convened within twenty (20) calendar days after award of contract. Participants may include representatives of the Contractor, DND Design Authority, DNDQAR, DND project Authority, Contracting Authority and the DND Administrative Authority. Other meetings may be convened as required.

The Contractor is responsible for the recording and distribution of the minutes for all contract related meeting. The minutes must be sent to the Contracting Authority for acceptance prior to the distribution to all participants or as otherwise directed in the contract within ten (10) calendar days of the subject meeting. The minutes must be used only as a record of proceedings.

6.22 Pre-Production Samples

1. The Contractor must provide pre-production samples as per Annex G, Table II, accompanied by the sealed samples/patterns if applicable, to the Technical Authority for acceptance within **45** calendar days from date of contract award.
2. If the pre-production samples are rejected, the Contractor must submit a second pre-production sample within 21 calendar days of notification of rejection from the Technical Authority.
3. If the pre-production samples are accepted by either full acceptance or conditional acceptance, the Contractor must proceed with production as per the Contract requirements.

4. Rejection by the Technical Authority of the second pre-production samples submitted by the Contractor for failing to meet the contract requirements will be grounds for termination of the Contract for default.
5. The Contractor must carry out all required inspection and tests to verify conformance to the technical requirements of the Contract.
6. In addition to providing the pre-production samples, the Contractor must provide laboratory test report(s) and Certificate(s) of compliance as per Annex G, Table I, as applicable, to the Contracting Authority and Technical Authority, transportation charges prepaid, and without charge to Canada.
7. The pre-production samples submitted by the Contractor will remain the property of Canada.
8. The Technical Authority will notify the Contractor, in writing, of the full acceptance, conditional acceptance, or rejection of the pre-production samples. A copy of this notification will also be provided by the Technical Authority to the Contracting Authority. The notice of the full acceptance or conditional acceptance does not relieve the Contractor from complying with all requirements and conditions of the Contract.
9. The Contractor must not commence or continue with production of the items and must not make any deliveries until the Contractor has received a written notification from the Technical Authority that the pre-production samples are fully acceptable or conditionally acceptable. Any production of items before pre-production sample acceptance will be at the sole risk of the Contractor.
10. The pre-production samples may not be required if the Contractor is currently in production. The request for waiver of pre-production samples must be made by the Contractor in writing to the Contracting Authority. The waiving of this requirement will be at the sole discretion of the Technical Authority and will be evidenced through a contract amendment.

CERTIFICATE OF COMPLIANCE-DEFINITION

Refer to Annex A – Statement of Work, para. 2.5

TEST REPORTS – DEFINITION

Refer to Annex A – Statement of Work, para. 2.6

6.23 Sealed Samples/Sealed Patterns - Return to Sender

The sealed samples and sealed patterns which may have been sent to the Contractor, is/are to be returned to the sender upon completion of Contract.

The sealed samples and sealed patterns are not to be mutilated or cut, and must be returned in the same condition as sent to the Contractor.

6.24 Specifications and Standards

6.24.1 United States Military Specifications and Standards

The Contractor is responsible for obtaining copies of all United States (US) military specifications and standards which may be applicable to the requirement. These specifications and standards are available commercially, or may be obtained by visiting the US Department of Defense Website, at the following address: http://assistdocs.com/search/search_basic.cfm

6.24.2 Canadian General Standards Board (CGSB) - Standards

A copy of the CGSB Standards referred to in the Contract is available and may be purchased from:

Canadian General Standards Board
Place du Portage III, 6B1
11 Laurier Street
Gatineau, Québec
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)
Fax: (819) 956-5740
E-mail: ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca
CGSB Website: <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html>

6.25 Financial Security

1. Canada may convert the security deposit to the use of Canada if any circumstance exists which would entitle Canada to terminate the Contract for default, but any such conversion will not constitute termination of the Contract.
2. Where Canada so converts the security deposit:
 - (a) the proceeds will be used by Canada to complete the Work according to the conditions of the Contract, to the nearest extent that it is feasible to do so and any balance left will be returned to the Contractor on completion of the warranty period; and
 - (b) if Canada enters into a Contract to have the Work completed, the Contractor will:
 - (i) be considered to have irrevocably abandoned the Work; and
 - (ii) remain liable for the excess cost of completing the Work if the amount of the security deposit is not sufficient for such purpose. "Excess cost" means any amount over and above the amount of the Contract Price remaining unpaid together with the amount of the security deposit.
3. If Canada does not convert the security deposit to the use of Canada before completion of the contract period, Canada will return the security deposit to the Contractor within a reasonable time after such date.
4. If Canada converts the security deposit for reasons other than bankruptcy, the financial security must be reestablished to the level of the amount stated above so that this amount is continued and available until completion of the contract period.

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Buyer ID - Id de l'acheteur

pr760

CCC No./N° CCC - FMS No./N° VME

APPENDIX "1" to PART 3 OF THE BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts any of the following Electronic Payment Instrument(s):

- () VISA Acquisition Card;
- () MasterCard Acquisition Card;
- () Direct Deposit (Domestic and International);
- () Electronic Data Interchange (EDI);
- () Wire Transfer (International Only);
- () Large Value Transfer System (LVTS) (Over \$25M)

APPENDIX "1" to PART 5 OF THE BID SOLICITATION

FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\)-Labour's](#) website.

Date: _____ (YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- ☐ A1. The Bidder certifies having no work force in Canada.
- ☐ A2. The Bidder certifies being a public sector employer.
- ☐ A3. The Bidder certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- ☐ A4. The Bidder certifies having a combined work force in Canada of less than 100 permanent full-time and/or permanent part-time employees.

A5. The Bidder has a combined workforce in Canada of 100 or more employees; and

- ☐ A5.1. The Bidder certifies already having a valid and current [Agreement to Implement Employment Equity](#) (AIEE) in place with ESDC-Labour.

OR

- ☐ A5.2. The Bidder certifies having submitted the [Agreement to Implement Employment Equity](#) (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- ☐ B1. The Bidder is not a Joint Venture.

OR

- ☐ B2. The Bidder is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document shall continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

Annex A
W8486-184672
30 September 2017

Statement of Work

Shirt and Trousers, Tactical Helicopter Crew, Flame Resistant (FR)

NSN 8415-20-007-9900 & 8415-20-007-9803

NSN 8415-20-004-0921 & 8415-20-004-0958

OPI/BPR: DSSPM / DAPES 2-6

Canada 

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RDIMS No. 4658398

**Statement of Work
Shirt and Trousers, Tactical Helicopter Crew,
Flame Resistant (FR)**

1. SCOPE

1.1. OBJECTIVE. The Department of National Defence's Directorate Soldier Systems Program Management (DSSPM) has a requirement to purchase quantities of Shirts and Trousers, Tactical Helicopter Crew Flame Resistant (FR) for replenishment of stocks held in Canadian Armed Forces (CAF) supply depots. This requirement is intended to be a interim contract to provide Tactical Helicopter Shirt and Trousers until the Operational Clothing and Footwear Consolidated Contract (OCFC2) is awarded.

1.2. BACKGROUND.

1.2.1. DSSPM is responsible to provide individual clothing, equipment and weapons for soldiers, sailors, and aviators of the CAF to enable the achievement of their mission domestically and on operations.

1.2.2. The Shirt and Trousers, Tactical Helicopter Crew Flame Resistant (FR) are intended for authorized tactical helicopter crew members of the Air Force and Land Force and authorized combat vehicle crew members of the Land Force.

1.3. TERMINOLOGY.

1.3.1. ACRONYMS. The following acronyms are used in this Statement of Work (SOW).

CA	Canadian Army
CAF	Canadian Armed Forces
CFTPO	Canadian Forces Transportation and Packaging Order
C of C	Certificate of Compliance
DA	Design Authority
DND	Department of National Defence
DNDQARDND	Quality Assurance Representative
DQA	Directorate of Quality Assurance
DSSPM	Directorate of Soldier Systems Program Management
OCFC2	Operational Clothing and Footwear Consolidated Contract
RCAF	Royal Canadian Air Force
RCN	Royal Canadian Navy
RFP	Request for Proposal
TA	Technical Authority
Tac Hel	Tactical Helicopter

2. DELIVERABLES.

2.1. To support the procurement of the Tactical Helicopter Crew Shirt and Trousers, the contractor must deliver;

2.2. **PRE-PRODUCTION.** Physical examples, other documentation and test results must be submitted as identified in Annex G (Pre-Production and Production Technical Validation Plan).

2.3. **PRODUCTION.**

2.3.1. The Contractor must deliver firm quantities of specific sizes of Hot/Wet Weather, Static Dissipative Flame Resistant Jacket and Trousers in accordance with Annex M (Size Roll).

2.3.2. The Contractor must deliver test results during production, as outlined in Annex G (Pre-Production and Production Technical Validation Plan), upon request through DND's Directorate of Quality Assurance Representative (DNDQAR) if there are changes in supplier(s) of component materials. Contact information for DQA will be as detailed in the Contract

2.3.3. Canada reserves the right to request additional testing and physical examples during production.

2.3.4. **PACKAGING.** Packaging and packing for deliverables must be in accordance with the terms of the contract and CFPTO General.

2.3.5. **MARKING.** Packing must be marked in accordance with Annexes B and C.

2.4. **FORMAT AND DATA REQUIREMENTS.** Technical documents must be delivered in accordance with the following requirements.

2.4.1. Technical / documentary deliverables must be clearly identified or labelled as the deliverable pertaining to a particular criterion.

2.4.2. Documents must be written in English or French.

2.4.3. Unless otherwise stated, documents must be delivered in hard copy and electronically in Adobe Acrobat (.pdf) format.

2.5. **CERTIFICATES OF COMPLIANCE.**

2.5.1. 2.5.2. **DEFINITION.** A Certificate of Compliance (C of C) is a written statement from the supplier guaranteeing the full compliance of the product to the specification, or portion thereof, referenced.

2.5.3. Each Certificate of Compliance must clearly include the following:

- a. The document must be on official company stationary;
- b. The document must be current;
 - i. For pre-production, it must be dated within a maximum six (6) months before or after the main contract award date; and
 - ii. For production, it must be dated within two (2) months of the date of Request for Design Change, Deviation, and Waiver Procedure documentation.
- c. The document must include a statement to the effect that the referenced product complies with the referenced criteria. The criteria that the product are certified to comply with must be included;
- d. The document must include a descriptive nomenclature of each type of product being certified. When certifying product lots, the descriptive nomenclature must also include the supplier name and lot number;

- e. Any terms or conditions of the products' compliance must be included in the document;
- f. All reported test measurements must have been performed no more than one (1) year before the Contract issue date;
- g. The document must include the name and contact information of the company's designated representative; and
- h. A complete Test Report will be accepted in lieu of a Certificate of Compliance (C of C), if the test results demonstrate compliance with the applicable criteria.

2.5.4. Canada reserves the right to verify the statements made in the C of C. Canada reserves the right to carry out testing of any specified property in order to confirm the compliance of the end item or material components with the applicable specification(s).

2.6. TEST REPORTS.

2.6.1. All testing and test methods must be in accordance with the reference criteria. Test results must be applicable to the specific samples submitted.

2.6.2. An accredited independent laboratory familiar with textile related testing must conduct all testing unless otherwise stated. Testing carried out by university textile testing laboratories will also be acceptable. Additional information about accredited laboratories is available on the Standards Council of Canada website (<http://www.scc.ca/en/accreditation/laboratories>). Should a non-accredited laboratory be required for specific tests, approval must be sought and received in writing from the Contracting Authority in advance.

2.6.3. All Test Reports must clearly include:

- a. Test results must be on official test laboratory stationary;
- b. Test results must be current:
 - i. For pre-production testing, it must be dated maximum six (6) months before or after the main contract award date; and
 - ii. For production testing, it must be dated within two (2) months of the date of Request for Design Change, Deviation, and Waiver Procedure documentation.
- c. Test results must specify a descriptive nomenclature for each type of test specimen including (where applicable) the production date, lot number, and a unique identifier for each test specimen;
- d. Test results must make reference to the applicable test methods or specifications;
- e. Test results must specify testing conditions/procedures followed;
- f. The document must include:
 - i. The name and contact information of the supplier of each test sample;
 - ii. The name, contact information and signature for the primary person(s) that performed the test(s) and prepared the report;
 - iii. The name, contact information, and signature of the company's designated representative; and

iv. If they differ from those of the reporter's designated representative, the name and contact information of the entity that issued the report.

v. The date the first measurement was obtained for the reported test(s).

2.6.4. Canada reserves the right to verify the statements made on the test report. Canada reserves the right to carry out testing of any specified property in order to confirm the compliance of the end item or material components with the applicable specification(s).

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APPENDIX 1 TO ANNEX "A"

Requirement and Basis of Payment

A.1. TECHNICAL REQUIREMENT

The Contractor is required to provide Canada for the Department of National Defence (DND) with Tactical Helicopter Flyers Suits (Shirts and Trousers) in accordance with Annex B through Annex H inclusively.

A.2. ADDRESSES

Destination Address	Invoicing Address
WB941 Department of National Defence 25 CFSD Montreal 6363 Notre Dame St. E. Montreal, Quebec H1N 1V9	W1941 Department of National Defence CFSD Montreal P.O. Box 4000 Stn K Montreal, Quebec H1N 3R9 Attention: Accounts payable
W248A Department of National Defence 7 CF Supply Depot 195 Ave & 82nd St., Bldg. 236 Edmonton, Alberta T5J 4J5	W2481 Department of National Defence 7 CF Supply Depot Stn Forces, P.O. Box 10500 Edmonton, Alberta T5J 4J5 Attention: Accounts payable

A.3. DELIVERABLES

A.3.1 Firm Quantity

				BASIS OF PAYMENT
Item	Description	Firm Qty	Unit of Issue	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
01	SHIRT, Tactical Helicopter Crew, Flame Resistant (FR) Type I – CADPAT™ Arid Regions (AR) NSN 8415-20-004-0921 A/A	210	each	\$ _____
02	SHIRT, Tactical Helicopter Crew, Flame Resistant (FR) Type II – CADPAT™ Temperate Woodlands (TW) NSN 8415-20-007-9900 A/A	3825	each	\$ _____
03	TROUSER, Tactical Helicopter Crew, Flame Resistant (FR) Type I – CADPAT™ (AR) NSN 8415-20-004-0958 A/A	310	each	\$ _____
04	TROUSER, Tactical Helicopter Crew, Flame Resistant (FR) Type II – CADPAT™ (TW) NSN 8415-20-007-9803 A/A	5,000	each	\$ _____

* Size Roll : Refer to Annex K

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A.3.1.1 "As and When Requested" Quantity - Special sizes

BASIS OF PAYMENT				
Item	Description	Estimated Qty	Unit of Issue	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
05	SHIRT, Tactical Helicopter Crew, Flame Resistant (FR) CADPAT™ <ul style="list-style-type: none">• NSN 8415-20-004-0921 A/A (AR) or• NSN 8415-20-007-9900 A/A (TW)	30	each	\$ _____
06	TROUSER, Tactical Helicopter Crew, Flame Resistant (FR) CADPAT™ <ul style="list-style-type: none">• NSN 8415-20-004-0958 A/A (AR) or• NSN 8415-20-007-9803 A/A (TW)	30	each	\$ _____

A.3.2 OPTIONS

OPTION 1				BASIS OF PAYMENT
Item	Description	Estimated Quantity	Unit of Issue	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
07	SHIRT, Tactical Helicopter Crew, Flame Resistant (FR) CADPAT™ <ul style="list-style-type: none">• NSN 8415-20-004-0921 A/A (AR) or• NSN 8415-20-007-9900 A/A (TW)	4,035	each	\$ _____
08	TROUSER, Tactical Helicopter Crew, Flame Resistant (FR) CADPAT™ <ul style="list-style-type: none">• NSN 8415-20-004-0958 A/A (AR) or• NSN 8415-20-007-9803 A/A (TW)	5,310	each	\$ _____
OPTION 2				BASIS OF PAYMENT
09	SHIRT, Tactical Helicopter Crew, Flame Resistant (FR) CADPAT™ <ul style="list-style-type: none">• NSN 8415-20-004-0921 A/A (AR) or• NSN 8415-20-007-9900 A/A (TW)	4,035	each	\$ _____
10	TROUSER, Tactical Helicopter Crew, Flame Resistant (FR) CADPAT™ <ul style="list-style-type: none">• NSN 8415-20-004-0958 A/A (AR) or• NSN 8415-20-007-9803 A/A (TW)	5,310	each	\$ _____

A.4 “AS AND WHEN REQUESTED” QUANTITY(IES) - Identified as Item 05 and 06

Under this Contract, the Contractor is required to provide certain goods to Canada on an “as and when requested” basis. Except as expressly provided in this Contract, Canada is not obliged to request any such goods under this Contract and this Contract does not represent a commitment to purchase such goods exclusively from the Contractor.

DND may issue orders for “as and when requested” quantities directly to the Contractor detailing the exact quantities of goods being ordered and the delivery date during the effective period and in accordance with the predetermined conditions.

The quantity of “as and when requested” goods specified under items 05 and 06 is only an approximation of requirements. Order for “as and when requested” quantities will be made on a Purchase Order Form.

The period for placing “as and when requested” orders will be 36 months from contract award date.

The delivery of the “as and when requested” quantities must be made within _____ calendar days after receipt of the order document.

Deliveries made against orders of the “as and when requested” quantities will be inspected by the Consignee at destination.

Order Limitation

“As and when requested” orders must not exceed \$ (to be established at contract).

Financial Limitation

The total cost to Canada resulting from orders of “as and when requested” quantities must not exceed the sum of \$ (to be established at contract), applicable taxes extra, unless otherwise authorized in writing by the Contracting Authority. The Contractor must not be obligated to perform any work or services or supply any articles in response to orders which would cause the total cost to Canada to exceed the said sum, unless an increase is so authorized.

A.5 OPTION QUANTITY(IES) - Identified as Items 07, 08, 09 and 10

The Contractor grants to Canada the irrevocable option to acquire the goods described under items 07, 08, 09 and 10 and under the same terms and conditions and at the prices stated in the Contract. Each option may only be exercised by the Contracting Authority for a minimum of 2,018 shirts and 2,655 trousers per amendment and up to a maximum of 4,035 shirts and 5,310 trousers for all amendments in total for each option and will be evidenced through a contract amendment.

The Contracting Authority may exercise Option 1 within 18 months after contract award date by sending a written notice to the Contractor.

The Contracting Authority may exercise Option 2 within 36 months after contract award date by sending a written notice to the Contractor.

Multiple amendments may result for each option. A size roll will be provided if and when the option is exercised.



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document must continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

Annex B
W8486-184672
DSSPM 2-6-87-2250
30 September 2017
Supersedes
All previous versions

MANUFACTURING DATA
FOR
SHIRT, TACTICAL HELICOPTER CREW, FLAME RESISTANT (FR)

1. SCOPE

1.1 Scope. This Manufacturing Data covers the materials, design, construction and inspection requirements for the Shirt, Tactical Helicopter Crew, Flame Resistant (FR).

1.2 Intended Use. This shirt is worn with the tactical helicopter crew trousers (in accordance with Manufacturing Data DSSPM 2-6-87-2264) by authorized tactical helicopter crew members of the Air Force and Land Force and authorized combat vehicle crew members of the Land Force.

1.3 Classification. The garment must be supplied in one of the following types as specified in the contract:

Type I Shirt, Tactical Helicopter Crew, Flame Resistant (FR),
CADPAT™ Arid Regions (AR)
NSN 8415-20-004-0921 A/A

Type II Shirt, Tactical Helicopter Crew, Flame Resistant (FR),
CADPAT™ Temperate Woodlands (TW)
NSN 8415-20-007-9900 A/A

2. RELATED DOCUMENTS

2.1 Government Documents. The following documents from part of this Manufacturing Data to the extent specified herein. Unless otherwise specified, the issue or amendment of documents effective for a particular contract must be that in effect on the date of the applicable invitation to tender or the contract.

2.1.1 Specifications and Standards

D-80-001-055/SF-001 Specification for Label, Clothing and Equipment

D-83-001-005/SF-001 Specification for Fasteners, Slide, Interlocking

CFPTO-General Canadian Forces Transportation Packaging Order

2.2 Other Publications. The following documents form part of this Manufacturing Data to the extent specified herein. Effective date must be that in effect on the date of manufacture. Source is as shown:

2.2.1 Canadian General Standards Board (CGSB) Sales Unit

11 Laurier Street
Place du Portage, Phase III
Gatineau, Quebec K1A 1G6
Tel: (819) 956-0425
Alternate Tel: (800) 665-2472
Email: ncr.cgsb-ongc@pwgsc.gc.ca

CAN/CGSB-4.2-M	Textile Test Methods
CAN/CGSB-54.1-M	Stitches and Seams, Parts I and II
CAN/CGSB-86.1-2003	Care Labelling of Textiles
CAN/CGSB-155.1-2001	Fire Fighters Protective Clothing for Protection against Heat and Flame

2.2.2 General Services Administration (FED-STD)

Federal Supply Service
FSS Product Acquisition Center
Supply Standards Division (FLAS)
Arlington, Virginia USA 22202
Telephone: 703-605-2567
Download Documents: <http://assist.daps.dla.mil/quicksearch/>

A-A-55126A	Commercial Item Description - Fastener Tapes, Hook and Loop, Synthetic
A-A-55217	Thread, Aramid, Spun Staple

2.3 DSSPM Documents. The following documents form part of the Technical Data Package for Shirt, Tactical Helicopter Crew, Flame Resistant (FR).

Annex D	DSSPM 2-2-80-239 – Specification for Cloth, Twill, Aramid / FR Viscose, 185 g/m ²
Annex E	DSSPM 3-6-80-001 - Specification for CADPAT™ (Canadian Disruptive Pattern)

2.4 Figures. The following Figures form part of this Manufacturing Data. Figures are not to scale.

Figure 1	Front and Back View
Figure 2	Dimensions of Garment Components
Figure 3	Dimensions of Pockets
Figure 4	Care and Marking Label for Type I and II

2.5 Sealed Patterns.

DSSPM 109-02	Shirt, Tactical Helicopter Crew, Fire Resistant (FR) (Sealed for construction and design)
DSSPM 264-08	Cloth, Twill, Aramid / FR Viscose, 185 g/m ²
DSSPM 263-02	Colour Guidance Only for Light Sand
DSSPM 281-01	Colour Guidance Only for Canadian Average Green

2.6 Paper Patterns. DND will provide the paper patterns for all sizes under Style Code **STHC06**. Size 7040 (reg/med) will be used for tendering purposes.

2.7 Order of Precedence.

2.7.1 In the event of conflict between the documents referenced herein and the contents of this Manufacturing Data, the contents of this document will take precedence.

2.7.2 In the event of inconsistency within this Manufacturing Data, the Contracting Authority must be contacted for clarification.

2.7.3 Nothing in this document supersedes applicable laws and regulations, unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Sealed Patterns. A sealed pattern, when available, will be supplied to the successful bidder. The sealed pattern will constitute the standard in regards to any properties not specified in this Manufacturing Data.

3.2 Design.

3.2.1 The design must be in accordance with Sealed Pattern 109-02.

3.2.2 The design must incorporate the following features:

- a. self-covered slide fastener front closure;
- b. back yoke;
- c. regular collar;
- d. shoulder straps;
- e. two breast pockets with covered slide fastener closure;
- f. two-piece, set-in sleeves with hook and loop cuff;
- g. loop fastener patches on upper left sleeve, and left and right chest; and
- h. semi-bellows pocket with covered slide fastener closure on each forearm.

3.2.1 Unless otherwise specified, this garment must be governed by the Scale of Measurements (see Table I).

3.3 Preproduction Sample. When specified in the contract, preproduction samples must be completely representative of the final production garment, being made from the parts and materials as specified and by the equipment and processes which are to be used in quantity production.

3.4 Materials

3.4.1 Shell Material for Type I and II Shirts.

3.4.1.1 The shell material must be Cloth, Twill, Aramid / FR Viscose, 185 g/m², in accordance with DSSPM 2-2-80-239.

3.4.1.2 The fabric must be printed with CADPAT™ in accordance with DSSPM 3-6-80-001 as follows:

- a. For Type I Canadian Disruptive Pattern (CADPAT™) – Arid (AR)
- b. For Type II Canadian Disruptive Pattern (CADPAT™) - Temperate Woodland (TW)

3.4.2 Slide Fasteners.

3.4.2.1 The slide fasteners must have brass interlocking members with automatic locking sliders conforming to D-83-001-005/SF-001.

3.4.2.2 Slide fasteners must be flame resistant in accordance with CAN/CGSB-155.1-2001, para 5.1.2.

3.4.2.3 The metal components must have a dull or antique finish.

3.4.2.4 The tapes must be made with flame resistant fibres woven using a twill weave.

3.4.2.5 When tested in accordance with the applicable test methods, the slide fasteners must meet the requirements for colourfastness, strength and flame resistance.

3.4.2.6 The colour used for Type I Shirts must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.2.7 The colour used for Type II Shirts must be Canadian Average Green as shown on Sealed Pattern DSSPM 281-01.

3.4.2.8 The detailed requirements are as specified in Table II below:

Table II – Requirements for Slide Fasteners

Application	Class	Type	Chain Type	Pull Type	Length
Front closure	3	4	Metal (brass)	Long pull	see Scale of Measurements
Breast pockets	3	15	Metal (brass)	Long pull	5 3/4 inches (14.6 cm)
Sleeve pockets	3	15	Metal (brass)	Long pull	5 3/4 inches (14.6 cm)

3.4.3 Hook and Loop Fastener Tape.

3.4.3.1 The hook and loop fastener tape must be Type II, Class 1 with a flame retardant finish in accordance with A-A 55126A.

3.4.3.2 When used on Type I Shirts, the colour of the tape must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.3.3 When used on Type II Shirts, the colour of the tape must be Canadian Average Green as shown on Sealed Pattern DSSPM 281-01.

3.4.3.4 The detailed requirements are as specified in Table III below.

Table III: Hook and Loop Fastener Tape Details

LOCATION		FASTENER TAPE - HOOK				FASTENER TAPE - LOOP			
		width		length		width		length	
		in	cm	in	cm	in	cm	in	cm
1	Shoulder straps	1.0	2.5	1.0	2.5	1.0	2.5	1.0	2.5
2	Cuff closure	1.0	2.5	1.0	2.5	1.0	2.5	2.5	6.4

LOCATION		FASTENER TAPE - HOOK				FASTENER TAPE - LOOP			
		width		length		width		length	
		in	cm	in	cm	in	cm	in	cm
3	Upper left sleeve	n/a	n/a	n/a	n/a	1.0	2.5	2.0	5.1
4	Left and right chest	n/a	n/a	n/a	n/a	2.0	5.0	3.75	9.5

3.4.4 Piping Cord.

3.4.4.1 The piping cord material used for centre front reinforcement and slide fastener cover must be commercially available, #20 cotton piping cord.

3.4.4.2 When used on Type I Shirts, the colour of the piping cord must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.4.3 When used on Type II Shirts, the colour of the cord must be Canadian Average Green as shown on Sealed Pattern DSSPM 281-01.

3.4.5 Thread for Seaming, Stitching, Buttonholes, Bartacks, and Serging.

3.4.5.1 The thread for seaming, stitching, buttonholes, bartacks, and serging must be Thread, Aramid, Spun Staple, in accordance with Type II of A-A-55217.

3.4.5.2 The thread size must be appropriate to the operation and materials being sewn.

3.4.5.3 When used on Type I Shirts, the colour must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.5.4 When used for Type II Shirts, the colour must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.5 Cutting.

3.5.1 The Shirts must be cut using duplicates of Government supplied paper patterns.

3.5.2 The shell parts of the shirt must be cut in the direction of the warp as shown on the paper patterns.

3.5.3 The shell parts of each shirt must be cut from the same piece of shell material with the exception of the fly curtain which may be cut from separate lay or ends of shell material.

3.6 Sewing.

3.6.1 General.

3.6.1.1 All seams must be in accordance with CAN/CGSB-54.1-M.

3.6.1.2 Unless otherwise specified, all stitching must be either lock stitch Type 301 or chain stitch Type 401 conforming to CAN/CGSB-54.1-M having not less than 9 nor more than 11 stitches per inch (2.5 cm).

3.6.1.3 Where double-lapped seams are specified, numerical designation 2.04.03 of CAN/CGSB-54.1-M must be used. They may be lock or chain stitched, with the needles set 1/4-inch (6.4 mm) apart.

3.6.1.4 Seams must be a minimum of 3/8-inch (9.5 mm) wide unless otherwise specified.

3.6.1.5 The ends of all lock stitched seams and stitching, also breaks in thread must be securely backstitched.

3.6.1.6 The stitches must present a regular even appearance without fabric pucker and must be free from skips that may result from faulty machine tension or other stitching malfunctions.

3.6.2 Serging.

3.6.2.1 All exposed raw edges, must be finished with any 500 series, with not less than 10 stitches per inch (2.5 cm).

3.6.2.2 Where seaming and serging is specified, this may be done in one or two operations.

3.6.3 Hook and Loop Fastener Tape.

3.6.3.1 Hook and loop fastener tape must be stitched around all edges, so that the stitching is formed into the hook or loop portion of the tape.

3.6.3.2 When tapes wider than 1-1/2 inch (3.8 cm) are used, they must be stitched around all edges and through the centre or have an 'X' enclosed in the box.

3.6.4 Bartacks. Unless otherwise specified, bartacks must be 1/2-inch (12.7 mm) long and must have not less than 20 cover stitches.

3.6.5 Pockets.

3.6.5.1 All pocket edges must be serged.

3.6.5.2 Pocket assemblies must be positioned as indicated on paper pattern and stitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge.

3.6.5.3 For pocket dimensions, see Figure 3.

3.6.6 Slide Fastener Covers on Pockets.

3.6.6.1 A piece of shell must be folded in three, as indicated on the paper pattern, and free edge stitched at 1/8-inch (3.2 mm) gauge.

3.6.6.2 The cover must be positioned over the slide fastener covering the other half of the chain and stitched 1/4-inch (6.4 mm) gauge.

3.7 Construction

3.7.1 Front Chest Pockets.

3.7.1.1 A patch pocket of shell material with covered slide fastener must be positioned on each front.

3.7.1.2 The slide fastener must close toward the armhole seam.

3.7.2 Loop fastener tape for name and trade badge patches. A piece of loop fastener tape measuring 2-inches (5 cm) wide by 3-3/4-inches (9.5 cm) long shall be placed on each front, as indicated

on paper patterns.

3.7.3 Back.

3.7.3.1 The back must be fitted with two darts, folding toward the centre back, and a yoke made of two layers of shell material.

3.7.3.2 The finished bottom edge of the back yoke must be topstitched over the back panel 1/16-inch (1.6 mm) gauge through all layers.

3.7.4 Shoulders.

3.7.4.1 The shoulder seam allowances must fold to the back.

3.7.4.2 The finished seams must be top stitched through all plies 1/16-inch (1.6 mm) gauge.

3.7.5 Shoulder Straps.

3.7.5.1 The shoulder straps must be made from one ply of shell material, with the seam centred, and topstitched 1/4-inch (6.4 mm) gauge.

3.7.5.2 A piece of hook fastener tape must be stitched on the underside as indicated in Figure 2.

3.7.6 Sleeves.

3.7.6.1 The sleeves must be a two-piece, set-in sleeve.

3.7.6.2 Each upper sleeve portion must have a semi-bellows pocket with covered slide fastener closure.

3.7.6.3 Hook and Loop for Shoulder Flag Insignia. A piece of loop fastener measuring 1" x 2" (2.5 cm x 5.1 cm) to accommodate the insignia illustrated in Figure 2, must be centred on the left sleeve head at 1/2-inch (12.7 mm) below the shoulder seam.

3.7.6.4 Sleeve Pockets. The sleeve pockets must be a bellows type, cut of one ply of shell material, with a covered slide fastener, closing towards the top.

3.7.6.5 Joining. The upper and under sleeves must be joined along the elbow seams with a double-lapped seam, with the upper sleeve overlapping the under sleeve on the outside.

3.7.7 Armhole.

3.7.7.1 The sleeves must be joined to their respective armhole with a double-lapped seam with the body overlapping the sleeve on the outside.

3.7.7.2 The shoulder straps must be centred on the shoulder seam, and included in the armhole stitching as indicated in Figure 2.

3.7.7.3 A piece of loop tape must be positioned on the shoulder seam, so that the straps lie flat.

3.7.8 Side Seams.

3.7.8.1 The front and back must be joined together with a double-lapped seam along the side seams and underarm of the sleeve in one continuous operation with the back overlapping the fronts on the outside.

3.7.9 Cuffs.

3.7.9.1 Two-1/2-inch (12.7 mm) pleats must be placed at the bottom of each sleeve as per paper pattern.

3.7.9.2 Both pleats must be folded toward the point of the cuff.

3.7.9.3 Each cuff must be made of one piece of shell material.

3.7.9.4 The cuff must be topstitched 1/16-inch (1.6 mm) and 1/4-inch (6.4 mm) gauge along the top, bottom and pointed end, as indicated in Figure 2.

3.7.9.5 Hook and Loop Fasteners Tapes. The hook and loop fasteners tapes must be in accordance with Table II and positioned as indicated in Figure 2.

3.7.9.6 The square end of the cuff must be stitched to the inside of the cuff 2-1/2 inches (6.3 cm) behind the point as indicated in Figure 2.

3.7.10 Front Closure.

3.7.10.1 The front closure must consist of a self-covered slide fastener with piping cord reinforcement and fly curtain.

3.7.10.2 The centre front edges must be serged, turned under with piping cord inserted in the fold and stitched close to the cord with a single row of stitching, as per sealed sample.

3.7.10.3 Right Side.

3.7.10.3.1 The curtain must be made of one piece of shell material and stitched 1/16-inch (1.6 mm) gauge along the top and folded edge.

3.7.10.3.2 The backs must be serged together.

3.7.10.3.3 The centre front must be placed to overlap half of the slide fastener chain and double-needle stitched 1/2-inch (12.7 mm) gauge through all plies from the neck edge to the bottom of the shirt.

3.7.10.4 Left Side. The slide fastener must be positioned under the left centre front edge with centre front overlapping half of the slide fastener chain and double-needle stitched 1/2-inch (12.7 mm) gauge through all plies from the neck edge to the bottom of the shirt.

3.7.11 Collar.

3.7.11.1 The collar must be made of two pieces of shell material and interlined with a third piece of shell material.

3.7.11.2 Undercollar.

3.7.11.2.1 The undercollar must be constructed of two layers of shell material, stitched diagonally across the width of the collar as per sealed sample.

3.7.11.2.2 The collar ends and fall edge must be double-needle stitched.

3.7.12 Bottom Hem. The bottom edge of the shirt and fly curtain must be turned and stitched 1/16-inch (1.6 mm) gauge to form a finished hem of 1/4-inch (6.4 mm).

3.8 Measurements. Measurements must be as shown on the applicable Figures and Scale of Measurements (see Table I).

3.9 Care and Marking Label.

3.9.1 The Care and Marking label in accordance with D-80-001-055/SF-001 and CAN/CGSB-86.1-2003 must be sewn by the contractor, around all edges, to the inside of the left front, behind the breast pocket.

3.9.2 An example of the care and marking label is provided in Figure 4.

3.9.3 The label must be printed in black.

3.9.4 The colour for Type I Shirts must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.9.5 The colour for Type II Shirts must be Canadian Average Green as shown on Sealed Pattern DSSPM 281-01.

3.9.6 The label must give the following information in English and French printed in characters not less than 1/8-inch (3.2 mm) nor more than 1/4-inch (6.4 mm) in height, with the exception of the size identification which must be twice the height:

- a. Abbreviated Nomenclature (Shirt, Tac Hel, FR / Chemise hel tac, FR)
- b. NATO Stock Number (see Table IV or V);
- c. Size by height and chest (see Scale of Measurements – Table I);
- d. NATO size designation (see Scale of Measurements – Table I);
- e. Contract Number;
- f. Contractor Name. No initials, logos or trademarks shall be used;
- g. Date of Manufacture;
- h. Fibre content;
- i. Care symbols;
- j. The following care instructions:

SHIRT, TAC HEL, FR

1. WASH NEW GARMENTS BEFORE WEARING.
2. LAUNDRY GARMENTS SEPARATELY IN WARM WATER. A SECOND CLEAN WATER RINSE IS RECOMMENDED. DO NOT USE FABRIC SOFTENER. .

CHEMISE, HEL TAC, FR

1. LAVER LES VÊTEMENTS NEUFS AVANT DE LES PORTER.
2. LAVER LES VÊTEMENTS SÉPARÉMENT DES AUTRES AVEC DE L'EAU TIÈDE. DEUX RINÇAGES SONT RECOMMANDÉS. NE PAS UTILISER D'ASSOUPLISSANT.

- k. A line for user identification.

3.9.7 Care Symbols. The following care symbols, as defined in CAN/CGSB-86.1-2003 must be included on the marking label:

- a. Table 1 – Washing – symbol 11;
- b. Table 2 – Bleaching – symbol 3;
- c. Table 3 – Drying – symbol 2;
- d. Table 4 – Ironing/Pressing – symbol 1; and
- e. Table 5 – Professional Textile Care – symbol 3.



3.10 Finishing. The Shirt must be cleaned, pressed and folded.

3.11 Packaging and Packing. Unless otherwise specified, the packaging, packing and delivery must be in accordance with the terms of the contract.

**Table IV - NATO Stock Numbers (NSN) Type I Shirt:
 Shirt, Tactical, Helicopter Crew, CADPAT™ AR**

Size	NSN
A/A	8415-20-004-0921
6734	8415-20-004-0922
6736	8415-20-004-0923
6738	8415-20-004-0924
6740	8415-20-004-0925
6742	8415-20-004-0926
6744	8415-20-004-0927
6746	8415-20-004-0928
7034	8415-20-004-0929
7036	8415-20-004-0930
7038	8415-20-004-0931
7040	8415-20-004-0932
7042	8415-20-004-0933
7044	8415-20-004-0934
7046	8415-20-004-0935
7048	8415-20-004-0936
7050	8415-20-004-0937
7052	8415-20-004-0938
7336	8415-20-004-0939
7338	8415-20-004-0940
7340	8415-20-004-0941
7342	8415-20-004-0942
7344	8415-20-004-0943
7346	8415-20-004-0944
7348	8415-20-004-0945
7350	8415-20-004-0946
7352	8415-20-004-0947
7636	8415-20-004-0948
7638	8415-20-004-0949
7640	8415-20-004-0950
7642	8415-20-004-0951
7644	8415-20-004-0952
7646	8415-20-004-0953
7648	8415-20-004-0954
7650	8415-20-004-0955
7652	8415-20-004-0956
SPECIAL	8415-20-004-0957

**Table V - NATO Stock Numbers (NSN) Type II Shirt:
 Shirt, Tactical Helicopter Crew, CADPAT™ TW**

Size	NSN
A/A	8415-20-007-9900
6734	8415-20-007-9901
6736	8415-20-007-9902
6738	8415-20-007-9903
6740	8415-20-007-9905
6742	8415-20-007-9906
6744	8415-20-007-9907
6746	8415-20-007-9908
7034	8415-20-007-9909
7036	8415-20-007-9910
7038	8415-20-007-9911
7040	8415-20-007-9912
7042	8415-20-007-9913
7044	8415-20-007-9914
7046	8415-20-007-9915
7048	8415-20-007-9916
7050	8415-20-007-9917
7052	8415-20-007-9918
7336	8415-20-007-9919
7338	8415-20-007-9920
7340	8415-20-007-9922
7342	8415-20-007-9923
7344	8415-20-007-9924
7346	8415-20-007-9925
7348	8415-20-007-9926
7350	8415-20-007-9927
7352	8415-20-007-9928
7636	8415-20-007-9929
7638	8415-20-007-9930
7640	8415-20-007-9931
7642	8415-20-007-9932
7644	8415-20-007-9933
7646	8415-20-007-9934
7648	8415-20-007-9935
7650	8415-20-007-9936
7652	8415-20-007-9937
SPECIAL	8415-20-007-9938

TABLE 1 - SCALE OF MEASUREMENTS
SHIRT TACTICAL HELICOPTER CREW

DSSPM
2-6-87-2250
SEP 2017

MEASUREMENTS OF GARMENT														
				GIRTH MEASUREMENTS SLIDE FASTENER CLOSED			FULL LENGTH FROM NECK SEAM		SLEEVE					
HEIGHT AND CHEST	HEIGHT WITHOUT SHOES	NATO SIZE	CHEST	CHEST	WAIST	BOTTOM	CENTRE FRONT	BACK	BACK WIDTH (across yoke seam)	LENGTH AT UNDERARM SEAM INCLUDING CUFF	WIDTH AT SCYE	CUFF CIRC.	COLLAR LENGTH (along neck seam)	
6734	5'4" to 5' 6 1/2"	6070-8590	33-34	41	35	40	28 1/2	32	16 1/2	19	17 1/2	9 1/2	14 3/4	
6736		6070-9095	35-36	43	37	42			17		18	10	15 1/4	
6738		6070-9500	37-38	45	39	44			17 1/2		18 1/2	10	15 3/4	
6740		6070-0005	39-40	47	41	46			18		19	10 1/2	16 1/4	
6742		6070-0510	41-42	49	43	48			18 1/2		19 1/2	10 1/2	16 3/4	
6744		6070-1015	43-44	51	45	50			19		20	11	17 1/4	
6746		6070-1520	45-46	53	47	52			19 1/2		20 1/2	11	17 3/4	
7034	5' 7" to 5' 9 1/2"	7080-8590	33-34	41	35	40	30 1/2	34	16 1/2	20	18	9 1/2	14 3/4	
7036		7080-9095	35-36	43	37	42			17		18 1/2	10	15 1/4	
7038		7080-9500	37-38	45	39	44			17 1/2		19	10	15 3/4	
7040		7080-0005	39-40	47	41	46			18		19 1/2	10 1/2	16 1/4	
7042		7080-0510	41-42	49	43	48			18 1/2		20	10 1/2	16 3/4	
7044		7080-1015	43-44	51	45	50			19		20 1/2	11	17 1/4	
7046		7080-1520	45-46	53	47	52			19 1/2		21	11	17 3/4	
7048		7080-2025	47-48	55	49	54			20		21 1/2	11 1/2	18 1/4	
7050		7080-2530	48-50	57	51	56			20 1/2		22	11 1/2	18 3/4	
7052		7080-3035	51-52	59	53	58			21		22 1/2	12	19 1/4	
7336	5' 10" to 6' 1/2"	8090-9095	35-36	43	37	42	32 1/2	36	17	21	19	10	15 1/4	
7338		8090-9500	37-38	45	39	44			17 1/2		19 1/2	10	15 3/4	
7340		8090-0005	39-40	47	41	46			18		20	10 1/2	16 1/4	
7342		8090-0510	41-42	49	43	48			18 1/2		20 1/2	10 1/2	16 3/4	
7344		8090-1015	43-44	51	45	50			19		21	11	17 1/4	
7346		8090-1520	45-46	53	47	52			19 1/2		21 1/2	11	17 3/4	
7348		8090-2025	47-48	55	49	54			20		22	11 1/2	18 1/4	
7350		8090-2530	48-50	57	51	56			20 1/2		22 1/2	11 1/2	18 3/4	
7352		8090-3035	51-52	59	53	58			21		23	12	19 1/4	
7636		6' 1/2" to 6' 3 1/2"	9000-9095	35-36	43	37			42		34 1/2	38	17	22
7638	9000-9500		37-38	45	39	44	17 1/2	20	10	15 3/4				
7640	9000-0005		39-40	47	41	46	18	20 1/2	10 1/2	16 1/4				
7642	9000-0510		41-42	49	43	48	18 1/2	21	10 1/2	16 3/4				
7644	9000-1015		43-44	51	45	50	19	21 1/2	11	17 1/4				
7646	9000-1520		45-46	53	47	52	19 1/2	22	11	17 3/4				
7648	9000-2025		47-48	55	49	54	20	22 1/2	11 1/2	18 1/4				
7650	9000-2530		48-50	57	51	56	20 1/2	23	11 1/2	18 3/4				
7652	9000-3035		51-52	59	53	58	21	23 1/2	12	19 1/4				
TOLERANCE PLUS OR MINUS			3/4	3/4	3/4	3/4	1/2	1/2	1/4	1/2			1/2	

DIMENSIONS ARE IN INCHES

13/17

STHC06 - AUG 2004

FIGURE 1 - FRONT AND BACK VIEW

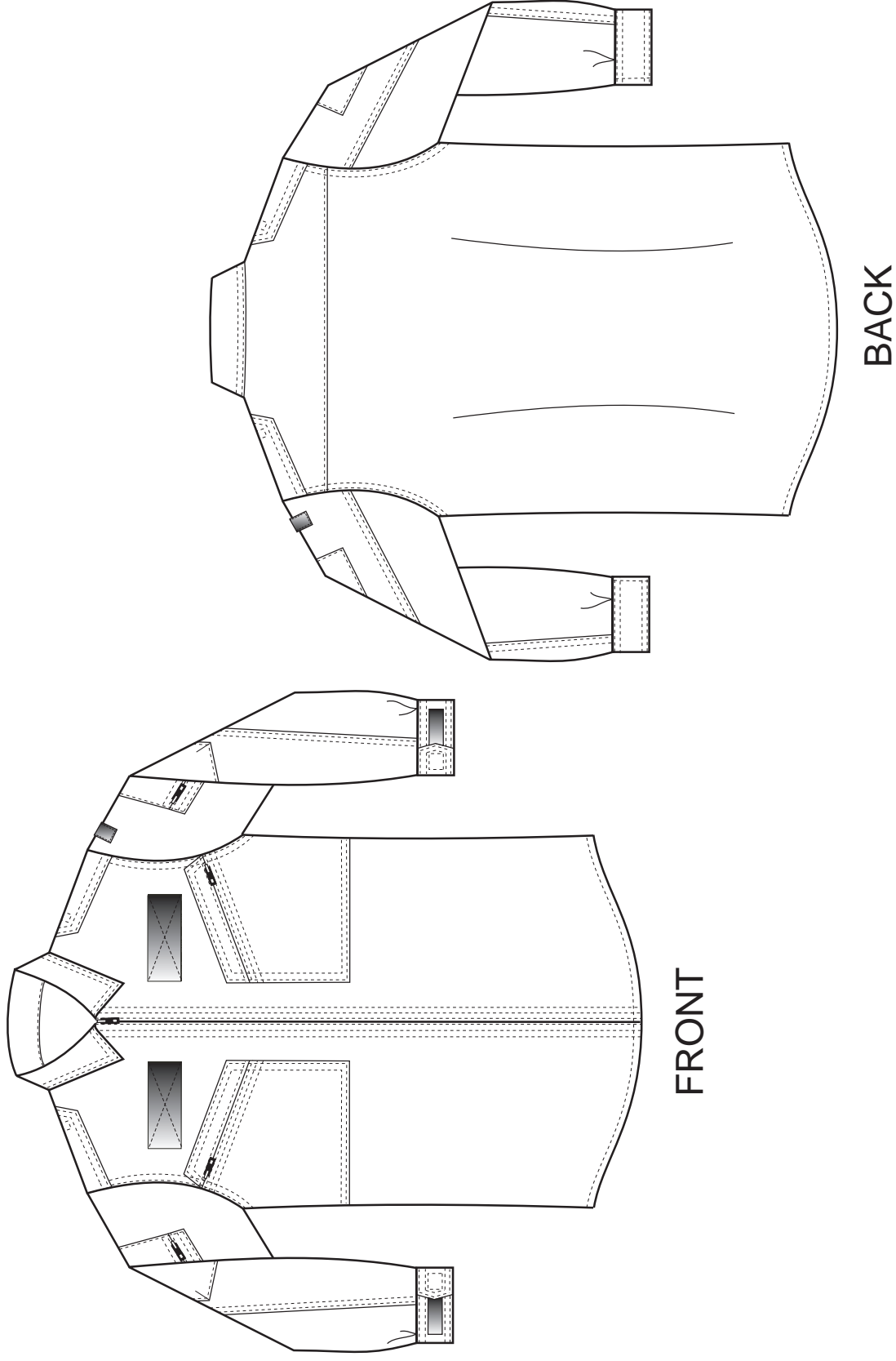


FIGURE 2 - DIMENSIONS OF GARMENT COMPONENTS

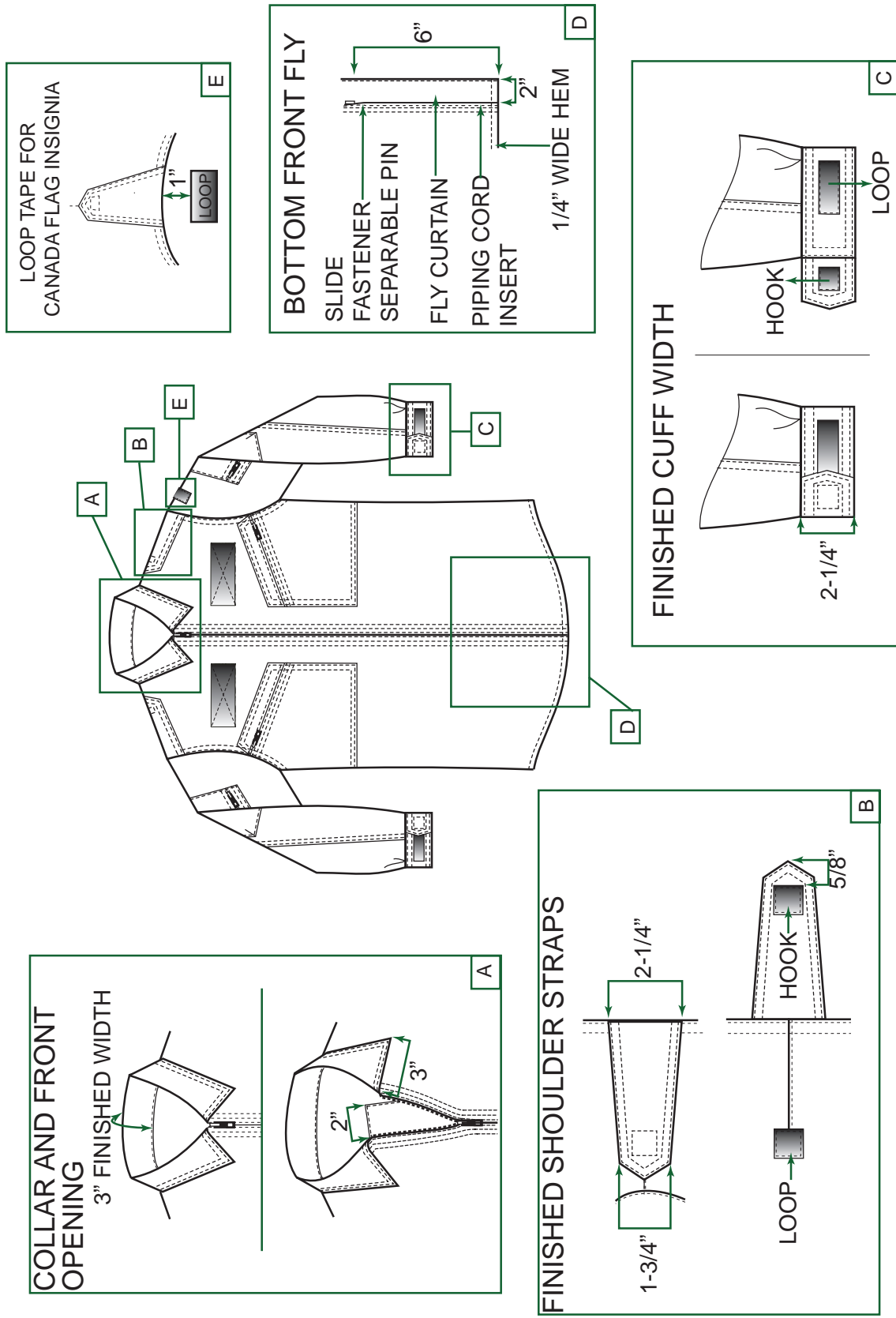


FIGURE 3 - DIMENSIONS OF POCKETS

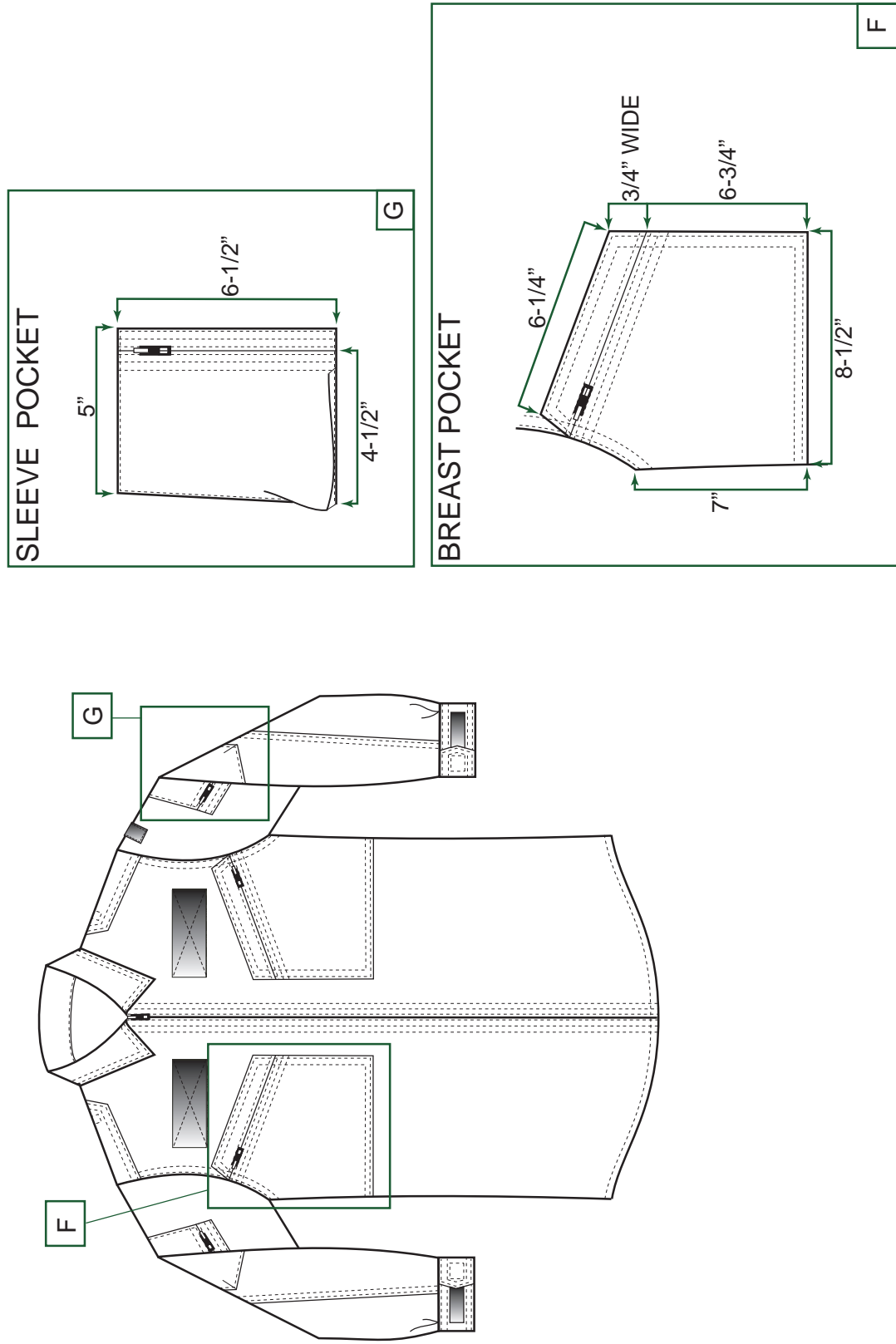







FIGURE 4 - CARE AND MARKING LABEL FOR TYPE I AND II

ITEM & CONTRACT INFO	ARTICLE ET INFO SUR LE CONTRAT	SHIRT, TACTICAL HELICOPTER CREW, FR CHEMISE, ÉQUIPAGE D'HELICOPTER TACTIQUE, FR NSN/NNO: 8415-20-XXX-XXXX SIZE/TAILLE : 7040 NATO SIZE / TAILLE OTAN : XXXX-XXX CONTRACT NO. / NO. DE CONTRAT: WXXXX-XXXXX CONTRACTOR NAME/NOM D'ENTREPRENEUR: Jones & Company DATE OF / DE MANUFACTURE: MM/YY FIBRE CONTENT / TENEUR DE FIBRES: XXXXXXXXXXXXX	
CARE SYMBOLS	SYMBOLS D'ENTRETIEN	<div><div> 40°C</div><div> Tumble dry on medium. / Séchage par culbutage T/moyenne</div><div> Do not bleach. / Ne pas javéliser.</div><div> Iron at high temperature / Repasser à une température élevée.</div><div> Do not dry-clean / Ne pas nettoyer à sec.</div></div>	
CARE INSTRUCTIONS	CONSIGNES D'ENTRETIEN	1. WASH GARMENTS BEFORE WEARING. 2. WASH GARMENTS IN WARM WATER. A SECOND, CLEAN WATER RINSE IS RECOMMENDED. DO NOT USE FABRIC SOFTENER.	
	USER ID	ID DE L'UTILISATEUR	1. LAVER LES VÊTEMENTS NEUFS AVANT DE LES PORTER. 2. LAVERS LES VÊTEMENTS À L'EAU TIÈDE. DEUX RINÇAGES SONT RECOMMANDÉS. NE PAS UTILISER D'ASSOUPLISSANT. I.D. _____



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document must continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

Annex C
W8486-184672
DSSPM 2-6-87-2264
30 September 2017
Supersedes
All previous versions

**MANUFACTURING DATA
FOR
TROUSERS, TACTICAL HELICOPTER CREW, FLAME RESISTANT (FR)**

1. SCOPE

1.1 Scope. This Manufacturing Data covers the materials, design, construction and inspection requirements for the Trousers Tactical Helicopter Crew, Flame Resistant (FR).

1.2 Intended Use. The trousers are worn with the tactical helicopter crew shirt (in accordance with Manufacturing Data DSSPM 2-6-87-2250) by authorized tactical helicopter crew members of the Air Force and Land Force and authorized combat vehicle crew members of the Land Force.

1.3 Classification. The garment shall be supplied in one of the following types as specified in the contract:

Type I Trousers, Tactical Helicopter Crew, Flame Resistant (FR),
CADPAT™ AR
NSN 8415-20-004-0958 A/A

Type II Trousers, Tactical Helicopter Crew, Flame Resistant (FR),
CADPAT™ TW
NSN: 8415-20-007-9803 A/A

2. RELATED DOCUMENTS

2.1 The following documents from part of this Manufacturing Data to the extent specified herein. Unless otherwise specified, the issue or amendment of documents effective for a particular contract must be that in effect on the date of the applicable invitation to tender or the contract.

2.2 Government Documents.

2.2.1 Specifications and Standards

CF-B-854	Buttons, Nylon
D-80-001-028/SF-001	Specification for Cord, Plaited, Spun Synthetic Fibre
D-80-001-101/SF-001	Webbing, Cotton, Types I and II, Water and Rot Resistant
D-80-001-055/SF-001	Specification for Label, Clothing and Equipment
D-83-001-005/SF-001	Specification for Fasteners, Slide, Interlocking

CFTPO General Canadian Forces Transportation Packaging Order

2.2.2 Drawings

373118 Button, Nylon, Slotted, 30-ligne
 391335 Clip, Map, Black
 8790166 Strap and Button Argt, 30-ligne, Type I

2.3 Other Publications. The following documents form part of this Manufacturing Data to the extent specified herein. Effective date must be that in effect on the date of manufacture. Source is as shown:

2.3.1 Canadian General Standards Board (CGSB) Sales Unit

11 Laurier Street
 Place du Portage, Phase III
 Gatineau, Quebec K1A 1G6
 Tel: (819) 956-0425
 Alternate Tel: (800) 665-2472
 Email: ncr.cgsb-ongc@pwgsc.gc.ca

CAN/CGSB-4.2-M Textile Test Methods
 CAN/CGSB-54.1-M Stitches and Seams, Parts I and II
 CAN/CGSB-86.1-2003 Care Labelling of Textiles
 CAN/CGSB-155.1-2001 Fire Fighters Protective Clothing for Protection against Heat and Flame

2.3.2 General Services Administration (FED-STD)

Federal Supply Service
 FSS Product Acquisition Center
 Supply Standards Division (FLAS)
 Arlington, Virginia USA 22202
 Telephone: 703-605-2567
 Download Documents: <http://assist.daps.dla.mil/quicksearch/>

A-A-55126A Commercial Item Description - Fastener Tapes, Hook and Loop, Synthetic
 A-A-55217 Thread, Aramid, Spun Staple

2.4 DSSPM Documents. The following documents form part of the Technical Data Package for Trousers, Tactical Helicopter Crew, Flame Resistant (FR).

Annex D DSSPM 2-2-80-239 - Specification for Cloth, Twill, Aramid / FR Viscose, 185 g/m²
 Annex E DSSPM 3-6-80-001 - Specification for CADPAT™ (Canadian Disruptive Pattern)

2.5 Figures. The following Figures form part of this Manufacturing Data. Figures are not to scale.

Figure 1 Front and Back View

Figure 2	Dimensions of Garment Components
Figure 3	Thigh Pocket Systems
Figure 4	Dimensions for Bottom Leg Components
Figure 5	Back Hip Pocket
Figure 6	Care and Marking Label for Type I and II Trousers

2.6 Sealed Patterns.

DSSPM 110-02*	Trousers, Tactical Helicopter Crew, Flame Resistant (FR) (Sealed for construction and design)
DSSPM 264-08	Cloth, Twill, Aramid / FR Viscose, 185g/m ²
DSSPM 263-02	Colour Guidance Only for Light Sand
DSSPM 281-01	Colour Guidance Only for Canadian Average Green

*Note: Sealed Pattern DSSPM 110-02 has the following deviation:

- a. The material used for the bottom leg reinforcement is incorrect. Refer to para 3.4.2 for the correct material.
- b. The raw edges of the pockets are not serged. Refer to para 3.6.14 for sewing of pockets.

2.7 Paper patterns. DND will provide the paper patterns for all sizes under Style Code **TTHC013**. Size 7034 (reg/med) will be used for tendering purposes.

2.8 Order of Precedence.

2.8.1 In the event of conflict between the documents referenced herein and the contents of this Manufacturing Data, the contents of this document will take precedence.

2.8.2 In the event of inconsistency within this Manufacturing Data, the Contracting Authority must be contacted for clarification.

2.8.3 Nothing in this document supersedes applicable laws and regulations, unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Sealed Patterns. A sealed pattern, when available, will be supplied to the successful bid and will constitute the standard in regards to any properties not specified in this Manufacturing Data.

3.2 Design.

3.2.1 The design must be in accordance with Sealed Pattern 110-02.

3.2.2 The design must incorporate the following features:

- a. front closure with slide fastener;
- b. quarter cut side pockets;
- c. single jetted back pockets with flap;
- d. message pad pocket with slide fastener closure on right thigh;
- e. see-through writing surface with hook and loop closure over the message pad pocket;
- f. patch pocket with slide fastener closure and map clip holder on left thigh;
- g. knife pocket on inner thigh;
- h. slide fastener suppression at the bottom of each leg;

- i. reinforcement at leg bottom;
- j. patch pocket with slide fastener closure and safety pencil pocket on each lower leg; and
- k. flashlight pocket inside the left lower leg pocket.

3.2.1 Unless otherwise specified, this garment must be governed by the Scale of Measurements at Table I.

3.3 Preproduction Sample. When specified in the contract, preproduction samples must be completely representative of the final production garment, being made from the parts and materials as specified and by the equipment and processes which are to be used in quantity production.

3.4 Materials

3.4.1 Shell Material for Type I and II Trousers.

3.4.1.1 The shell material must be twill weave, 50% aramid and 50% FR viscose, 185 g/m² in accordance with DSSPM 2-2-80-239.

3.4.1.2 The fabric must be printed with CADPAT™ in accordance with DSSPM 3-6-80-001 as follows:

- a. For Type I Canadian Disruptive Pattern (CADPAT™) - Arid (AR)
- b. For Type II Canadian Disruptive Pattern (CADPAT™) – Temperate Woodland (TW)

3.4.2 Reinforcement at Leg Bottom for Type I and II Trousers.

3.4.2.1 The shell material must be twill weave, 50% aramid and 50% FR viscose, 185 g/m² in accordance with DSSPM 2-2-80-239.

3.4.2.2 The fabric must be printed with CADPAT™ in accordance with DSSPM 3-6-80-001 as follows:

- c. For Type I Canadian Disruptive Pattern (CADPAT™) - Arid (AR)
- d. For Type II Canadian Disruptive Pattern (CADPAT™) – Temperate Woodland (TW)

3.4.3 Slide Fasteners.

3.4.3.1 All slide fasteners must be flame resistant in accordance with CAN/CGSB-155.1-2001, para 5.1.2.

3.4.3.2 All slide fasteners must have brass interlocking members with automatic locking sliders conforming to D-83-001-005/SF-001.

3.4.3.3 The metal components must have a dull or antique finish.

3.4.3.4 The tapes must be made with flame resistant fibres and must be woven using a twill weave.

3.4.3.5 When tested in accordance with the applicable test methods, the slide fasteners must meet the requirements for colourfastness, strength and flame resistance.

3.4.3.6 The colour used on Type I Trousers, must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.3.7 The colour used for Type II Trousers must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.4.3.8 Detailed requirements are as listed in Table II below:

Table II – Requirements for Slide Fasteners

Application	Class	Type	Chain Type	Pull Type	Length
Front fly	3	1	Metal (brass)	Long pull	see Scale of Measurements
Thigh patch pocket	3	15	Metal (brass)	Long pull	7-3/4 inches (19.7 cm)
Thigh pocket (w/map clip)	3	15	Metal (brass)	Long pull	7-3/4 inches (19.7 cm)
Knife pocket	3	15	Metal (brass)	Long pull	6 inches (15.2 cm)
Bottom leg pockets	3	15	Metal (brass)	Long pull	8-1/2 inches (21.6 cm)
Suppression closure	3	1	Metal (brass)	Long pull	12 inches (30.5 cm)

3.4.4 Hook and Loop Fastener Tape.

3.4.4.1 The hook and loop fastener tape must be Type II, Class 1 with a flame retardant finish in accordance with A-A 55126A.

3.4.4.2 The required widths for the tape must be 18 mm (3/4-inch) and 25 mm (1 inch).

3.4.4.3 When used on Type I Trousers, the colour of the tape must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.4.4 When used on Type II Trousers, the colour of the tape must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.4.4.5 Detailed requirements are as listed in Table III below:

Table III: Hook and Loop Fastener Details

LOCATION		FASTENER TAPE - HOOK				FASTENER TAPE - LOOP			
		width		length		width		length	
		in	cm	in	cm	in	cm	in	cm
1	Back hip pockets	1.0	2.5	3.0	7.6	1.0	2.5	3.0	7.6
2	Pencil pockets	1.0	2.5	2.0	5.1	1.0	2.5	2.0	5.1
3	Message pad pocket	0.75	1.9	4	10.2	0.75	1.9	4	10.2

3.4.5 Webbing.

3.4.5.1 The webbing for the pencil pockets and map clip holders, must be cotton webbing with water and rot resistance in accordance with Type I of D-80-001-101/SF-001.

3.4.5.2 The colour used for Type I Trousers must be Light Sand in accordance with Sealed Pattern DSSPM 263-02.

3.4.5.3 The colour used for Type II Trousers must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.4.6 Cord.

3.4.6.1 The cord for the slide fastener pulls and knife loop must be Cord, Plaited, Spun Synthetic Fibre, Type I in accordance with D-80-001-028/SF-001.

3.4.6.2 The colour used for Type I Trousers must be Light Sand in accordance with Sealed Pattern DSSPM 263-02.

3.4.6.3 The colour used for Type II Trousers must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.4.7 Buttons.

3.4.7.1 Buttons must be nylon, slotted type button, 30-ligne, in accordance with CF-B-854 and Drawing 373118. One button is required for each pair of Trousers

3.4.7.2 When used on Type I Trousers, the colour of the tape must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.7.3 When used on Type II Trousers, the colour of the tape must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.4.8 Map clips.

3.4.8.1 The map clips must be in accordance with Drawing 391335.

3.4.8.2 The colour must be black.

3.4.8.3 Unless otherwise specified, these items will not be supplied by the Government.

3.4.8.4 Suggested sources of supply for the map clip are:

Integrated Plastic Inc.
170 Commander Blvd.
Agincourt, Ontario
M1S 3C8

Texfast Group Ltd.
88 Tycos Drive
Toronto, Ontario
M6B 1V9

3.4.9 Writing Surface.

3.4.9.1 The writing surface must be made of two plies of plastic.

3.4.9.2 One ply must be white polystyrene, 0.020-inch (0.05 mm) thick.

3.4.9.3 The other ply must be clean transparent vinyl, 0.020-inch (0.05 mm) thick.

3.4.9.4 Both plies of plastic must measure 6-inches (15.2 cm) long by 4-1/2 inches (11.4 cm) wide and must have rounded corners, using a 1/4-inch (6.4 mm) radius.

3.4.10 Thread for Seaming, Stitching, Buttonholes, Bartacks and Serging.

3.4.10.1 The thread for seaming, stitching, buttonholes, bartacks and serging must be Thread, Aramid, Spun Staple, in accordance with Type II of A-A-55217.

3.4.10.2 The thread size must be appropriate to the operation and materials being sewn.

3.4.10.3 The colour used for Type I Trousers must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.4.10.4 The colour used for Type II Trousers must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.5 Cutting

3.5.1 The Trousers must be cut using duplicates of Government supplied paper patterns.

3.5.2 The shell parts of the trousers must be cut in the direction of the warp as shown on the paper patterns.

3.5.3 The shell parts of each trouser must be cut from the same piece of shell material with the exception of the front fly facing, back pocket jettings, pocket stays and button strap which may be cut from separate lay or ends of shell material.

3.6 Sewing.

3.6.1 General.

3.6.1.1 All seams must be in accordance with CAN/CGSB-54.1-M.

3.6.1.2 Unless otherwise specified, all stitching must be either lockstitched Type 301 or chain stitch Type 401 conforming to CAN/CGSB-54.1-M having not less than 9 nor more than 11 stitches per inch (2.5 cm).

3.6.1.3 Where double-lapped seams are specified, numerical designation 2.04.03 of CAN/CGSB-54.1-M must be used. They may be lock or chain stitched, with the needles set 1/4-inch (6.4 mm) apart.

3.6.1.4 Seams must be a minimum of 3/8-inch (9.5 mm) wide or as otherwise specified.

3.6.1.5 The ends of all lockstitched seams and stitchings, also breaks in thread must be securely backstitched.

3.6.1.6 The stitches must present a regular even appearance without fabric pucker, free from skips that may result from faulty machine tension or other stitching malfunctions.

3.6.2 Serging.

3.6.2.1 All exposed raw edges, must be finished with any 500 series, with not less than 10 stitches per inch (2.5 cm).

3.6.2.2 Where seaming and serging is specified, this may be done in one or two operations.

3.6.3 Hook and Loop Fastener Tape.

3.6.3.1 Hook and loop fastener tape must be stitched around all edges, so that the stitching is formed into the hook or loop portion of the tape.

3.6.3.2 When tapes wider than 1-inch (2.5 cm) are used, they must be stitched around all edges and through the centre or have a 'X' enclosed in the box.

3.6.4 Bartacks. Unless otherwise specified, bartacks must be 1/2-inch (12.7 mm) long, with not less than 20 cover stitches.

3.6.5 Buttonholes.

3.6.5.1 Buttonholes must be gimp reinforced eyelet type, with not less than 22 stitches per inch (2.5 cm).

3.6.5.2 The ends must be bartacked.

3.6.6 Button and Strap Assembly.

3.6.6.1 Slotted buttons must be attached with a strap in accordance with Drawing 8790166.

3.6.6.2 The button strap may be either seam type numerical designation 8.06.02 or 8.19.01, in accordance with CAN/CGSB-54.1-M, having not less than 10 stitches nor more than 12 stitches per inch (2.5 cm).

3.6.6.3 All exposed raw edges must be serged.

3.6.7 Pockets.

3.6.7.1 All pocket edges must be serged.

3.6.7.2 Pocket assemblies must be positioned as indicated on paper pattern and stitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge.

3.6.7.3 For pocket dimensions, see Figure 3 and 4.

3.6.8 Slide Fastener Covers on Pockets.

3.6.8.1 A piece of shell must be folded in three, as indicated on paper pattern, and free edge stitched at 1/8-inch (3.2 mm) gauge.

3.6.8.2 The cover must be positioned over the slide fastener covering the other half of the chain and stitched 1/4-inch (6.4 mm) gauge.

3.7 Construction

3.7.1 Left front thigh (Figure 3). The left upper thigh must have two pockets with vertical slide fastener closures: a knife pocket with an internal loop; and a patch pocket with map clip assembly.

3.7.2 Knife pocket.

3.7.2.1 The pocket must be made of shell material and positioned on the inner thigh of the left leg.

3.7.2.2 It must be bellows style with a flap across the top end and a covered slide fastener, closing towards top.

3.7.2.3 The slide fastener must be covered by jettings and stitched at 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) 1/4-inch (6.4 mm) gauge.

3.7.2.4 Loop. A loop of shell material measuring 6-inches (15.2 cm) long must be folded in half.

3.7.2.4.1 The loop must be placed under the pocket assembly, along the top edge, 1-inch (2.5 cm) from pocket opening and stitched in place.

3.7.2.4.2 The functional length of the loop must be 2-1/2 inches.

3.7.3 Patch Pocket with Map Clip Holder (Figure 3).

3.7.3.1 Map Clip Assembly.

3.7.3.1.1 Each end of the webbing must be turned under and stitched across the fold 1/4-inch (6.4 mm) gauge.

3.7.3.1.2 The bottom end must be folded up 3-1/2 inches (8.9 cm).

3.7.3.1.3 Two rows must be stitched parallel to the sides, at 1/2-inch (12.7 mm) gauge.

3.7.3.1.4 With the map clip inserted, and the remaining 1-inch (2.5 cm) of webbing must be folded over the top edge of the map clip.

3.7.3.1.5 The map clip assembly must be placed on the left thigh pocket and seamed twice around all edges 1/8-inch (3.2 mm) gauge.

3.7.3.1.6 The top corners of the bottom webbing must be reinforced with vertical bartacks.

3.7.3.2 Patch Pocket.

3.7.3.2.1 The pocket and pocket stay must be seamed together along the pocket opening, turned and topstitched 1/8-inch (3.2 mm) gauge.

3.7.3.2.2 The pocket opening edge must be placed over the slide fastener covering half of the teeth and stitched 1/4-inch (6.4 mm) gauge to the slide fastener tape.

3.7.3.2.3 The slide fastener must close toward the top.

3.7.4 Right Front Thigh (Figure 3).

3.7.4.1 A message pad pocket with covered slide fastener closure and see-through writing surface with hook and loop tape closure must be positioned on the right thigh.

3.7.4.2 The see-through pocket must be made of one ply of shell material folded in half.

3.7.4.3 A see-through window must be cut as indicated on paper patterns.

3.7.4.4 The finished opening must be topstitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge.

3.7.4.5 The hook and loop closure fastener tapes must be in accordance with Table III, the loop positioned at the top of the inside of the window, and the hook positioned on the patch pocket to effect proper closure with the window pocket.

3.7.4.6 The window pocket must be positioned on the patch pocket as indicated on paper pattern, with the raw edges turned under and stitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge.

3.7.4.7 The pocket and pocket stay must be seamed along the opening, turned and topstitched 1/8-inch (3.2 mm) gauge.

3.7.4.8 The pocket opening edge must be placed over the slide fastener covering half of the teeth and stitched 1/4-inch (6.4 mm) gauge to the slide fastener tape.

3.7.4.9 The curved top bridge must be at the top of the pocket.

3.7.5 Quarter Cut Side Pockets (Figure 2).

- 3.7.5.1 The pocketing must be shell material.
- 3.7.5.2 The finished pocket opening must be stitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge.
- 3.7.5.3 The pocketing must be folded in half and seamed along the bottom, turned and stitched 1/4-inch (6.4 mm) gauge.
- 3.7.5.4 The front must be stitched to the pocket, turned and stitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge.
- 3.7.5.5 The pocket opening must be bartacked at each end.
- 3.7.5.6 The opening must be 7-inches (17.7 cm).
- 3.7.5.7 A seamed dart, pressed towards the centre, must be located at the top of each back.

3.7.6 Back Hip Pockets (Figure 5).

- 3.7.6.1 The back hip pocket must have single jetted pockets with flap.
- 3.7.6.2 The flap must close with hook and loop fastener tape.
- 3.7.6.3 The pocket jetting must be seamed across both ends and stitched 1/4-inch (6.4 mm) gauge.
- 3.7.6.4 The pocket jetting must be topstitched 1/16-inch (1.6 mm) gauge along the opening.
- 3.7.6.5 The jetting must finish at 1-1/2 inches (3.8 cm) wide.
- 3.7.6.6 The pocket opening must be bartacked at each end and the flap.
- 3.7.6.7 Finished pocket flaps must be stitched 1/4-inch (6.4 mm) gauge.
- 3.7.6.8 The hook and loop fastener tape must be in accordance with Table III and the sealed sample and positioned on the pocket to effect proper closure with the flap.

3.7.7 Bottom Leg Reinforcement.

- 3.7.7.1 The bottom of each pant leg must be interlined with one layer of shell material.
- 3.7.7.2 The reinforcement piece must be positioned on the inside of each leg and stitched 1/8-inch (3.2 mm) and 1/4-inch (6.4 mm) gauge along the top edge.

3.7.8 Joining Front and Back.

- 3.7.8.1 The front and back must be seamed together along the side seam with a double lapped seam.
- 3.7.8.2 The back edge of the side pocket, map clip and message pad pocket must be included in the seam, with the front overlapping the back on the outside. .

3.7.9 Lower Leg Pockets (Figure 4).

- 3.7.9.1 A patch pocket with a covered slide fastener closure across the top and sewn-on safety pencil pocket must be placed on each lower leg side seam.

- 3.7.9.2** A flashlight pocket must be placed inside the left lower leg pocket.
- 3.7.9.3** The flashlight pocket must be made of shell material.
- 3.7.9.4** The flashlight pocket top edge must be turned and stitched 1/8-inch (3.2 mm) gauge to form a finished hem 1/2-inch (12.7 mm) deep.
- 3.7.9.5** The bellow cuts at the corners must be seamed.
- 3.7.9.6** With raw edges turned under, the pocket must be positioned on the left bottom leg, as indicated on paper patterns, and stitched 1/16-inch (1.6 mm) gauge.
- 3.7.9.7** The pencil pockets must be constructed from webbing measuring 2-inches (5 cm) wide by 16-inches (40.6 cm) long.
- 3.7.9.8** The top end of the pencil pocket webbing must be folded under 1/2-inch (12.7 mm) and stitched 1/8-inch (3.2 mm) gauge.
- 3.7.9.9** The bottom ends of the pencil pocket webbing must be folded under 1/2-inch (12.7 mm) and stitched 1/8-inch (3.2 mm) gauge.
- 3.7.9.10** The hook and loop shall be in accordance with Table III, the loop positioned 1-inch (2.5 cm) from top edge and the hook over the turned edge.
- 3.7.9.11** The lower edge of the pocket must be turned up 7-inches (17.7 cm) and a row of stitching must be made down the centre of the pocket starting 1-3/4 inches (4.4 cm) from the top edge of the flap, creating a safety flap.
- 3.7.9.12** The pencil pocket must be positioned on each bottom leg pocket and stitched 1/8-inch (3.2 mm) gauge, twice, around all edges.
- 3.7.9.13** The safety flap must have three vertical bartacks at the top of the rows of stitching, one at the centre and one at each side edge.
- 3.7.9.14** The top raw edge of the pocket must be turned under and stitched 1/8-inch (3.2 mm) gauge.
- 3.7.9.15** The folded edge must be placed over the slide fastener tape covering half of the slide fastener teeth and stitched 1/4-inch (6.4 mm) gauge to the slide fastener tape.
- 3.7.9.16** The curved end of the slide fastener must be closest to the side seam.
- 3.7.9.17** The lower leg patch pockets shall be positioned as per paper pattern..
- 3.7.10 Leg Bottom.**
- 3.7.10.1** Each leg bottom must be turned up 2-inches (5 cm), double-needle stitched to form a finished hem of 1-1/2 inches (6.3 cm) deep.
- 3.7.10.2** Each slide fastener cover for leg suppression cover must be folded in three, as indicated on paper pattern, and free edge stitched at 1/8-inch (3.2 mm) gauge.
- 3.7.10.3** A cover must be positioned over each side of the slide fastener covering half the chain.
- 3.7.10.4** The top edge of the covers must be folded down, over the slide fastener tape.
- 3.7.10.5** When open, the slider stopper must be at the top.

3.7.11 Leg Suppression (Figure 4).

3.7.11.1 The zip cover and slide fastener assembly must be opened and positioned at the bottom of each leg to form an inverted "V".

3.7.11.2 The raw edges must be turned under 5/8-inch (15.8 mm) and double needle stitched along sides and top edge.

3.7.11.3 The bottom ends of the slide fastener tapes must be folded under and included in this operation.

3.7.12 Waistband (Figure 2).

3.7.12.1 The waistband must be a cut-on waistband.

3.7.12.2 Each half of the waistband must be finished with a facing.

3.7.12.3 The facing must be turned to the inside and turned under.

3.7.12.4 The waistband must be topstitched 1/8-inch (3.2 mm) gauge along the top and bottom.

3.7.13 Crotch and Seat. The crotch and seat seam raw edges must be serged.

3.7.14 Fly Opening (Figure 2).

3.7.14.1 The fly opening must be fitted with a slide fastener and fly curtain.

3.7.14.2 On the right side the fly curtain plies must be seamed together across the top and along the front edge, turned and stitched 1/16-inch (1.6 mm) gauge.

3.7.14.3 The back edge must be serged.

3.7.14.4 The fly opening on the right front must be serged.

3.7.14.5 The right half of the slide fastener and the back edge of the curtain must be stitched 1/8-inch (3.2 mm) gauge to the right fly opening with the top stop of the slide fastener 1-1/2 inches (3.8 cm) below the top edge of the waistband.

3.7.14.6 The left side of the fly opening must be finished with a facing. The back edge of the facing must be serged.

3.7.14.7 The left side of the slide fastener must be double needle stitched to the facing. The end of the tape must be folded under and secured in this operation.

3.7.14.8 The facing must be sewn to the fly opening, turned and top stitched through all layers 1/8-inch (3.2 mm) gauge along the front and across the top.

3.7.15 Joining the Crotch.

3.7.15.1 The fronts must be joined at the crotch below the fly opening.

3.7.15.2 The seam allowance must be pressed towards the left side and stitched 1/8-inch (3.2 mm) through all plies.

3.7.15.3 The fly curtain and the front facing must be secured with a tack along the bottom of the fly opening.

3.7.15.4 The fly facing must be stitched to the front 1-3/4 inches (4.5 cm) from the front edge at the top and following the curve of the facing at the bottom.

3.7.15.5 This stitching must continue along the crotch seam to the inseam 1/4-inch (6.4 mm) gauge.

3.7.15.6 A bartack must be placed across the bottom of the fly opening.

3.7.16 Front Closure Button.

3.7.16.1 A 30-ligne button and strap assembly must be centred in height on the outside of the right waistband.

3.7.16.2 The button and strap assembly must be placed vertically in such a manner that when the button assembly is fully extended, the button will be centred over the slide fastener (**see Figure 2**).

3.7.16.3 A buttonhole must be positioned on the left side to effect proper closure with the button assembly on the right side. **Note: the front fly must lay flat, without pulling or bunching when the waistband is fully extended.**

3.7.17 Joining the Seat Seam.

3.7.17.1 The Trousers must be seamed together twice at the seat seam.

3.7.17.2 The seam must be 3/8-inch (9.5 mm) at the crotch and widen gradually to 1-1/2 inches (3.8 cm) at the top.

3.7.17.3 The top corners of the seat seam allowance must be stitched or bartacked to the back waistband through all layers.

3.7.18 Joining the Inseam. The backs and fronts must be joined at the inseam with a continuous double-lapped seam with the back overlapping the front on the outside.

3.7.19 Belt loops.

3.7.19.1 The belt loops must be seamed, turned and stitched 1/4-inch (6.4 mm) gauge.

3.7.19.2 Each belt loop must be positioned on the waistband with the ends turned under and bartacked in place across the full width.

3.7.19.3 The finished effective length must be 2-inches (5 cm).

3.7.19.4 Seven (7) belt loops are required for each garment. They must be located as follows: two centred along the front waistband, two placed over the side seams, two centred along the back waistband and one placed over the back seat seam.

3.8 Measurements. Measurements must be as shown on the applicable figures and the Scale of Measurements (see Table I).

3.9 Care and Marking Label.

3.9.1 A Care and Marking Label in accordance with D-80-001-055/SF-001 and CAN/CGSB-86.1-2003 must be sewn by the contractor to the outside ply of the left back pocket bag, 2-inches below the waistband seam.

3.9.2 An example of the care and marking label is provided in Figure 6.

3.9.3 The label must be printed in black.

3.9.4 The colour for Type I Trousers must be Light Sand as shown on Sealed Pattern DSSPM 263-02.

3.9.5 The colour for Type II Trousers must be Canadian Average Green as shown on Sealed Pattern DSSPM 281-01.

3.9.6 The marking must give the following information in English and French, printed in characters not less than 1/8-inch (3.2 mm) nor more than 1/4-inch (6.4 mm) in height, with the exception of the size identification which must be twice the height:

- a. Abbreviated Nomenclature (Trousers, Tac Hel, FR / Pantalons hel tac, FR)
- b. NATO Stock Number (see Table V or VI);
- c. Size by height and chest (see Scale of Measurements – Table I);
- d. NATO size designation (see Scale of Measurements – Table I);
- e. Contract Number;
- f. Contractor Name. No initials, logos or trademarks shall be used;
- g. Date of Manufacture;
- h. Fibre content;
- i. Care symbol;
- j. The following care instructions:

TROUSERS, TAC HEL, FR

1. WASH NEW GARMENTS BEFORE WEARING.
2. LAUNDER GARMENTS SEPARATELY IN WARM WATER. A SECOND CLEAN WATER RINSE IS RECOMMENDED. DO NOT USE FABRIC SOFTENER.

PANTALON, HEL TAÇ, FR

1. LAVER LES VÊTEMENTS NEUFS AVANT DE LES PORTER.
2. LAVER LES VÊTEMENTS SÉPARÉMENT DES AUTRES AVEC DE L'EAU TIÈDE. DEUX RINÇAGES SONT RECOMMANDÉS. NE PAS UTILISER D'ASSOUPLISSANT.

- k. A line for user identification.

3.9.7 Care Symbols. The following care symbols, as defined in CAN/CGSB-86.1-2003 must be included on the marking label:

- a. Table 1 – Washing – symbol 11;
- b. Table 2 – Bleaching – symbol 3;
- c. Table 3 – Drying – symbol 2;
- d. Table 4 – Ironing/Pressing – symbol 1; and
- e. Table 5 – Professional Textile Care – symbol 3.



3.10 Finishing. The Trousers must be cleaned, pressed, folded.

3.11 Packaging and Packing. Unless otherwise specified, the packaging, packing and delivery must be in accordance with the terms of the contract.

**Table IV – NATO Stock Numbers (NSN) for Type I Trousers -
Trousers, Tactical Helicopter, CADPAT™ AR**

SIZE	NSN
A/A	8415-20-004-0958
6728	8415-20-004-0959
6730	8415-20-004-0960
6732	8415-20-004-0961
6734	8415-20-004-0962
6736	8415-20-004-0963
6738	8415-20-004-0964
6740	8415-20-004-0965
7028	8415-20-004-0966
7030	8415-20-004-0967
7032	8415-20-004-0968
7034	8415-20-004-0969
7036	8415-20-004-0970
7038	8415-20-004-0971
7040	8415-20-004-0972
7042	8415-20-004-0973
7044	8415-20-004-0974
7046	8415-20-004-0975
7330	8415-20-004-0976
7332	8415-20-004-0977
7334	8415-20-004-0978
7336	8415-20-004-0979
7338	8415-20-004-0980
7340	8415-20-004-0981
7342	8415-20-004-0982
7344	8415-20-004-0983
7346	8415-20-004-0984
7630	8415-20-004-0985
7632	8415-20-004-0986
7634	8415-20-004-0987
7636	8415-20-004-0988
7638	8415-20-004-0989
7640	8415-20-004-0990
7642	8415-20-004-0991
7644	8415-20-004-0992
7646	8415-20-004-0993
SPECIAL	8415-20-004-0994

**Table V – NATO Stock Numbers (NSN) Type II Trousers -
Trousers, Tactical Helicopter, CADPAT™ TW**

SIZE	NSN
A/A	8415-20-007-9803
6728	8415-20-007-9804
6730	8415-20-007-9805
6732	8415-20-007-9806
6734	8415-20-007-9807
6736	8415-20-007-9808
6738	8415-20-007-9809
6740	8415-20-007-9810
7028	8415-20-007-9811
7030	8415-20-007-9812
7032	8415-20-007-9813
7034	8415-20-007-9814
7036	8415-20-007-9815
7038	8415-20-007-9816
7040	8415-20-007-9817
7042	8415-20-007-9818
7044	8415-20-007-9819
7046	8415-20-007-9820
7330	8415-20-007-9821
7332	8415-20-007-9822
7334	8415-20-007-9823
7336	8415-20-007-9824
7338	8415-20-007-9825
7340	8415-20-007-9826
7342	8415-20-007-9827
7344	8415-20-007-9828
7346	8415-20-007-9829
7630	8415-20-007-9830
7632	8415-20-007-9831
7634	8415-20-007-9832
7636	8415-20-007-9833
7638	8415-20-007-9834
7640	8415-20-007-9835
7642	8415-20-007-9836
7644	8415-20-007-9837
7646	8415-20-007-9838
SPECIAL	8415-20-007-9839

TABLE I - SCALE OF MEASUREMENTS
TROUSERS, TACTICAL HELICOPTER CREW

DSSPM 2-6-87-2264
SEP 2017

MEASUREMENTS OF BODY				MEASUREMENTS OF GARMENT								
HEIGHT AND WAIST	HEIGHT WITHOUT SHOES	NATO SIZE	WAIST	HIP (in line with bottom of fly)	WAIST (top edge)	OUTSEAM (including waistband)	INSEAM	KNEE (1/2 inseam length)	BOTTOM	FLY ZIPPER		
6728	5'4" to 5'6 1/2"	7580-7075	SHORT	27-28	28	40	28 1/2	20	17 1/2	7 1/2		
6730		7580-7580		29-30	30			21	18			
6732		7580-8085		31-32	32			21	18			
6734		7580-8590		33-34	34			22	18 1/2			
6736		7580-9095		35-36	36			22	18 1/2			
6738	5'7" to 5'9 1/2"	7580-9500	REGULAR	37-38	40	43	30 1/2	23	19	8 1/2		
7040		8085-0005		39-40	42			23	19			
7042		8085-0510		41-42	44			24	19 1/2			
7044		8085-1015		43-44	44			24	19 1/2			
7046		8085-1520		45-46	46			25	20			
7330	5'10" to 6' 1/2"	8590-7580	TALL	29-30	30	46	32 1/2	21	18	9 1/2		
7332		8590-8085		31-32	32			21	18			
7334		8590-8590		33-34	34			22	18 1/2			
7336		8590-9095		35-36	36			22	18 1/2			
7338		8590-9500		37-38	38			23	19			
7340	6' 1/2"	8590-0005		39-40	40			23	19			
7342		8590-0510		41-42	42			24	19 1/2			
7344		8590-1015		43-44	44			24	19 1/2			
7346		8590-1520						58	46		25	20
7630	6' 1/2" to 6' 3 1/2"	9095-7580	X-TALL	29-30	30	49	34 1/2	21	18	10		
7632		9095-8085		31-32	32			21	18			
7634		9095-8590		33-34	34			22	18 1/2			
7636		9095-9095		35-36	36			22	18 1/2			
7638		9095-9500		37-38	38			23	19			
7640	6' 3 1/2"	9095-0005		39-40	40			23	19			
7642		9095-0510		41-42	42			24	19 1/2			
7644		9095-1015		43-44	44			24	19 1/2			
7646		9095-1520						58	46		25	20
TOLERANCE PLUS OR MINUS				1	1/2	3/4	1/2	1/2	1/2	0		

FIGURE 1 - FRONT AND BACK VIEW

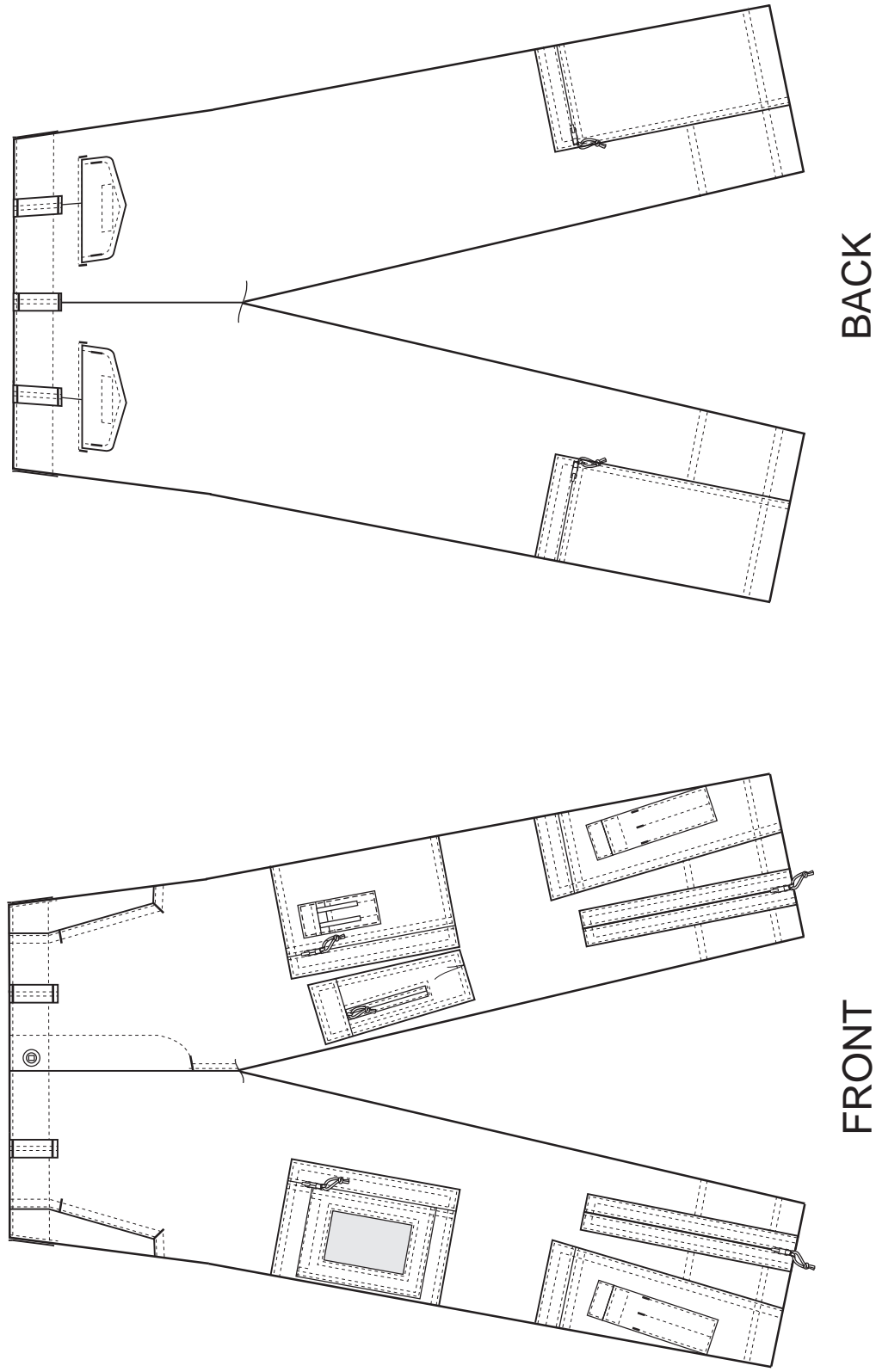


FIGURE 2 - DIMENSIONS OF GARMENT COMPONENTS

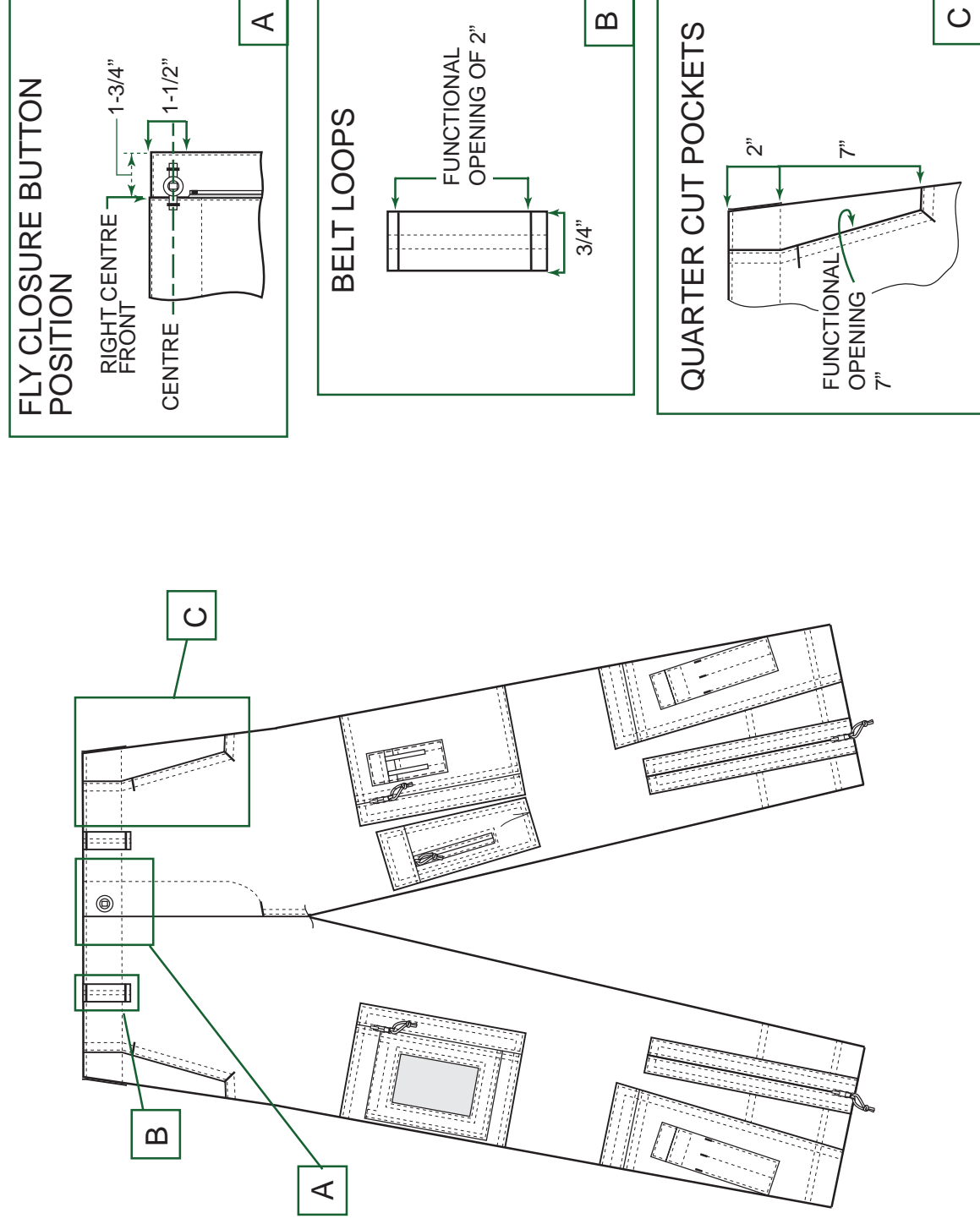


FIGURE 3 - THIGH POCKET SYSTEMS

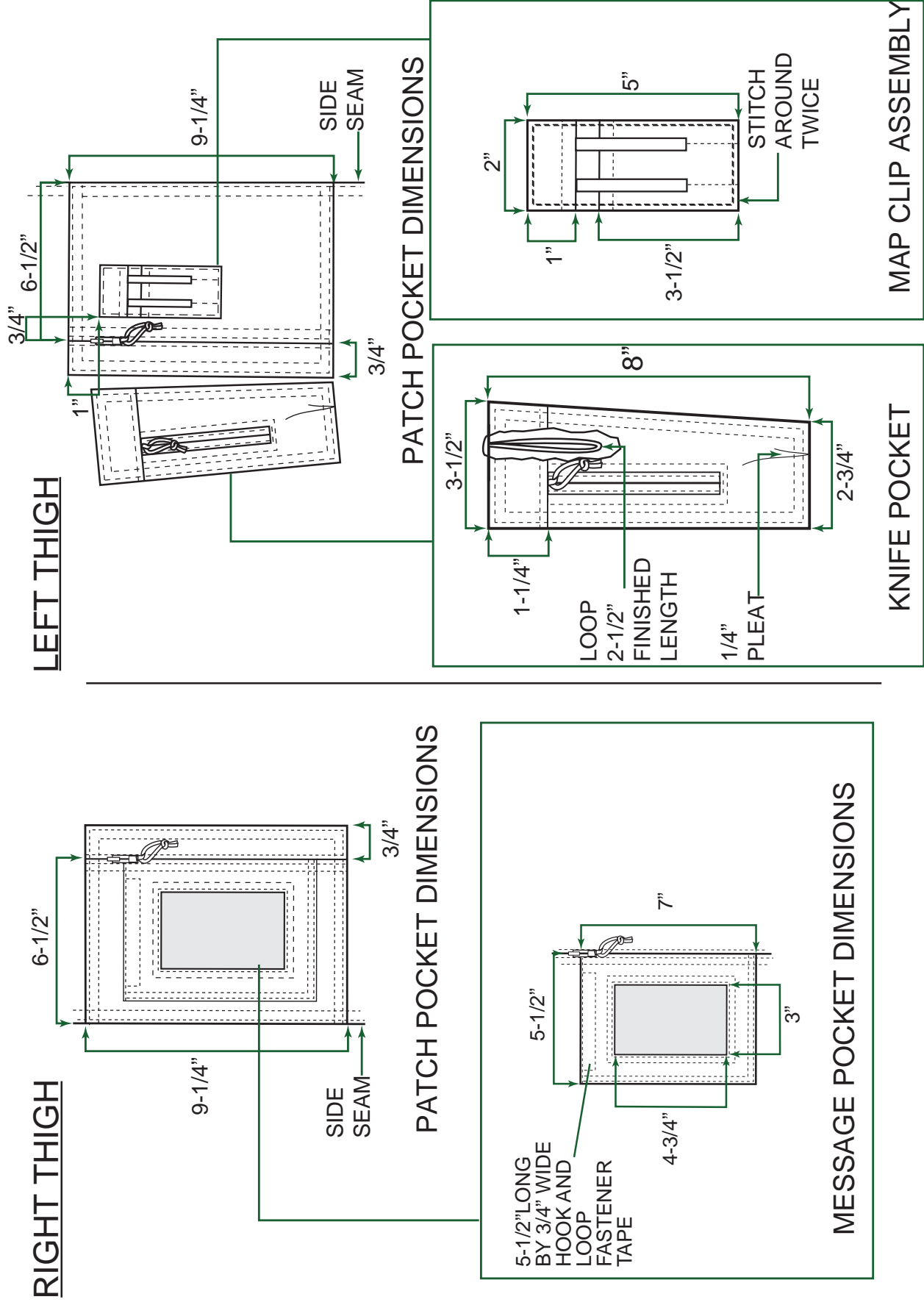


FIGURE 4 - DIMENSIONS FOR BOTTOM LEG COMPONENTS

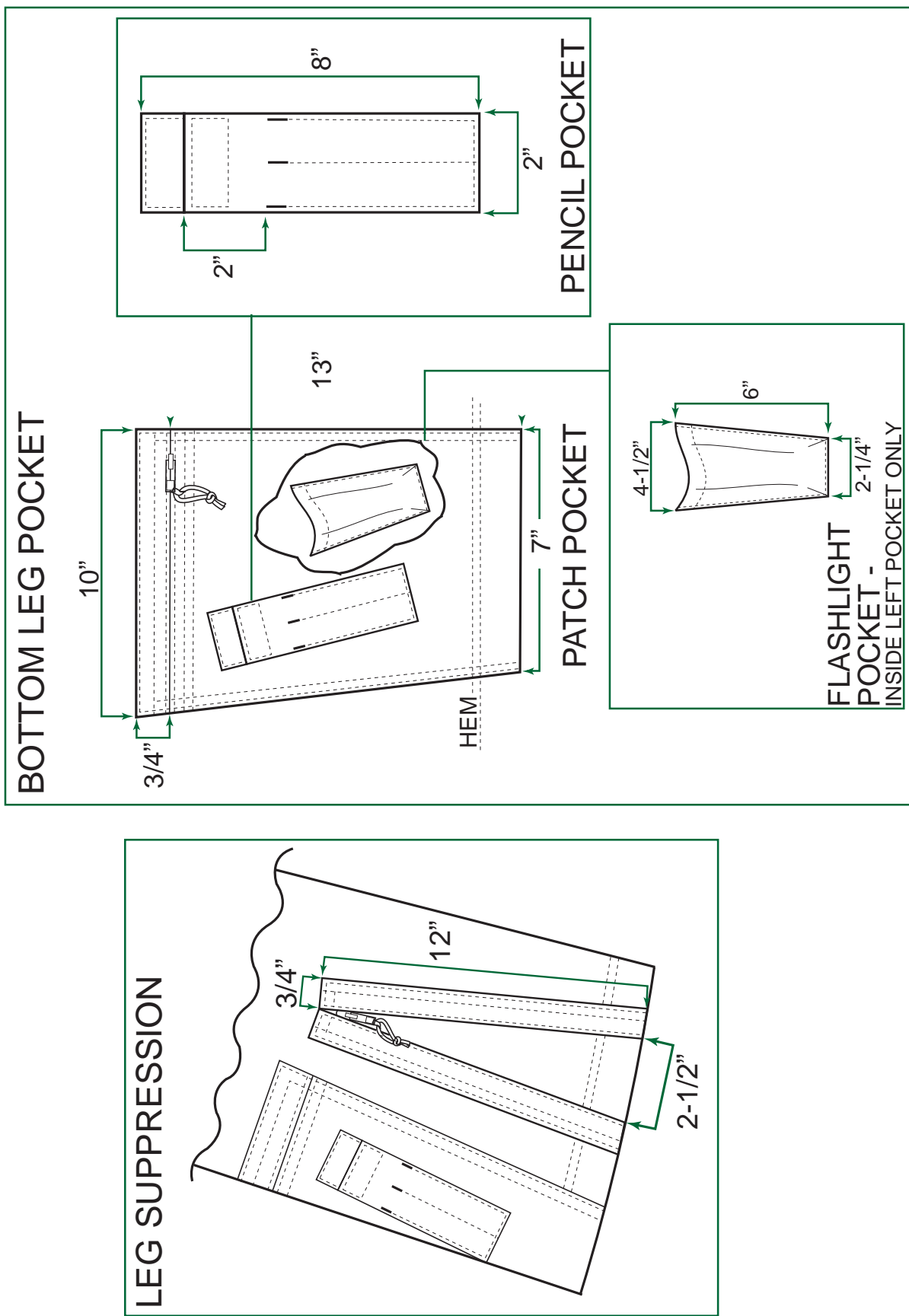


FIGURE 5 - BACK HIP POCKET

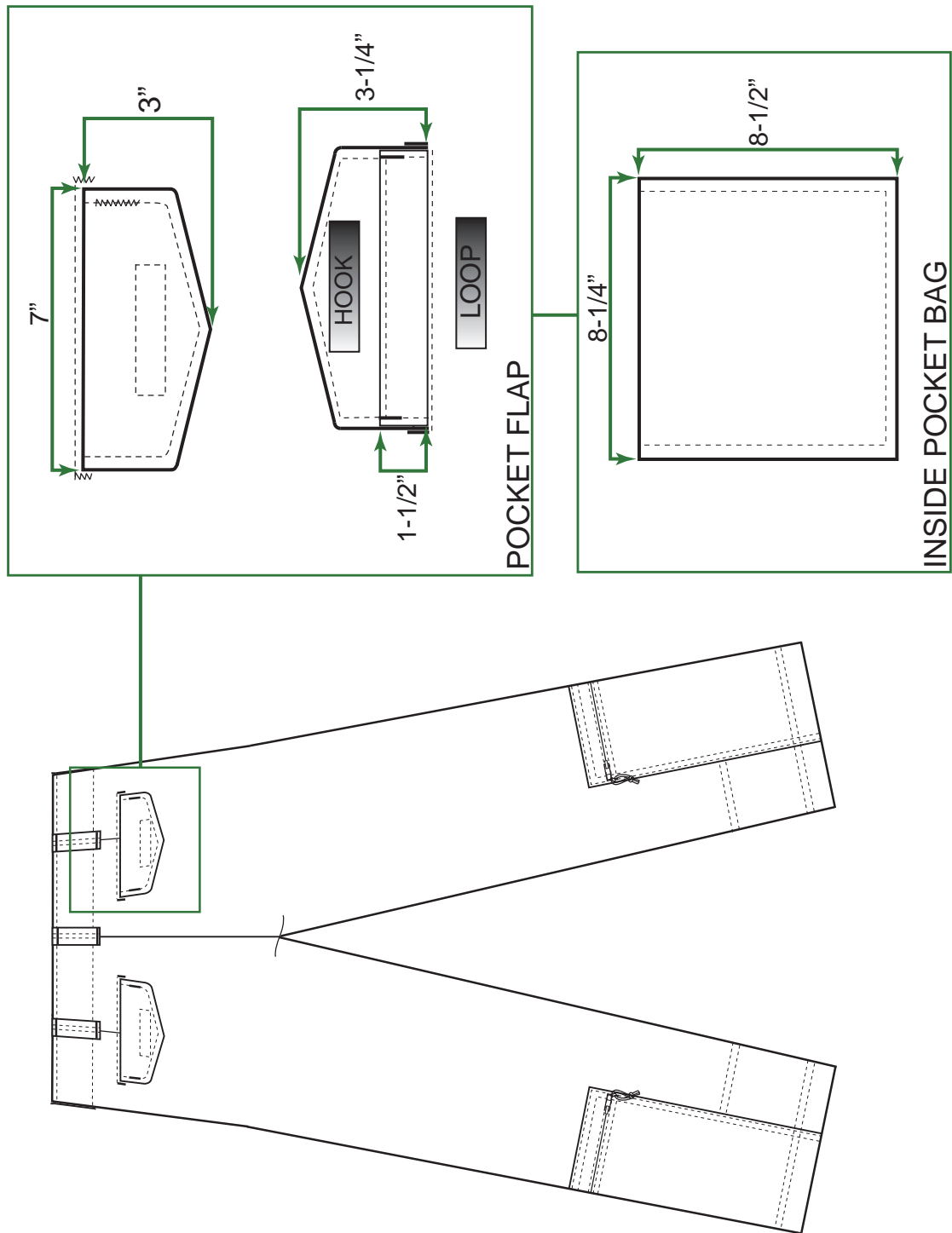






FIGURE 6 - CARE AND MARKING LABEL FOR TYPE I AND II

ITEM & CONTRACT INFO	ARTICLE ET INFO SUR LE CONTRAT	<div><p>TROUSERS, TACTICAL HELICOPTER CREW, FR PANTALONS, ÉQUIPAGE D'HELICOPTER TACTIQUE, FR NSN/NNO: 8415-20-XXX-XXXX</p><p>SIZE/TAILLE : 7034</p><p>NATO SIZE / TAILLE OTAN : XXXX-XXX CONTRACT NO. / NO. DE CONTRAT: WXXXX-XXXXXX CONTRACTOR NAME/NOM D'ENTREPRENEUR: Jones & Company DATE OF / DE MANUFACTURE: MM/YY FIBRE CONTENT / TENEUR DE FIBRES: XXXXXXXXXXXXX</p></div>			
CARE SYMBOLS	SYMBOLES D'ENTRETIEN				
		40°C Tumble dry on medium. / Séchage par culbutage T/moyenne	Do not bleach. / Ne pas javelliser.	Iron at high temperature / Repasser à une température élevée.	Do not dry-clean / Ne pas nettoyer à sec.
CARE INSTRUCTIONS	CONSIGNES D'ENTRETIEN	<div><p>1. WASH GARMENTS BEFORE WEARING. 2. WASH GARMENTS IN WARM WATER. A SECOND, CLEAN WATER RINSE IS RECOMMENDED. DO NOT USE FABRIC SOFTENER.</p><p>1. LAVER LES VÊTEMENTS NEUFS AVANT DE LES PORTER. 2. LAVERS LES VÊTEMENTS À L'EAU TIÈDE. DEUX RINÇAGES SONT RECOMMANDÉS. NE PAS UTILISER D'ASSOUPLISSANT.</p></div>			
USER ID	ID DE L'UTILISATEUR	I.D. _____			



NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document shall continue to apply.

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

SPECIFICATION

FOR

CLOTH, TWILL, ARAMID/FR VISCOSE,

185 g/m²

SPÉCIFICATION

POUR LE

TISSU À ARMURE SERGÉ

ARAMIDE/RAYONNE RÉSISTANT

AUX FLAMMES, 185 g/m²

1. SCOPE

1.1 Scope. This specification in its entirety covers the requirements for Cloth, Twill, Aramid/FR Viscose, 185 g/m².

1.2 Description. The cloth described by this specification is a woven fabric composed primarily of aramid and permanently flame resistant viscose fibres. The fabric may be solid coloured or it may be printed with one of the CADPAT™ patterns. The fabric is intended for use in flame resistant clothing worn by the Canadian Armed Forces.

2. APPLICABLE DOCUMENTS

2.1 Government documents. The following document forms part of this specification to the extent specified herein. The effective date is that in effect on the date of the invitation to tender. Copies may be obtained from the following address.

DSSPM 3-6-80-001 Specification for
CADPAT™ (Canadian
Disruptive Pattern)

1. PORTÉE

1.1 Portée. La présente spécification dans sa totalité vise les exigences pour tissu à armure serge, aramide/rayonne résistant aux flammes, 185 g/m².

1.2 Description. Le tissu décrit par cette spécification est un tissu tissé composé principalement de fibres d'aramide et de fibres de viscose permanente ignifuges. Le tissu peut être solide de couleur ou peut être imprimé avec l'un des motifs DCamC^{MC}. Le tissu est destiné à être utilisé dans les vêtements résistant aux flammes porté par les Forces armées canadiennes.

2. DOCUMENTS APPLICABLES

2.1 Documents du gouvernement. Le document suivant fait partie intégrante de la présente spécification dans la mesure prescrite par cette dernière. La version en vigueur à la date d'appel d'offres s'applique. Des copies peuvent être obtenues de l'adresse suivante.

DSSPM 3-6-80-001 Spécification DCamC^{MC}
(Dessin de camouflage
canadien)

Department of National Defence (NDHQ)
Major General George R. Pearkes Building
101 Colonel By Drive
Ottawa, Ontario K1A 0K2
Attention: DSSPM 3

Ministère de la défense nationale (QGDN)
Édifice Mgén George R. Pearkes
101, promenade Colonel By
Ottawa (Ontario) K1A 0K2
À l'attention de: DAPES 3

2.2 Other publications. The following publications form part of this specification to the extent specified herein. The effective date is that in effect on the date of the invitation to tender. Sources are as shown.

2.2 Autres publications. Les publications suivantes font partie intégrante de la présente spécification dans la mesure prescrite par cette dernière. La version en vigueur à la date d'appel d'offres s'applique. La source de diffusion est celle qui est indiquée.

AATCC Test Methods

American Association of Textile Chemists and Colorists
PO Box 12215
Research Triangle Park, NC
27709-2215 USA
Telephone: 919-549-3526
Website: www.aatcc.org

AATCC Test Methods

American Association of Textile Chemists and Colorists
PO Box 12215
Research Triangle Park, NC
27709-2215 États-Unis
Téléphone: 919-549-3526
Site Internet: www.aatcc.org

ASTM Standards

ASTM International
PO Box C700
100 Barr Harbor Dr
West Conshohocken, PA
19428-2959 USA
Telephone: 610-832-9585
Email: service@astm.org
Website: www.astm.org

ASTM Standards

ASTM International
PO Box C700
100 Barr Harbor Dr
West Conshohocken, PA
19428-2959 États-Unis
Téléphone: 610-832-9585
Courriel: service@astm.org
Site Internet: www.astm.org

CGSB Standards

Canadian General Standards Board
Place du Portage III, 6B1
11 Laurier Street
Gatineau, Quebec
K1A 1G6 Canada
Telephone: 819-956-0425 or 1-800-665-2472
Email: ncr.cgsb-ongc@tpsgc-pwgsc.gc.ca
Website: <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html>

Normes de l'ONGC

Office des normes générales du Canada
Place du Portage III, 6B1
11, rue Laurier
Gatineau (Québec)
K1A 1G6 Canada
Téléphone: 819-956-0425 ou 1-800-665-2472
Courriel: ncr.cgsb-ongc@tpsgc-pwgsc.gc.ca
Site Internet: <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-fra.html>

US Federal Standards and Military Specifications

DLA Document Services
Building 4/D
700 Robbins Avenue
Philadelphia, PA
19111-5094 USA
Telephone: 215-697-6396
Download Documents:
<http://quicksearch.dla.mil/>

Normes fédérales américains et spécifications militaires

DLA Document Services
Building 4/D
700 Robbins Avenue
Philadelphia, PA
19111-5094 États-Unis
Téléphone: 215-697-6396
Télécharger les documents:
<http://quicksearch.dla.mil/>

ISO International Standards

International Organization for Standardization
 ISO Central Secretariat
 Chemin de Blandonnet 8
 CP 401
 1214 Vernier, Geneva
 Switzerland
 Telephone: +41 22 749 01 11
 E-mail: central@iso.org
 Website: <http://www.iso.org/iso/home.html>

or

Standards Council of Canada
 600-55 Metcalfe Street
 Ottawa, Ontario
 K1P 6L5 Canada
 Telephone: 613-238-3222
 Email: info@scc.ca
 Website: <http://www.scc.ca/en>

Normes internationales ISO

Organisation internationale de normalisation
 Secrétariat central de l'ISO
 Chemin de Blandonnet 8
 CP 401
 1214 Vernier, Genève
 Suisse
 Téléphone: +41 22 749 01 11
 Courriel: central@iso.org
 Site Internet: <http://www.iso.org/iso/fr/home.htm>

ou

Conseil canadien des normes
 55, rue Metcalfe, bureau 600
 Ottawa, Ontario
 K1P 6L5 Canada
 Téléphone: 613-238-3222
 Courriel: info@ccn.ca
 Site Internet: <http://www.scc.ca/fr>

2.3 Sealed patterns.

DSSPM 264-08 Cloth, Twill, 50 aramid/50 FR
 viscose, 170g/m², for fabric
 construction and hand

DSSPM 259-01 Cloth, Twist, Nylon/Cotton,
 Lightweight, CADPAT™
 (TW), for construction,
 colours, pattern, finish, motif
 size, clarity, penetration,
 hand, print quality

DSSPM 253-02 Cloth, Twist, Nylon/Cotton,
 Lightweight, CADPAT™
 (AR), for construction,
 colours, motif size, colour
 distribution, print quality,
 penetration, clarity, hand,
 finish

DCGEM 263-78 For colour SAR International
 Orange: Cloth, Plain Weave,
 Nylon 5.75 oz/yd²

DCGEM 291-85 Cloth, Serge, Wool/Polyester,
 65/35, Black (for colour)

DCGEM 259-86 For colour Navy Blue: Cloth,
 Plain Weave, Aramid,

2.3 Modèles réglementaires.

DSSPM 264-08 Tissu 50 % aramide/50 %
 viscose ignifuge à armure
 sergé, 170g/m², pour la
 confection et la main.

DSSPM 259-01 Tissu nylon/coton simple
 retors léger, DCamC^{MC}
 (RBT), pour la confection, les
 couleurs, le dessin, le fini, la
 taille des motifs, la clarté, la
 pénétration, la main et la
 qualité d'impression

DSSPM 253-02 Tissu nylon/coton simple
 retors léger, DCamC^{MC} (RA),
 pour la confection, les
 couleurs, le dessin, le fini, la
 taille des motifs, la clarté, la
 pénétration, la main et la
 qualité d'impression

DCGEM 263-78 Pour la couleur SAR orange
 international: tissu, armure
 unie, nylon, 5,75 oz/vg²

DCGEM 291-85 Tissu, armure serge, laine/
 polyester, 65/35, noir. Pour la
 couleur.

DCGEM 259-86 Pour la couleur bleu marine:
 tissu aramide, armure unie,

222 g/m², Navy Blue

222 g/m², bleu marine

DSSPM 254-03 For colour Tan: Cloth, Plain Weave, Aramid, 200 g/m², Tan

DSSPM 254-03 Pour la couleur havane: tissu aramide, armure unie, 200 g/m², havane

DSSPM 253-04 For colour Canadian Air Force Green: Cloth, plain weave, flame resistant

DSSPM 253-04 Pour la couleur vert de la Force aérienne canadienne: tissu, armure unie, résistant aux flammes

2.4 Order of precedence.

2.4.1 In the event of a conflict between the text of this specification and the references cited herein, the text of this specification takes precedence.

2.4.2 In the event of inconsistency within the specification, including inconsistency between languages, the Technical Authority (DSSPM 2-2) must be contacted for clarification.

2.4 Ordre de préséance.

2.4.1 En cas de divergence entre les documents mentionnés aux présentes et le contenu de la présente spécification, cette dernière a préséance.

2.4.2 En cas d'incohérence dans l'énoncé de la spécification, incluant l'incohérence entre les langues, il faut communiquer avec l'autorité responsable de la conception (DAPES 2-2) pour obtenir des précisions.

3. REQUIREMENTS

3.1 Workmanship. The material 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 will be considered defects when clearly visible at a normal inspection distance of approximately 1 metre under good, preferably North Light, lighting conditions.

3.2 Sealed patterns. A sealed pattern, when available, will be supplied to the successful bidder. Sealed patterns, when furnished, will constitute the standard only to the extent defined in this Specification. Note that the order of precedence prevails (para 2.4). Sealed patterns must be returned to the Crown and under no circumstances may be mutilated or cut.

3.3 Fabric. The fabric described is a 2/1 twill weave and is depicted in Sealed Pattern DSSPM 264-08. However, alternative weave constructions that meet all other specified performance requirements may be considered acceptable at the discretion of the Design Authority and the Operational Requirements Authority. When tested in accordance with the applicable test methods, the finished fabric must comply with the requirements specified in Table I and, when applicable, DSSPM 3-6-80-001, Specification for CADPAT™.

3. EXIGENCES

3.1 Qualité d'exécution. Le tissu visé par la présente spécification doit être exempt de défauts pouvant nuire à son aspect, sa qualité ou à sa tenue en service. Aux fins d'inspection, les imperfections et les défauts seront considérées comme des défauts lorsqu'elles sont clairement visibles à une distance d'inspection normale d'environ 1 mètre sous bonne conditions d'éclairage, de préférence la lumière du nord.

3.2 Modèles réglementaires. Un modèle réglementaire, lorsque disponible, sera fourni au soumissionnaire retenu. Lorsque fourni, le modèle réglementaire doit constituer la norme en ce qui a trait seulement dans la mesure définie dans la présente Spécification. Nota – L'ordre de préséance (par. 2.4) doit être respecté. Les modèles réglementaires doivent être renvoyés au gouvernement et en aucun cas peut être endommagés ni coupés.

3.3 Tissu. Le tissu décrit est une armure sergé 2/1 et est représenté dans le modèle réglementaire DSSPM 264-08. Cependant, les constructions de tissage alternatives conformes à toutes les autres exigences de performance spécifiées peuvent être considérées comme acceptables à la discrétion de l'autorité responsable de la conception et l'autorité des exigences opérationnelles. Lors des essais réalisés conformément aux méthodes d'essai applicables, le tissu fini doit être conforme aux exigences prescrites au tableau I et, le cas échéant,

3.3.1 Note that the requirement for woven fabric count serves as a guideline and may vary with fabric structure.

3.4 Yarns. Warp and weft yarns are an intimate blend of aramid and flame resistant (FR) rayon (viscose) fibres. The addition of nylon fibres to the intimate blend may be required to impart the required strength and abrasion resistance. Carbon antistatic fibres may be required in order to impart the required electrostatic discharge properties (see Table I). Total carbon antistatic fibre content is to be selected by the producer but may not exceed 5% of the total blend.

3.5 Colour and Print. The solid colour or the printed CADPATTM pattern required will be specified in the Specification for the finished garment or in the invitation to tender. A Sealed Pattern or colour coordinates may be referenced for colour.

3.5.1 CADPATTM. The requirements for the CADPATTM prints as applicable to the fabric described herein are defined in DSSPM 3-6-80-001, Specification for CADPATTM.

3.5.1.1 Printing shall be carried out using best commercial practice using a wet process with dyestuffs. The use of pigments is to be avoided, however, if necessary to impart the required colour and IRR properties, their use must be kept to a minimum in order to ensure a soft hand consistent with that of sealed pattern DSSPM 264-08. Note that the printed pattern must be clearly visible and clean on the reverse side of the textile so good penetration is required.

3.5.2 Solid Colours. Solid fabric colour may be obtained by using solution dyed or dope dyed fibres. The fabric may also be dyed using an appropriate class of dyes that will give the required degree of colour fastness (see Table I) and a uniform, good penetration of colour in the fibres and fabric. Fabric that deviates from the applicable sealed pattern or colour coordinates, or that does not visibly meet the colour penetration requirements will be rejected.

3.5.2.1 Visual colour matching is to be carried out in

3.3.1 Noter que l'exigence tissé nombre de tissu sert de guide et peut varier avec la structure du tissu.

3.4 Fils. Les fils de chaîne et de trame sont un mélange intime de fibres aramides et de fibres de rayonne (viscose) ininflammable. L'addition des fibres en nylon au mélange intime peut être exigée pour donner la résistance de force et la résistance à l'abrasion exigée. Des fibres de carbone antistatiques peuvent être intégrées au tissu pour assurer une protection contre les décharges électrostatiques (voir tableau I). La teneur totale en fibres de carbone antistatiques, à déterminer par le fabricant, ne doit pas représenter plus 5 % du mélange.

3.5 Couleur et imprimer. La couleur unie ou le motif du DCamC^{MC} imprimé requis seront précisées dans la spécification pour le vêtement fini ou dans l'appel d'offres. On peut citer un modèle réglementaire ou des coordonnées de couleur en référence pour la couleur.

3.5.1 DCamC^{MC}. Les exigences pour les impressions DCamC^{MC} comme applicable au tissu décrit ici sont définies dans DSSPM 3-6-80-001, Spécification DCamC^{MC}.

3.5.1.1 L'impression doit être exécutée selon les bonnes pratiques commerciales, utilisant un processus mouillé, au moyen de colorants. L'utilisation de pigments est à éviter, toutefois, si nécessaire pour conférer la couleur et les propriétés requises IRR, leur utilisation doit être limitée au minimum afin d'assurer une main douce compatible avec celle de modèle réglementaire DAPES 264-08. Note que le dessin doit être bien visible et net sur l'envers du tissu, une bonne pénétration est donc nécessaire.

3.5.2 Couleurs Solides. La couleur du tissu solide doit être obtenue à l'aide d'une teinture en solution ou d'une teinture dans la masse des fibres. Le tissu peut également être teint à l'aide d'une catégorie appropriée de teintures qui donneront le degré voulu de solidité de la couleur (voir le tableau I) ainsi qu'une bonne pénétration uniforme de la couleur dans les fibres et le tissu. Les tissus teints qui ne correspondent pas au modèle réglementaire applicable ou aux coordonnées de couleur ou qui ne respectent visiblement pas les exigences relatives à la pénétration de la couleur doivent être rejetés.

3.5.2.1 L'appariement des couleurs visibles doit être

North sky light in the Northern hemisphere, Daylight D65, conditions in accordance with AATCC Evaluation Procedure 9, Visual Assessment of Colour Difference of Textiles, Option B. Unless otherwise specified, the colour difference between sealed pattern and the proposed fabric sample should be Grey Scale (GS) 4 or better.

3.5.2.1.1 There must be minimal “flare” or metamerism when the light source changes (for example, no greater than a difference of GS 4). Should metamerism be observed on the applicable sealed pattern, the proposed fabric sample must exhibit comparable metamerism. The difference between the sealed pattern and the proposed fabric sample should be no more than GS 4 when the light source changes.

3.5.2.2 Colour coordinates: Although CIE $L^*a^*b^*$ coordinates may not be specified for some colours, instrumental colour readings, are to be used in conjunction with the visual evaluation.

3.5.2.2.1 Illuminant D65, 10 degree observer, 8°/t geometry of illumination and viewing with specular component included, must be used for instrumental measurement and colour calculation.

3.5.2.2.2 Sample preparation for all colour measurements must be in accordance with AATCC Instrumental Measurement Procedure #6, A1.3, non-opaque samples. It has been found that at least 4 layers of self-fabric are usually required to provide consistent readings. A standard black backing is recommended. It is the responsibility of the operator to determine and follow a standard sample preparation which meets the stated conditions.

3.5.2.2.3 Colour Acceptance. For colour comparison and acceptance purposes, the applicable sealed pattern and the subject fabric sample must be measured using the same instrument on the same date under the same conditions. The measured CIE $L^*a^*b^*$ colour coordinates for both the sealed pattern and the subject fabric must be reported. As well, the $\Delta E_{CMC(2:1)}$ colour difference between the two must be calculated and reported. The $\Delta E_{CMC(2:1)}$ between the sealed pattern and the proposed fabric must be no greater than 1.5, however, $\Delta E_{CMC(2:1)}$ less than 1 is the goal.

réalisé sous la lumière du nord dans les conditions de l'hémisphère Nord (lumière du jour D65), conformément à la procédure d'évaluation no 9 de l'AATCC, option B (évaluation visuelle de la différence de couleur des textiles). Sauf indication contraire, la différence de couleur entre le modèle réglementaire et l'échantillon de tissu proposé doit être de 4 ou plus sur l'échelle de gris.

3.5.2.1.1 Le métamérisme doit être minimal lorsque la source de lumière change (par exemple, une différence d'au plus 4 sur l'échelle de gris). Si le métamérisme est observé sur le modèle étanche applicable, l'échantillon de tissu proposé doit présenter le métamérisme comparable. La différence entre le modèle scellé et l'échantillon de tissu proposé ne devrait pas être plus de GS 4 lorsque les changements de source lumineuse.

3.5.2.2 Coordonnées de couleur : Bien que les coordonnées CIE $L^*a^*b^*$ ne soient peut-être pas indiquées pour certaines couleurs, on doit utiliser les lectures des couleurs sur appareil avec l'évaluation visuelle.

3.5.2.2.1 L'illuminant D65, à 10°, 8°/t géométrie d'illumination et de la visualisation avec composante spéculaire incluse, doit être utilisé pour la mesure instrumentale et le calcul de la couleur.

3.5.2.2.2 La préparation d'un échantillon pour toutes les mesures de couleur doit se faire conformément à la procédure no 6, Instrumental Measurement Procedure de l'AATCC, A1.3, échantillons non opaques. Il a été découvert qu'au moins quatre épaisseurs de tissu à même sont généralement requises pour fournir des lectures constantes. Un support noir standard est recommandé. C'est la responsabilité de l'exploitant de déterminer et de suivre une procédure de préparation d'un échantillon standard qui satisfait aux conditions énoncées.

3.5.2.2.3 Acceptation du couleur. Aux fins de comparaison des couleurs et d'acceptation, le modèle réglementaire et l'échantillon de tissu sujet applicables doivent être mesurés avec le même appareil, à la même date et dans les mêmes conditions. Les coordonnées de couleur CIE $L^*a^*b^*$ mesurées pour le modèle réglementaire et le tissu sujet doivent être consignées dans un rapport. De plus, la différence de couleur $\Delta E_{CMC(2:1)}$ entre les deux doit être calculée et consignée dans un rapport. La différence $\Delta E_{CMC(2:1)}$ entre le modèle réglementaire et le tissu proposé ne doit pas dépasser 1,5; toutefois, une résultat de $\Delta E_{CMC(2:1)}$ moins de 1 est le but.

3.6 Finish. The cloth is to be given a durable oil resistant and water repellent treatment.

3.7 Piece marking. When delivered to Canada, each piece of cloth must have a label attached to the selvedge at one end. The label is to be made of linen, spun-bonded olefin or heavy cardboard with a reinforced eyelet for attaching a tying cord. The label must be legibly printed with the following information:

- a) Contractor's identification
- b) Gross length in metres (including allowance)
- c) Net length in metres
- d) Piece number
- e) Number of lengths per piece
- f) Nomenclature
- g) Colour
- h) Specification number
- i) Contract number, month and year
- j) NATO Stock Number

4. NOTES

4.1 Definition of terms.

4.1.1 Technical Authority. The Technical Authority is the Government agency responsible for technical aspects of design and changes to design. Unless otherwise specified in the contract, the Technical Authority is the Director Soldier Systems Program Management, DSSPM.

4.1.2 Operational Requirements Authority. The Operational Requirements Authority is the organization responsible for representing the end user. Depending on the end use application, the Operational Requirements Authority may be the Director of Land Requirements, the Director of Air Requirements, the Director of Navy Requirements or other similar organization within the Department of National Defence.

4.1.3 Quality Assurance Authority. The Quality Assurance Authority is the Government agency responsible for providing assurance that material and services supplied by the contractor conform to specified requirements. The Quality Assurance Authority is the Director Quality Assurance.

3.6 Fini. Le tissu doit recevoir un traitement oléofuge et hydrofuge durable.

3.7 Marquage des pièces. Lors de la livraison au Canada, ne étiquette doit être apposée sur la lisière à une extrémité de chaque pièce. L'étiquette doit être en toile de lin, en oléfine thermoliée ou en carton fort et percée d'un œillet renforcé permettant d'attacher une ficelle; elle doit porter les indications suivantes en caractères lisibles:

- a) Identification de l'entrepreneur
- b) Longueur brute en mètres (y compris la réserve)
- c) Longueur nette en mètres
- d) Numéro de la pièce
- e) Nombre de longueurs par pièce
- f) Nomenclature
- g) Couleur
- h) Numéro de la spécification
- i) Numéro, mois et année du contrat
- j) Numéro de nomenclature OTAN

4. REMARQUES

4.1 Définition des termes.

4.1.1 Autorité responsable de la conception. L'autorité responsable de la conception est l'organisme gouvernemental chargé des aspects techniques de la conception et des modifications connexes. Sauf indication contraire dans le contrat, il s'agit de la Direction, Administration du programme de l'équipement du soldat (DAPES).

4.1.2 Autorité des exigences opérationnelles. L'autorité des exigences opérationnelles est l'organisation responsable de la représentation de l'utilisateur final. Selon l'application de l'utilisation finale, l'autorité des exigences opérationnelles peut être le directeur des besoins en terrains, le directeur des besoins en air, le directeur des exigences de la marine ou d'autres organisations similaires au sein du ministère de la Défense nationale.

4.1.3 Autorité responsable de l'assurance de la qualité. Organisme gouvernemental chargé d'assurer que le matériel et les services fournis par l'entrepreneur respectent les exigences prescrites. L'autorité responsable de l'assurance de la qualité est le directeur de l'assurance de la qualité.

4.1.4 Master sealed pattern. A master sealed pattern is the authorized prototype of the item to be produced and is held only by the Government.

4.1.5 Sealed pattern. A sealed pattern is an exact duplicate of the master sealed pattern and is available to the manufacturer to be used as a guide in production.

5. ENVIRONMENTAL, HEALTH, AND SAFETY

5.1 Recycled, recovered, and/or environmentally preferable materials. Recycled, recovered, and/or environmentally preferable materials should be used to the maximum extent possible, provided that the materials meet or exceed the operational and maintenance requirements, and promote economically advantageous life cycle costs.

5.1.1 Manufacturing processes with minimal environmental impact are encouraged.

5.1.2 The use of environmentally preferable materials and manufacturing methods applies to the items covered by this specification as well as to any of the packaging and shipping materials and methods required for delivery.

5.2 Although certification is not a requirement at this time, textile materials covered by this specification should be eligible for certification to OEKO-TEX Standard 100 for class II products.

5.3 The production of a product to this specification, or the evaluation of a product to this specification, may require the use of materials and/or equipment that could be hazardous. This specification does not purport to address all safety, health and environmental concerns, if any, associated with its use. It is the responsibility of the user of this specification to establish appropriate safety, health and environmental practices and to determine the applicability of regulatory limitations prior to use.

4.1.4 Modèle réglementaire principal. Prototype autorisé de l'article qui doit être fabriqué et dont le gouvernement est le détenteur.

4.1.5 Modèle réglementaire. Copie exacte du modèle réglementaire principal mis à la disposition du fabricant qui doit l'utiliser comme un guide.

5. ENVIRONNEMENT, SANTÉ ET SÉCURITÉ

5.1 Matériaux recyclés, récupérés et/ou écologiques. Des matériaux recyclés, récupérés et/ou écologiques devraient être utilisés autant que possible, pourvu qu'ils respectent les exigences opérationnelles et les exigences en matière d'entretien, ou les dépassent, et qu'ils favorisent des économies pendant le cycle de vie des articles.

5.1.1 Les procédés de fabrication ayant une incidence minimale sur l'environnement sont recommandés.

5.1.2 L'utilisation de matériaux et de procédés de fabrication écologiques s'applique aux articles visés par la présente spécification ainsi qu'aux matériaux et méthodes de conditionnement et d'emballage nécessaires pour la livraison.

5.2 Bien que la certification n'est pas une exigence en ce moment, les textiles visés par la présente spécification devraient être admissibles à une certification selon la norme 100 d'OEKO-TEX pour les produits de classe II.

5.3 La fabrication ou l'évaluation d'un produit conformément à la présente spécification pourrait nécessiter l'utilisation de matériel ou d'équipement dangereux. La présente spécification n'a pas pour objet de traiter de toutes les préoccupations relatives à la santé, à la sécurité et à l'environnement liées à son utilisation. Il incombe à l'utilisateur de la spécification d'établir au préalable des méthodes appropriées qui tiennent compte des questions d'environnement, de santé et de sécurité, et de déterminer les restrictions réglementaires applicables.

Table I: Finished Cloth

Property	Test Method	Specified Requirement	Minimum Acceptable	Maximum Acceptable
Fibre Content			25% aramid 35% FR viscose 1% carbon antistatic	65% aramid 65% FR viscose 10% nylon 5% carbon antistatic
Mass (g/m ²)	CAN/CGSB-4.2 No. 5.1		170	200
Woven Fabric Count (yarns per cm)	CAN/CGSB-4.2 No. 6		warp: 22 weft: 21	warp: 24 weft: 23
Breaking Strength (N)	CAN/CGSB-4.2 No. 9.1	warp: 800 weft: 700	warp: 750 weft: 700	
Tearing Strength (N)	CAN/CGSB-4.2 No. 12.1	warp: 40 weft: 40	warp: 35 weft: 35	
Abrasion Resistance	ISO 12947-2 at 12 kPa Test to failure. Report number of cycles to failure and condition of specimen at 35,000 and 45,000 cycles.		>45,000 cycles no thin areas or holes	
Air permeability (cm ³ /cm ² /s)	CAN/CGSB-4.2 No. 36		30	
Dimensional Stability (after 3 wash-dry cycles)	CAN/CGSB-4.2 No. 58 (III.E3) or No. 24 (3.E.III)			warp: 3.0% weft: 3.0%
Colourfastness to Light (<u>Excluding</u> Canadian Air Force Green for which there is no requirement)	AATCC 16.3 Option 3			Grey Scale 4 after 40 AATCC Fading Units, for each colour
Colourfastness to Crocking (all colours)	AATCC 116	dry: GS 5 wet: GS 5		dry: GS 4 wet: GS 3
Water Repellency	CAN/CGSB-4.2 No. 26.2		80	

Property	Test Method	Specified Requirement	Minimum Acceptable	Maximum Acceptable
Flame Resistance (edge ignition)	CAN/CGSB-4.2 No. 27.10			Average damaged length: warp: 100 mm weft: 100 mm Average after flame: 2 .0 sec
Thermal Protective Performance (TPP) with spacer, single layer	CAN/CGSB-4.2 No. 78.1	10	9	
Thermal Shrinkage Resistance (at 260°C)	CAN/CGSB-155.20 para 7.3.1			5%
Static Decay	FED-STD-191A Method 5931 Test at 20°C & 20% RH; test warp and filling; charge to +5000V and -5000V; report results for each direction	Fabric must charge to at least $\pm 4000V$; less than 0.5 second overall average time to decay, no single measurement greater than 0.5 sec		
Seam Efficiency	ASTM D1683 and Note 1		warp: 80% weft: 80%	
CADPAT™ Colour and Infra-red Reflectance	DSSPM 3-6-80-001			

Note 1 Seam Efficiency. Seams for testing must be constructed with seam type 2.04.03 and stitch type 301 in accordance with CAN/CGSB-54.1, Parts 1 and 2. Seams must be a minimum of 3/8" wide. The distance between rows of stitching must be 1/4". There must be 10 to 12 stitches per inch. The thread must be spun staple aramid in accordance with A-A-55217, Type II, tex 27. The size and type of needle used must be that which best suits the sewing operation involved.

Tableau I: Tissu fini

Propriété	Méthode d'essai*	Exigence spécifiée	Minimum acceptable	Maximum acceptable
Teneur en fibre			25% aramides 35% rayonne ininflammable 1% carbone antistatiques	65% aramides 65% rayonne ininflammable 10% nylon 5% carbone antistatiques
Masse (g/m ²)	CAN/CGSB-4.2 N° 5.1		170	200
Contexture (fils par cm)	CAN/CGSB-4.2 N° 6		Chaîne: 22 Trame: 21	Chaîne: 24 Trame: 23
Résistance à la rupture (N)	CAN/CGSB-4.2 N° 9.1	Chaîne: 800 Trame: 700	Chaîne: 750 Trame: 700	
Résistance à la déchirure (N)	CAN/CGSB-4.2 N° 12.1	Chaîne: 40 Trame: 40	Chaîne: 35 Trame: 35	
Résistance à l'abrasion	ISO 12947-2 à 12 kPa Essai à l'échec. Rapportez le nombre de cycles à l'échec et l'état du spécimen à 35000 et 45000 cycles.		> 45 000 cycles Pas de zones minces ni de trous	
Perméabilité à l'air (cm ³ /cm ² /s)	CAN/CGSB-4.2 N° 36		30	
Stabilité dimensionnelle (après trois cycles de lavage-séchage)	CAN/CGSB-4.2 N° 58 (III.E3) ou N° 24 (3.E.III)			Chaîne: 3.0 % Trame: 3.0 %
Solidité de la couleur à la lumière (<u>À l'exclusion</u> du vert de la Force aérienne canadienne pour lequel il n'y a aucune exigence)	AATCC 16.3 Option 3			GS: 4 après l'exposition à 40 unités de décoloration de l'AATCC, pour chacune des trois couleurs
Solidité de la couleur au frottement (toutes les couleurs)	AATCC 116	Sec: GS 5 Mouillé: GS 5		Sec: GS 4 Mouillé: GS 3
Résistance au mouillage superficiel	CAN/CGSB-4.2 N° 26.2		80	

Propriété	Méthode d'essai*	Exigence spécifiée	Minimum acceptable	Maximum acceptable
Résistance à l'inflammation (allumage du bord)	CAN/CGSB-4.2 N° 27.10			Longueur moyenne endommagée: Chaîne: 100 mm Trame: 100 mm Flamme résiduelle: 2.0s
Évaluation de la protection thermique, une seule couche d'espacement	CAN/CGSB-4.2 N° 78.1	10	9	
Résistance à la contraction thermique (à 260°C)	CAN/CGSB-155.20 par. 7.3.1			5 %
Détérioration statique	FED-STD-191 Method 5931 Essai à 20° C et 20 % HR; essai chaîne et trame; charges de +5000 V et de -5000 V; consigner les résultats obtenus pour les deux sens	Dans chaque sens soumettre le tissu à une charge d'au moins ± 4000 V; moins de 0,5 s en moyenne jusqu'à la détérioration, pas de mesure supérieure à 0,5 s		
Efficacité des coutures	ASTM D1683 et note 1		Chaîne: 80 % Trame: 80 %	
Couleur et Réflexion infrarouge	DSSPM 3-6-80-001			

Note 1 Solidité des coutures. Pour les essais, les coutures doivent être de type 2.04.03 et exécutées avec des points 301, conformément à la norme CAN/CGSB-54.1, parties 1 et 2. Les coutures doivent avoir au moins 3/8 po de largeur. La distance entre les piqûres doit être de ¼ po. Il doit y avoir de 10 à 12 points par pouce. Le fil doit être constitué de fibres d'aramides coupées 27 tex, conformément au type II de la norme A-A-55217. Le calibre et le type d'aiguille doivent convenir aux coutures exécutées.

NOTICE



This documentation has been reviewed by the technical authority and does not contain controlled goods. Disclosure notices and handling instructions originally received with the document must continue to apply.

AVIS

Le présent document a été révisé par l'autorité technique et ne contient pas de dispositions visant des marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues initialement doivent continuer de s'appliquer.

SPECIFICATION

FOR

CADPAT™

(CANADIAN DISRUPTIVE PATTERN)

1. SCOPE

1.1. This specification defines the technical performance requirements for Canadian Disruptive Pattern (CADPAT™) colours and patterns for Temperate Woodland (TW), Arid (AR), and Winter Operations (WO) regions. This specification is to be used for the technical requirements, production, and evaluation of materiel in CADPAT™ and CADPAT™ colours for the Canadian Armed Forces.

1.2. The information contained herein is Copyright to Her Majesty the Queen of Canada, as is its associated pattern. The term CADPAT™, with and without extensions, is a registered Trademark belonging to the Department of National Defence. Any of the data contained in this specification, and its associated pattern, may be used only for goods for Canada. The printed textile and any items made therefrom must be for the sole end use of DND. There must be no selling or offering for sale of goods incorporating the CADPAT™ pattern and colours to any person or entity other than Canada without the Minister's prior written authorization. Explicit in this is that any goods of not first quality produced must not be released, sold, or offered for sale, directly or indirectly, to any person or

SPÉCIFICATION

DCamC^{MC}

(DESSIN DE CAMOUFLAGE CANADIEN)

1. PORTÉE

1.1. La présente spécification définit les exigences de rendement technique relatives aux couleurs et aux motifs du dessin de camouflage canadien (DCamC^{MC}) pour régions boisées tempérées (RBT), pour régions arides (RA) et pour l'hiver/arctique (H/A). Elle est destinée à être utilisée pour les exigences techniques, la production et l'évaluation du tissu aux motifs et aux couleurs du DCamC^{MC} à l'intention des Forces armées canadiennes.

1.2. L'information contenue dans le présent document, ainsi que le motif connexe, sont la propriété de Sa Majesté la Reine du Canada et sont protégés par droits d'auteur. Le terme DCamC^{MC}, avec ou sans extension, est une marque déposée, propriété du ministère de la Défense nationale. Les données contenues dans la présente spécification et le motif associé ne peuvent être utilisés que pour des marchandises produites pour le Canada. Les tissus imprimés et tous les articles fabriqués dans ce tissu sont à l'usage final exclusif du MDN. Nul bien incorporant le motif et les couleurs du DCamC^{MC} ne peut être vendu ni offert à toute personne ou entité autre que le Canada sans l'autorisation préalable écrite du ministre. De façon explicite, tout bien qui n'est pas de première qualité ne peut être distribué, vendu ou offert à la vente, directement ou

corporation other than Canada without the Minister's prior written authorization.

1.3. 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 Design Authority.

indirectement, à toute personne physique ou morale autre que le Canada sans l'autorisation préalable écrite du ministre.

1.3. Les renseignements, données, formules, algorithmes, logiciels, processus, systèmes, méthodes, dessins, ouvrages, figures, tableaux, croquis, photos, plans, dessins, spécifications, échantillons, rapports, noms, inventions ou idées, de même que le libellé ou le savoir-faire figurant aux présentes (ci-après désignés sous le nom collectif « propriété intellectuelle ») sont la propriété exclusive de Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale (ci-après le « MDN »). Nul n'a le droit de reproduire, divulguer, diffuser ou utiliser, de quelque manière ou sous quelque forme que ce soit, cette propriété intellectuelle, en tout ou en partie, sans le consentement écrit préalable du MDN. Pour de plus amples informations sur les restrictions applicables à cette propriété intellectuelle, ou pour demander le consentement du MDN, veuillez contacter l'autorité responsable de la conception.

2. APPLICABLE REFERENCES

2.1. Government Documents.

2.1.1. Copies of this specification may be obtained from the Department of National Defence, Ottawa, Ontario, Canada, K1A 0K2, Attention: DSSPM 3-7.

2.2. Other Publications.

2.2.1. The following documents form part of this Specification to the extent specified herein. Effective dates must be those in effect on the date of manufacture.

ASTM E308	Standard Practice for Computing the Colors of Objects by Using the CIE System
ASTM D523	Standard Test Method for Specular Gloss
ISO 105-B02	Textiles – Tests for colour fastness – Part B02: Colour fastness to artificial light: Xenon arc fading lamp test
ISO 105-J03	Textiles – Tests for colour fastness – Part J03L Calculation of colour differences

2. DOCUMENTS APPLICABLES

2.1. Documents du gouvernement

2.1.1. Des copies de la présente spécification peuvent être obtenues auprès du ministère de la Défense nationale, Ottawa (Ontario), Canada, K1A 0K2, à l'attention de : DAPES 3-7.

2.2. Autres publications

2.2.1. Les documents suivants font partie intégrante de la présente spécification dans la mesure prescrite par cette dernière. La version en vigueur à la date de fabrication s'applique.

ASTM E308	Standard Practice for Computing the Colors of Objects by Using the CIE System
ASTM D523	Standard Test Method for Specular Gloss
ISO 105-B02	Textiles – Essais de solidité des coloris – Partie B02 : Solidité des coloris à la lumière artificielle : Lampe à arc au xénon
ISO 105-J03	Textiles – Essais de solidité des teintures – Partie J03 : Calcul des écarts de couleur

2.3. Order of Precedence.

2.3.1. 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.

2.3.2. In the event of inconsistency within the specification, the Technical Authority must be contacted for clarification.

2.3.3. For any inconsistency in technical details between languages, the language of the original document, which in this case is English, must take precedence.

2.3.4. Any deviation(s) from the requirements outlined in this specification, will be outlined in the materiel specification.

3. REQUIREMENTS

3.1. CADPAT™ Pattern.

3.1.1. CADPAT™ posters are available, by request, from the Design Authority, as a guide for production when a CADPAT™ pattern is required. The CADPAT™ poster reflects the design, pattern, motifs, repeat, and clarity that are required for all CADPAT™ printing.

3.1.2. The CADPAT™ posters are available as hardcopy and electronically in Portable Document Format (PDF) and Adobe Illustrator Artwork (AI) formats.

3.1.3. The scale of pattern on the samples, see section 4 below, supplied by the Bidder or Contractor must be within 10% of the scale of the CADPAT™ posters. The distance between all points on the screen must be within 10% of the distance between the same points on the full scale poster.

3.1.3.1. The scale of pattern measurement will be performed by the Design Authority upon request by the Technical Authority (TA).

3.1.4. The CADPAT™ patterns on the samples, see section 4 below, supplied by the Bidder or Contractor must be free from imperfections or blemishes which may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes must be

2.3. Ordre de préséance

2.3.1. En cas de divergence entre les documents mentionnés aux présentes et le contenu de la présente spécification, cette dernière a préséance.

2.3.2. En cas d'incohérence dans l'énoncé de la spécification, il faut communiquer avec l'autorité responsable de la conception pour obtenir des précisions.

2.3.3. En cas d'incohérence dans les détails techniques, entre les deux langues, la langue du document d'origine, dans ce cas-ci l'anglais, a préséance.

2.3.4. Tout écart par rapport aux exigences prescrites dans la présente spécification sera indiqué dans les spécifications du tissu.

3. EXIGENCES

3.1. Motif DCamC^{MC}

3.1.1. Des affiches du DCamC^{MC} sont disponibles, sur demande, auprès de l'autorité responsable de la conception, et serviront de guide pour la production lorsqu'un motif DCamC^{MC} est requis. L'affiche du DCamC^{MC} reflète la conception, le dessin, les motifs, les répétitions et la clarté requis pour l'impression du DCamC^{MC}.

3.1.2. Les affiches du DCamC^{MC} sont disponibles en format papier et en format électronique, soit en format de document portable (PDF) et en Adobe Illustrator Artwork (AI).

3.1.3. L'échelle du motif sur les échantillons (voir l'article 4 ci-dessous) fournis par le soumissionnaire ou l'entrepreneur doit être inférieure ou égale à 10 % de l'échelle des affiches du DCamC^{MC}. La distance entre tous les points de l'écran doit se situer dans les 10 % de la distance entre les mêmes points sur l'affiche pleine échelle.

3.1.3.1. À la demande du responsable technique, l'autorité responsable de la conception mesurera l'échelle du motif.

3.1.4. Les motifs du DCamC^{MC} sur les échantillons (voir l'article 4 ci-dessous) fournis par le soumissionnaire ou l'entrepreneur doivent être exempts d'imperfections ou de défauts qui pourraient nuire à son aspect ou à sa tenue en service. À des fins d'inspection, sont considérés

considered defects when clearly visible at a normal inspection distance of approximately one metre under North Light lighting conditions.

3.2. Visible Colour.

3.2.1. Visible colours must be measured in accordance with ASTM E308-08 as specified in Table I.

3.2.2. All textile samples used for measurement must be constructed of 4 randomly aligned layers of monochromatic material on a black matte background.

3.2.2.1. Colour difference must be measured in accordance with ISO 105-J03 using $\Delta E_{cmc}(l:c)$ colour difference formulas with parametric factors lightness, $l = 2$, and chromaticity, $c = 1$.

3.2.2.2. Each colour must meet the ΔE_{cmc} tolerance requirements specified in Table I.

3.3. Near Infrared and Ultraviolet.

3.3.1. Near infrared and ultraviolet measurements are to be made using a testing apparatus as specified in Table I.

3.3.2. All textile samples used for measurement must be constructed of 4 randomly aligned layers of monochromatic material on a black matte background.

3.3.3. For each colour, the required reflectance values are provided in Tables I, II, and III. The measured values must be no less than the minimum and no greater than the maximum allowable reflectance values for all specified wavelengths in these tables. Measurements are required every 50nm.

3.4. Gloss.

3.4.1. Specular gloss must be measured in accordance with ASTM D523 using 85° geometry.

3.4.2. All colours must be matte. For each colour, spectral gloss measurements must be no greater than the maximum values specified in Table I.

comme des défauts ceux qui sont clairement visibles à une distance normale d'environ un mètre sous un bon éclairage (lumière du jour provenant du nord).

3.2. Couleurs visibles

3.2.1. Les couleurs visibles doivent être mesurées conformément à la norme ASTM E308-08, comme il est indiqué dans le tableau I.

3.2.2. Tous les échantillons de tissu utilisés pour les mesures doivent être constitués de quatre (4) épaisseurs de tissu monochrome alignées de façon aléatoire sur un fond noir mat.

3.2.2.1. La différence de couleur doit être mesurée conformément à la norme ISO 105-J03, à l'aide de la formule $\Delta E_{cmc}(l:c)$, où la clarté des facteurs paramétriques est $l = 2$, et la chromaticité, $c = 1$.

3.2.2.2. Chaque couleur doit satisfaire aux exigences et aux tolérances ΔE_{cmc} indiquées au tableau I.

3.3. Proche infrarouge et ultraviolet

3.3.1. Les mesures du proche infrarouge et du rayonnement ultraviolet doivent être effectuées avec l'appareil d'essai spécifié au tableau I.

3.3.2. Tous les échantillons de tissu utilisés pour les mesures doivent être constitués de quatre (4) épaisseurs de tissu monochrome alignées de façon aléatoire sur un fond noir mat.

3.3.3. Les valeurs de réflectance requises pour chaque couleur sont fournies aux tableaux I, II et III. Les valeurs mesurées ne doivent pas être inférieures à la valeur minimale ni supérieures à la valeur maximale permise pour toutes les longueurs d'onde spécifiées dans ces tableaux. Les mesures doivent être prises tous les 50 nm.

3.4. Brillant

3.4.1. Le brillant spéculaire doit être mesuré conformément à la norme ASTM D523, à l'aide d'une géométrie de 85°.

3.4.2. Toutes les couleurs doivent être mates. Pour chaque couleur, les mesures du brillant spéculaire ne doivent pas dépasser les valeurs maximales indiquées au tableau I.

3.5. Colour Fastness to Light.

3.5.1. Colour fastness must be measured in accordance with ISO 105-B02:2014 as specified in Table I.

3.5.2. All colours must achieve a colour fastness rating of 6 or better.

3.6. Print Quality. (for textile materials)

3.6.1. Textiles should be dyed prior to printing. Dyeing and printing operations must be carried out with dyes (i.e. pigments must not be used). The class(es) of dyestuff(s) used must be appropriate for the fibre content of the fabric.

3.6.2. All component fibres in the textile must be completely penetrated with overall print quality, including colour penetration (i.e. the overall colouring of the opposite side of the printed textile), uniformity of each colour, clarity, definition, and evenness indicative of a good print.

3.6.3. Textile materials must have no finish applied to obtain temporary colour or temporary near infrared reflectance (NIRR) compliance.

4. TESTING

4.1. General.

4.1.1. The Bidder and Contractor is responsible for all testing as specified herein and to demonstrate that the materiel conforms to all the requirements outlined in this Specification.

4.1.2. The Crown reserves the right to perform any of the inspections or tests specified herein, where such are deemed necessary to ensure the materiel submitted to the Crown for acceptance meets all requirements of the contract. This applies equally to materiel contracted for delivery directly to the Department of National Defence or as component parts to a supplier with a contract for products for Defence use.

4.1.3. All submitted samples will remain property of the Crown following submission.

3.5. Solidité de la couleur à la lumière

3.5.1. La solidité de la couleur doit être mesurée conformément à la norme ISO 105-B02:2014 et selon les indications du tableau I.

3.5.2. Toutes les couleurs doivent avoir une solidité de 6 ou plus.

3.6. Qualité d'impression (des tissus)

3.6.1. Les tissus doivent être teints au préalable, avant l'impression. Les opérations de teinture et d'impression doivent être réalisées avec des colorants (c.-à-d. aucun pigment ne doit être utilisé). Les catégories de colorants utilisées doivent convenir à la teneur en fibres du tissu.

3.6.2. La pénétration complète de toutes les fibres composant le tissu est requise. La qualité globale de l'impression, y compris la pénétration de la couleur (c.-à-d. la coloration globale de l'envers du tissu imprimé), l'uniformité de chaque couleur, la clarté, la définition et la régularité doivent être indicatives d'une bonne impression.

3.6.3. Aucun fini ne doit être appliqué sur le tissu pour obtenir temporairement la conformité à la couleur ou à la réflectance dans le proche infrarouge.

4. ESSAIS

4.1. Généralités

4.1.1. Il incombe au soumissionnaire et à l'entrepreneur d'effectuer tous les essais prescrits dans le présent document et de démontrer que le tissu est conforme à toutes les exigences énoncées dans la présente spécification.

4.1.2. Le gouvernement se réserve le droit d'effectuer toute vérification ou tout essai jugé nécessaire pour s'assurer que le matériel présenté au gouvernement pour acceptation est conforme à toutes les exigences énoncées dans le contrat. Cela s'applique également au matériel obtenu sous contrat qui doit être livré directement au ministère de la Défense nationale ou comme composants livrés à un fournisseur dans le cadre d'un contrat pour des produits à des fins militaires.

4.1.3. Tous les échantillons soumis demeureront la propriété du gouvernement.

4.2. Bid Award Test Reports & Sample.

4.2.1. The Bidder must provide Standards Council of Canada (SCC), CE, or equivalent accredited third-party test reports to the TA, as specified by the requirements outlined in Table I, in full accordance with all specified test methods and conditions.

4.2.2. Third-party test report testing must be performed on the final product.

4.2.3. Third-party test report data must result from tests carried out on a current production run, specifically within twelve (12) months of Third-party test report submission.

4.2.4. The Bidder must provide one (1) bid award material sample to the TA, for inspection and evaluation done by the TA or Design Authority.

4.3. Pre-Production Test Reports & Sample.

4.3.1. The Contractor must provide SCC, CE, or equivalent accredited test reports to the TA, for Visible Colour (see para. 3.2) and Near Infrared and Ultraviolet (see para. 3.3) requirements in full accordance with all specified test methods and conditions.

4.3.2. Test report testing must be performed on the final product.

4.3.3. Test report data must result from tests carried out on a current production run, specifically within twelve (12) months of test report submission.

4.3.4. The Contractor must provide one (1) pre-production material sample to the TA, for inspection and evaluation done by the TA or Design Authority.

4.2. Échantillons et rapports d'essai préalables à l'attribution du contrat

4.2.1. Le soumissionnaire doit fournir au responsable technique des rapports d'essai accrédités par le Conseil canadien des normes (CCN), le CE ou par une tierce partie équivalente, comme il est indiqué dans les exigences du tableau I, conformément à toutes les méthodes et conditions d'essai prescrites.

4.2.2. Les essais décrits dans les rapports doivent être menés sur le produit fini.

4.2.3. Les données présentées dans le rapport d'essai doivent provenir d'essais menés sur un lot de la production courante, plus précisément dans un délai de douze (12) mois suivant le dépôt du rapport d'essai d'une tierce partie.

4.2.4. Le soumissionnaire doit fournir au responsable technique un (1) échantillon de tissu préalable à l'attribution du contrat, pour inspection et évaluation par le responsable technique ou l'autorité responsable de la conception.

4.3. Échantillons et rapports d'essai de présérie

4.3.1. L'entrepreneur doit fournir au responsable technique des rapports d'essai accrédités par le Conseil canadien des normes (CCN), le CE ou par une tierce partie équivalente, sur les exigences relatives à la couleur visible (voir l'art. 3.2), le proche infrarouge et l'ultraviolet (voir l'art. 3.3), conformément à toutes les méthodes et conditions d'essai prescrites.

4.3.2. Les essais décrits dans les rapports doivent être menés sur le produit fini.

4.3.3. Les données présentées dans le rapport d'essai doivent provenir d'essais menés sur un lot de la production courante, plus précisément dans un délai de douze (12) mois suivant le dépôt du rapport d'essai.

4.3.4. L'entrepreneur doit fournir au responsable technique un (1) échantillon de tissu de présérie, pour inspection et évaluation par le responsable technique ou l'autorité responsable de la conception.

4.4. Production Test Reports.

4.4.1. For all shipments of CADPAT™ printed textile, the Contractor must provide additional test reports to the TA, on the goods being shipped, for Visible Colour (see para. 3.2) and Near Infrared and Ultraviolet (see para. 3.3) measurements, for each additional 5,000 metres batch of CADPAT™ printed textile, or when shipment occurs more than twelve (12) months after date of previous test report submission.

5. CADPAT™ USE AND CONTROL.

5.1. CADPAT™ is not considered to be a "Controlled Good" by The International Traffic in Arms (ITAR) or Controlled Technology and Transfer (CTAT) definitions as determined by the Department of Foreign Affairs and International Trade (DFAIT) in 2002, however, it is subject to DND controls with respect to intellectual property, research and development, application/use, distribution and disposal.

5.2. The use of CADPAT™ is protected by Canadian copyright laws and patents held by DND and managed by Director Material Property and Procedures, Intellectual Property (DMPP IP).

5.3. Potential bidders and contractors wishing to develop CADPAT™ products must sign non-disclosure agreements with DND. The Design Authority is responsible for managing the non-disclosure agreements that were prepared by DMPP.

6. NOTES.

6.1. The production of a product to this specification, or the evaluation of a product to this specification, may require the use of materials and/or equipment that could be hazardous. This specification does not purport to address all safety, health and environmental concerns, if any associated with its use. It is the responsibility of the user of this specification to establish appropriate safety, health and environmental practices and to determine the applicability of regulatory limitations prior to use.

4.4. Rapports d'essai de production

4.4.1. Pour tous les envois de tissu imprimé avec le DCamC^{MC}, l'entrepreneur doit fournir au responsable technique des rapports d'essai additionnels sur les marchandises expédiées, au sujet des mesures de la couleur visible (voir l'art. 3.2), du proche infrarouge et de l'ultraviolet (voir l'art. 3.3), ainsi que pour chaque lot additionnel de 5 000 m de tissu imprimé avec le DCamC^{MC}, ou lorsque l'envoi a lieu plus de douze (12) mois après la date de dépôt du rapport d'essai précédent.

5. UTILISATION DU DCamC^{MC} ET CONTRÔLE

5.1. Le DCamC^{MC} n'est pas considéré comme une marchandise contrôlée par l'International Traffic in Arms (ITAR) ou selon les définitions du site Accès et transfert de la technologie contrôlée (ATTC), comme l'a déterminé le ministère des Affaires étrangères et du Commerce international (MAECI) en 2002. Cependant, il fait l'objet d'un contrôle par le MDN relativement à la propriété intellectuelle, à la recherche et au développement, à l'application ou à l'utilisation, à la distribution et à l'élimination.

5.2. L'utilisation du DCamC^{MC} est protégée par la *Loi sur le droit d'auteur* et les brevets détenus par le MDN et gérée par le Directeur – Politiques et procédures (Matériel), propriété intellectuelle (DPPM PI).

5.3. Les soumissionnaires potentiels et les entrepreneurs qui souhaitent fabriquer des produits avec le DCamC^{MC} doivent signer des ententes de confidentialité avec le MDN. L'autorité responsable de la conception sera chargée de gérer les ententes de confidentialité préparées par le DPPM.

6. NOTES

6.1. La fabrication ou l'évaluation d'un produit conformément à la présente spécification pourrait nécessiter l'utilisation de matériel ou d'équipement dangereux. La présente spécification n'a pas pour objet de traiter de toutes les préoccupations relatives à la santé, à la sécurité et à l'environnement liées à son utilisation. Il incombe à l'utilisateur de la spécification d'établir au préalable des méthodes appropriées qui tiennent compte des questions d'environnement, de santé et de sécurité, et de déterminer les restrictions réglementaires applicables.

6.2. Definition of terms.

6.2.1. Design Authority. The Design Authority is the Government agency responsible for the technical aspects of the design and for changes to the design. The Design Authority for this specification is the Camouflage, Concealment, and Deception Engineer, DSSPM 3-7 at the Directorate of Soldier Systems Programme Management (DSSPM), Department of National Defence.

6.2.2. Technical Authority. Where referenced in this Specification, the Technical Authority is the individual responsible for providing information, guidance and advice on the technical aspects of the materiel being procured. This individual will be identified in supporting procurement documentation.

6.2. Définition des termes

6.2.1. Autorité responsable de la conception. L'autorité responsable de la conception est l'organisme gouvernemental chargé des aspects techniques de la conception et des modifications connexes. Dans le cas des articles visés par la présente spécification, il s'agit du Génie, camouflage, dissimulation et déception, DAPES 3-7, à la Direction de l'administration du programme de l'équipement du soldat (DAPES) du ministère de la Défense nationale.

6.2.2. Responsable technique. Lorsqu'il en est fait mention dans la présente spécification, le responsable technique est la personne chargée de fournir de l'information, des directives ou des conseils concernant les aspects techniques du tissu visé par le présent document. Cette personne sera désignée dans les documents d'achat.

Table I. Technical Performance Requirements for Canadian CADPAT™ Colours
Tableau I. Exigences techniques en matière de rendement pour les couleurs du DCamC^{MC}

Property Propriété	Standard Norme		Colour Couleur		Requirement Exigence	Tolerance Tolérance
Chromaticity Coordinates and Luminance Coordonnées trichromatiques et luminance	ASTM E308-08 Colour Space/ Espace colorimétrique L*a*b* Illuminant/ Illuminant CIE Standard Illuminant D65/Illuminant standard D65 de la CIE Observer Geometry/ Géométrie observateur CIE 10° Standard Observer/ Observateur de référence à 10° de la CIE Specular Component/ Composante spéculaire Excluded or Included/Exclue ou incluse Calculation Range/Plage de calcul 360 – 780 nm ISO 105-J03 ΔE _{cmc} (2: 1)	TW RBT	Canadian Average Green Vert canadien moyen	L* = 26.88 a* = -3.27 b* = 16.26	ΔE _{cmc} = 3	
			Light Green Vert pâle	L* = 42.56 a* = -11.46 b* = 27.13	ΔE _{cmc} = 3	
			Black Noir	L* = 18.67 a* = 0.37 b* = 1.13	ΔE _{cmc} = 3	
			Brown Brun	L* = 36.25 a* = 4.60 b* = 14.48	ΔE _{cmc} = 3	
		AR RA	Light Sand Sable pâle	L* = 64.89 a* = 4.09 b* = 15.66	ΔE _{cmc} = 3	
			Dark Sand Sable foncé	L* = 51.85 a* = 7.22 b* = 8.09	ΔE _{cmc} = 3	
			Brown Brun	L* = 34.16 a* = 5.84 b* = 12.18	ΔE _{cmc} = 3	
		WO H/A	White Blanc	L* = 95.78 a* = -0.22 b* = -0.43	ΔE _{cmc} = 3	
			Grey Gris	L* = 61.28 a* = -0.24 b* = -0.71	ΔE _{cmc} = 3	
		Specular Gloss Brillant spéculaire	ASTM D523 Geometry/ Géométrie 85°	TW RBT	Canadian Average Green Vert canadien moyen	≤ 1 units/unités
Light Green Vert pâle	≤ 1 units/unités					
Black Noir	≤ 1 units/unités					
Brown Brun	≤ 1 units/unités					
AR RA	Light Sand Sable pâle			≤ 1 units/unités		
	Dark Sand Sable foncé			≤ 1 units/unités		
	Brown Brun			≤ 1 units/unités		
WO H/A	White Blanc			≤ 5 units/unités		
	Grey Gris	≤ 5 units/unités				

Property Propriété	Standard Norme		Colour Couleur		Requirement Exigence	
Near Infrared Reflectance (NIRR) (750 – 1350 nm) Réflectance dans le proche infrarouge (RIR) (750 – 1350 nm)	Type	CIE calibrated double beam spectrophotometer/ Spectrophotomètre à double faisceau étalonné par le CIE	TW RBT	Canadian Average Green Vert canadien moyen	See Table II Voir le tableau II	
				Light Green Vert pâle		
				Black Noir		
				Brown Brun		
	Reference Panel/Panneau de référence	Compressed BaSO ₄ or Spectralon/ BaSO ₄ comprimé ou Spectralon	AR RA	Light Sand Sable pâle	See Table III Voir le tableau III	
				Dark Sand Sable foncé		
				Brown Brun		
	Measurement Optical Geometry/ Géométrie optique de mesure	8°/d (SPEX) or/ou 8°/t (SPIN)	WO H/A	White Blanc	85%	± 10%
				Grey Gris	25%	± 10%
	Ultraviolet (UV) Reflectance (250-400 nm) Réflexion des ultraviolets (UV) (250–400 nm)	Spectral band/ Bande spectrale	IR: 700 - 1350 nm UV: 250-400 nm	WO H/A	White Blanc	70%
Wavelength Accuracy/ Précision des longueurs d’ondes		Grey Gris			NONE Aucune	NONE Aucune
Wavelength Reproducibility/ Reproductibilité des longueurs d’onde						
Resolution/ Résolution						
Spectral precision/ Précision spectrale						
Photometric precision/ Précision photométrique						
Colour Fastness Solidité de la couleur	ISO 105-B02:2014		All Tous	6 or better 6 ou plus		
	Number of Specimens/Nombre de spécimens	3				
	Exposure Cycle/Cycle d'exposition	A1				
	Exposure Method/Méthode d'exposition	3				

Table II. Temperate Woodland Near Infrared Spectral Reflectance Requirements
Tableau II. Exigences relatives à la réflectance spectrale dans le proche infrarouge – RBT

Wavelength Longueur d'onde	Canadian Average Green / Vert canadien moyen			Light Green/Vert pâle			Brown/Brun			Black/Noir		
	lower tolerance tolérance inférieure	(%)	upper tolerance tolérance supérieure	lower tolerance tolérance inférieure	(%)	upper tolerance tolérance supérieure	lower tolerance tolérance inférieure	(%)	upper tolerance tolérance supérieure	lower tolerance tolérance inférieure	(%)	upper tolerance tolérance supérieure
750	22.75	35.95	49.15	28.43	44.94	61.44	28.43	44.94	61.44	1.00	3.00	8.00
800	26.04	40.33	54.62	32.55	50.41	68.28	32.55	50.41	68.28	1.00	3.00	8.00
850	27.60	42.50	57.39	34.50	53.12	71.74	34.50	53.12	71.74	1.01	3.01	8.01
900	28.17	43.11	58.06	35.21	53.89	72.57	35.21	53.89	72.57	1.13	3.13	8.13
950	27.94	42.64	57.33	34.93	53.30	71.67	34.93	53.30	71.67	1.33	3.33	8.33
1000	27.91	42.56	57.20	34.89	53.20	71.51	34.89	53.20	71.51	1.46	3.46	8.46
1050	30.30	45.51	60.73	37.87	56.89	75.91	37.87	56.89	75.91	1.54	3.54	8.54
1100	30.94	45.88	60.81	38.67	57.35	76.02	38.67	57.35	76.02	1.67	3.67	8.67
1150	26.76	40.86	54.97	33.45	51.08	68.72	33.45	51.08	68.72	1.80	3.80	8.80
1200	22.61	35.04	47.47	28.26	43.80	59.34	28.26	43.80	59.34	1.85	3.85	8.85
1250	24.96	37.26	49.57	31.20	46.58	61.96	31.20	46.58	61.96	1.92	3.92	8.92
1300	25.36	37.40	49.45	31.70	46.76	61.82	31.70	46.76	61.82	2.01	4.01	9.01
1350	22.83	34.15	45.47	28.53	42.69	56.84	28.53	42.69	56.84	2.07	4.07	9.07

Figure I. Temperate Woodland Near Infrared Spectral Reflectance Requirements
Figure I. Exigences relatives à la réflectance spectrale dans le proche infrarouge – RBT

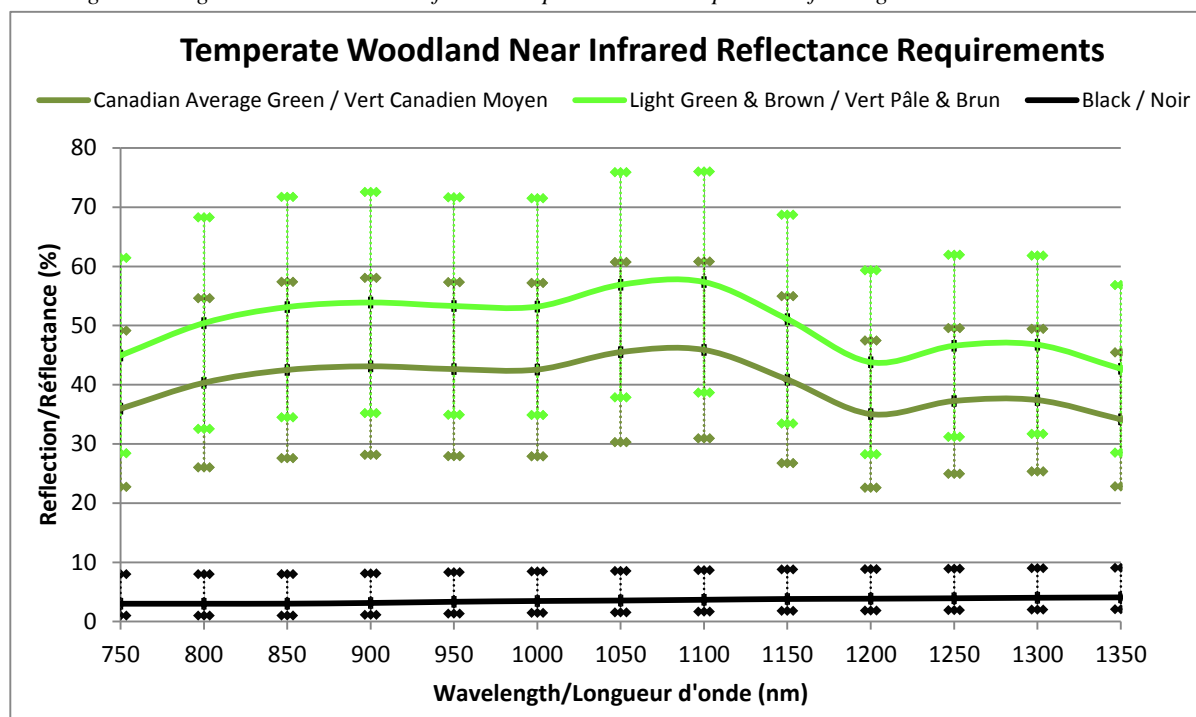


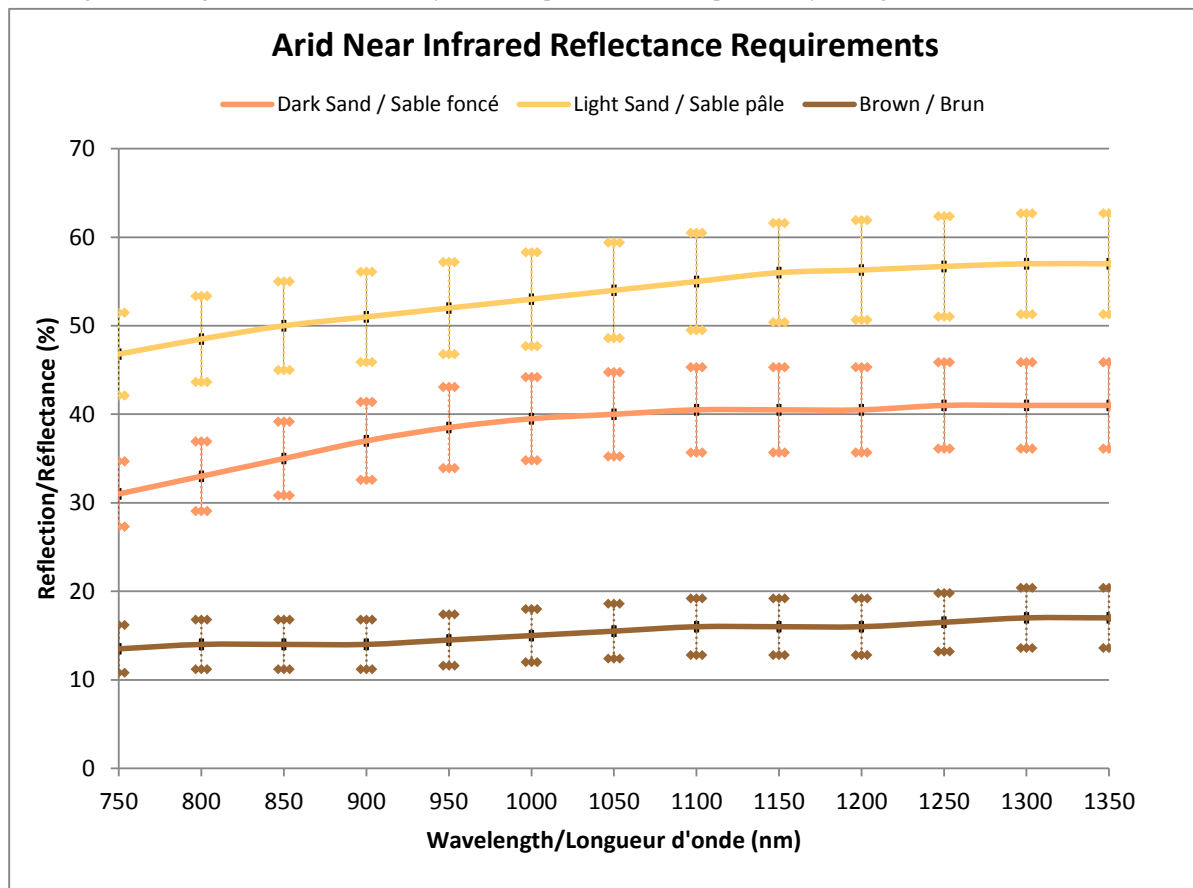
Table III. Arid Near Infrared Spectral Reflectance Requirements

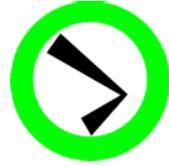
Tableau III. Exigences relatives à la réflectance spectrale dans le proche infrarouge – RA

Wavelength (nm) <i>Longueur d'onde</i>	Light Sand / Sable pâle			Dark Sand / Sable foncé			Brown / Brun		
	lower tolerance <i>tolérance inférieure</i>	(%)	upper tolerance <i>tolérance supérieure</i>	lower tolerance <i>tolérance inférieure</i>	(%)	upper tolerance <i>tolérance supérieure</i>	lower tolerance <i>tolérance inférieure</i>	(%)	upper tolerance <i>tolérance supérieure</i>
750	42.1	46.8	51.5	27.3	31	34.7	10.8	13.5	16.2
800	43.7	48.5	53.4	29.0	33	37.0	11.2	14	16.8
850	45.0	50	55.0	30.8	35	39.2	11.2	14	16.8
900	45.9	51	56.1	32.6	37	41.4	11.2	14	16.8
950	46.8	52	57.2	33.9	38.5	43.1	11.6	14.5	17.4
1000	47.7	53	58.3	34.8	39.5	44.2	12.0	15	18.0
1050	48.6	54	59.4	35.2	40	44.8	12.4	15.5	18.6
1100	49.5	55	60.5	35.6	40.5	45.4	12.8	16	19.2
1150	50.4	56	61.6	35.6	40.5	45.4	12.8	16	19.2
1200	50.7	56.3	61.9	35.6	40.5	45.4	12.8	16	19.2
1250	51.0	56.7	62.4	36.1	41	45.9	13.2	16.5	19.8
1300	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4
1350	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4

Figure II. Arid Near Infrared Spectral Reflectance Requirements

Figure II. Exigences relatives à la réflectance spectrale dans le proche infrarouge – RA





NOTICE

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Annex / annexe F
W8486-184672
September /
septembre 2017

Bid Technical Evaluation Plan for the Shirt and Trousers Tactical Helicopter Crew Flame Resistant (FR) CADPAT™

OPI/BPR: DSSPM/DAPES 2-6



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RDIMS # 4658405

**Bid Technical Evaluation Plan for the
Shirt and Trousers Tactical Helicopter Crew
Flame Resistant (FR) CADPAT™**

1. SCOPE.

- 1.1. PURPOSE. The purpose of this document is to describe how the Department of National Defence (DND) will perform the Bid Technical Evaluation for the Shirt and Trousers Tactical Helicopter Crew Flame Resistant (FR) CADPAT™.
- 1.2. GENERAL METHOD. A team of DND Subject Matter Experts (SMEs) will examine the bidder provided documentary and physical evidence to confirm compliance with all the requirements detailed in the Request for Proposal and its supporting Annexes.

2. TECHNICAL EVALUATION METHOD.

- 2.1. **CONTEXT.** The Technical Evaluation methodology detailed below will be used to determine all the technically compliant bids.
- 2.2. TECHNICAL BID EVALUATION METHODOLOGY. The Technical Evaluation of bids will be conducted in two Phases.
- 2.2.1. PHASE 1. The evaluators will examine the provided documentary evidence, as detailed in this Annex F, which will include the appropriate test results from accredited independent laboratories and Certificate(s) of Compliance (C of C) in order to determine the conformance of materials to the mandated specifications. Non-compliant bids will not be considered further.
- 2.2.2. PHASE 2. The evaluators will examine the provided bid samples for the quality of workmanship and for conformance to specified materials and measurements outlined in **Annexes B, C and H**. Non-compliant bids will not be considered further.
- 2.3. DOCUMENTARY EVIDENCE / BID SAMPLES. The following documentary evidence and bid samples must be submitted with the bid:

Table I – Documentary Evidence and Physical Samples to be submitted at Bid Stage

Time Period	Requirement
Bid Stage	Textile submissions as detailed in Annex H
Bid Stage	One (1) sample of the Shirt, Tactical Helicopter in size 7040.
Bid Stage	One (1) sample of the Trousers, Tactical Helicopter in size 7034.

- 2.4. DOCUMENTATION EVALUATION. The documentary evidence presented by bidders will be assessed to verify compliance with the requirements detailed in **Annex H**. Incomplete submissions will be deemed non-compliant.
- 2.5. WORKMANSHIP AND CONSTRUCTION EVALUATION. The quality of workmanship and construction will be evaluated using the criteria outlined in **Table II** of this Annex.
- 2.6. MATERIAL SUBSTITUTIONS. In the event that a component (**excluding the textiles identified in Annex H that require yardage/samples**) that may include items such as hook and loop fastener, slide fasteners and cord, is not available to the bidder in the time frame to manufacture the physical samples, the bidder may use a similar substitute component, on the condition that a letter addressing the substitution is submitted with the bid samples, together with a statement that, should the bidder be awarded the contract, all materials will be strictly in accordance with the technical requirement outlined in **Annex B, C and H**.
3. **DEFINITIONS.**
- 3.1. DEVIATION. A deviation is defined as a failure to meet an essential performance or design requirement outlined in **Annexes B, C and H**.
- 3.2. INFRACTION. An infraction is defined as a workmanship or construction issue evaluated to directly affect the serviceability of the garment.
- 3.3. OBSERVATION. An observation is defined as a workmanship or construction issue that does not necessarily affect serviceability of the garment but affects overall quality assurance.

4. **NON-COMPLIANCE CRITERIA.**

- 4.1. DEVIATIONS. Samples must have no deviations. Samples evaluated to contain a single workmanship or construction deviation will be deemed non-compliant.
- 4.2. INFRACTIONS. A maximum of three (3) workmanship and construction infractions will be accepted. Samples evaluated to contain more than three (3) infractions will be deemed non-compliant. Infractions noted and referenced in the Bid Technical Evaluation must be correct at pre-production.
- 4.3. OBSERVATIONS. Observations will not impact compliance. However, observations noted and referenced must be corrected at pre-production. Workmanship or construction issues found with the submission not listed in Table II will be deemed as an observation.

Table II – Workmanship and Construction Evaluation

Detail	Reference		Criteria	Classification of Infraction ¹			Assessment of Compliance	
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation	Yes/ No	Comment
Cutting	3.5	3.5	<ul style="list-style-type: none"> Shell parts of the garments are not cut in the direction of the warp as shown on the paper patterns. Shell parts of the garments are not cut from the same dye lot. 			X		
			<ul style="list-style-type: none"> Seams twisted, pleated, or puckered; Part of the ensemble caught in any unrelated operation or stitching; Thread breaks not secured; Cut threads or holes showing evidence of reworking 		X			
Sewing	3.6	3.6	<ul style="list-style-type: none"> Ends of seams and stitches (when not caught in other seams or stitching) not back stitched or bartacked; Sewing defects causing open seams of more than ¼ inch (0.635 cm). Thread colour is not in accordance with that specified 		X			

¹The classification of “infraction” is for the purposes of evaluation only.

Detail	Reference		Criteria	Classification of Infraction ¹			Assessment of Compliance	
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation	Yes/ No	Comment
			<ul style="list-style-type: none"> Gauge of stitching uneven (seams, hems or top stitching); Stitch tension: <ol style="list-style-type: none"> Loose tension in any area more than 2-inches; Tight tension (stitches break when normal strain is applied to the seam or stitching); 		X			
Hook and Loop Fastener Tape	3.6.3	3.6.3	<ul style="list-style-type: none"> Hook and loop fastener tape is not stitched and positioned as detailed in section 3.7 Construction; Stitching is not formed into the hook and loop portion of the tape; and Hook and loop is not positioned to effect proper closure of assembly (i.e. non-functional). 			X		
Bartacks	3.6.4	3.6.4	<ul style="list-style-type: none"> Bartacks are not positioned as detailed in section 3.7 Construction or as show on applicable Figures; Insecure bartacks or not serving intended purpose; and Loose, incomplete or broken stitches. 			X		

Detail	Reference		Criteria	Classification of Infraction ¹			Assessment of Compliance	
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation	Yes/No	Comment
Button and Strap Assembly	N/A	3.6.6	<ul style="list-style-type: none"> Buttons and loops are not positioned to effect closure of pocket assemblies. 			X		
Scale of Measurements	3.8	3.8	<ul style="list-style-type: none"> Measurements out of tolerance from that detailed in the Scale of Measurements (Table I). 		X			
Component Measurements	3.8	3.8	<ul style="list-style-type: none"> Measurements with tolerances exceeding plus or minus 1/4-inch (6.35 mm) from that detailed in applicable Figures. This includes, but is not limited to, positioning on garment and functional lengths. 		X			
Marking, Care, and User Labels	3.9	3.9	<ul style="list-style-type: none"> Labeling omitted, incorrect, illegible, or incomplete. 			X		

Detail	Reference		Criteria	Classification of Infraction ¹			Assessment of Compliance	
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation	Yes/ No	Comment
Construction - General	3.7		<ul style="list-style-type: none"> • Thread ends not trimmed throughout the garment; • Needle chews likely to develop into a hole; • Components missing or wrong size of component used; • Cuts, tears, holes, mends, lumps, creases, weak places, or other deficiencies seriously affected serviceability; • Any operation improperly performed. 			X		
	3.7	3.7	<ul style="list-style-type: none"> • Any draw cord caught in the hem, casing, or tunnel stitching restricting the functionality of the assembly; • Any draw cord ends not knotted and/or fused; • Any draw cord insufficient in length for function. 			X		
			<ul style="list-style-type: none"> • Any part of slide fastener assembly bent, broken, or otherwise defective; • Any part of the slide fastener not attached to the assembly. 			X		



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Annex / annexe G
W8486-184672
September /
septembre 2017

Pre-Production, and Production Technical Validation Plan for the Shirt and Trousers Tactical Helicopter Crew Flame Resistant (FR) CADPAT™

OPI/BPR: DSSPM/DAPES 2-6



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RDIMS # 4658406

**Pre-Production, and Production Technical Validation Plan for the
Shirt and Trousers Tactical Helicopter Crew
Flame Resistant (FR) CADPAT™**

1 SCOPE.

1.1 PURPOSE. The purpose of this document is to describe how the Department of National Defence (DND) will perform the pre-production and production validation of Shirt and Trousers Tactical Helicopter Crew Flame Resistant (FR) CADPAT™.

1.2 GENERAL METHOD. The DND Technical Authority (TA) will examine the contractor provided documentary and physical evidence to confirm compliance with the requirements detailed in the contract and its annexes.

2 EVALUATION METHOD.

2.1 PRE-PRODUCTION. The TA will validate the Contractor provided documentation and physical samples.

2.1.1 DOCUMENTATION. The Contractor must submit all the contract mandated documentation including the test results and certificates of compliance outlined in Table I.

Table I – Mandatory Pre-Production Material Testing Documentation

Material	Reference	Testing Requirements and Frequency	
		Pre-Production	
Slide Fasteners	ALL SLIDE FASTENERS must in accordance with Annex B, para 3.4.2 Annex C, para 3.4.3	Test reports for strength and colour fastness for each class of slide fastener.	
		Certificate of Compliance that all slide fasteners are flame resistant from the source of supply.	
Hook and Loop Fastener Tape	HOOK AND LOOP must be in accordance with Annex B para 3.4.3 Annex C, para 3.4.4	Certificate of Compliance showing applicable information from the source of supply.	
Thread	THREAD must be in accordance with Annex B, para 3.4.5 Annex C, para 3.4.10	Certificate of Compliance showing applicable information from the source of supply.	

Material	Reference	Testing Requirements and Frequency	
		Pre-Production	
Piping Cord	PIPING CORD must be in accordance with Annex B para 3.4.4	Certificate of Compliance showing applicable information from the source of supply.	
Webbing	WEBBING must be in accordance with Annex C, para 3.4.5	Certificate of Compliance showing applicable information from the source of supply.	
Cord	CORD must be in accordance with Annex C, para 3.4.6	Certificate of Compliance showing applicable information from the source of supply.	
Buttons	BUTTONS must in accordance with Annex C, para 3.4.7	Certificate of Compliance showing applicable information from the source of supply.	
Map Clips	MAP CLIPS must be in accordance with Annex C, para 3.4.8	Certificate of Compliance showing applicable information from the source of supply.	
Writing Surface	WRITING SURFACE must be in accordance with Annex C, para 3.4.9	Certificate of Compliance showing applicable information from the source of supply.	
Textiles	Annex H	Test Results.	

2.1.2 PHYSICAL SAMPLES. The Contractor must submit the pre-production samples listed in Table II.

Table II – Pre-Production Physical Sample Requirement

Time Period	Requirement
Pre-Production Stage	Textile submissions in accordance with Annex H.
Pre-Production Stage	One (1) sample of the Shirt, Tactical Helicopter in size 7040.
Pre-Production Stage	One (1) sample of the Trousers, Tactical Helicopter in size 7034.

2.1.3 MATERIAL SUBSTITUTIONS. No material substitutions allowed at the Pre-Production Stage. All materials must be strictly in accordance with the technical requirements outlined in **Annexes B, C and H**.

2.1.4 WORKMANSHIP AND CONSTRUCTION VALIDATION. Workmanship and construction of the sample will be evaluated using the criteria outlined in **Table III**.

2.1.5 VALIDATION CRITERIA DEFINITIONS. The following definitions will be applied to the sample validation.

2.1.5.1 DEVIATION. A deviation is defined as a failure to meet an essential performance or design requirement outlined in **Annexes B and C**. Samples must have no Deviations. Samples evaluated to contain a single workmanship or construction deviation will be deemed non-compliant and the Contractor will be required to produce a new pre-production sample within a time period detailed in the contract.

2.1.5.2 INFRACTION. An infraction is defined as a workmanship or construction issue evaluated to directly affect the serviceability of the garment. A maximum of three (3) workmanship and construction infractions will be accepted. Samples evaluated to contain more than three (3) infractions will be deemed non-compliant and the Contractor will be required to produce a new pre-production sample within a time period detailed in the contract.

2.1.5.3 OBSERVATION. An observation is defined as a workmanship or construction issue that does not necessarily affect serviceability of the garment but affects overall quality assurance. Observations will not impact compliance. However, observations noted and referenced in the pre-production evaluation must be corrected at production. Workmanship or construction issues found with the submission not listed in Table III will be deemed as an observation.

Table III – Workmanship Validation Criteria

Detail	Reference		Criteria		Classification of Infraction ¹	
	Annex B (Shirt)	Annex C (Trousers)			Deviation	Infraction
Cutting	3.5	3.5	<ul style="list-style-type: none">• Shell parts of the garments are not cut in the direction of the warp as shown on the paper patterns.• Shell parts of the garments are not cut from the same dye lot.			X

¹The classification of “infraction” is for the purposes of evaluation only.

Detail	Reference		Criteria	Classification of Infraction ¹		
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation
Sewing	3.6	3.6	<ul style="list-style-type: none"> Seams twisted, pleated, or puckered; Part of the ensemble caught in any unrelated operation or stitching; Thread breaks not secured; Cut threads or holes showing evidence of reworking 		X	
			<ul style="list-style-type: none"> Ends of seams and stitches (when not caught in other seams or stitching) not back stitched or bartacked; Sewing defects causing open seams of more than ¼ inch (0.635 cm). Thread colour is not in accordance with that specified 		X	
			<ul style="list-style-type: none"> Gauge of stitching uneven (seams, hems or top stitching); Stitch tension: <ol style="list-style-type: none"> Loose tension in any area more than 2-inches; Tight tension (stitches break when normal strain is applied to the seam or stitching); 		X	
Hook and Loop Fastener Tape	3.4.3	3.4.4	<ul style="list-style-type: none"> Hook and loop fastener tape is not stitched and positioned as detailed in para 3.7 Construction; Stitching is not formed into the hook and loop portion of the tape; and Hook and loop is not positioned to effect proper closure of assembly (i.e. non-functional). 			X
Bartacks	3.6.4	3.6.4	<ul style="list-style-type: none"> Bartacks are not positioned as detailed in para 3.7 Construction or as show on applicable Figures; Insecure bartacks or not serving intended purpose; and Loose, incomplete or broken stitches. 			X

Detail	Reference		Criteria	Classification of Infraction ¹		
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation
Button and Strap Assembly	N/A	3.6.6	<ul style="list-style-type: none"> Buttons and loops are not positioned to effect closure of pocket assemblies. 			X
Scale of Measurements	3.8	3.8	<ul style="list-style-type: none"> Measurements out of tolerance from that detailed in the Scale of Measurements (Table I). 		X	
Component Measurements	3.8	3.8	<ul style="list-style-type: none"> Measurements with tolerances exceeding plus or minus 1/4-inch (6.35 mm) from that detailed in applicable Figures. This includes, but is not limited to, positioning on garment and functional lengths. 		X	
Marking, Care, and User Labels	3.9	3.9	<ul style="list-style-type: none"> Labeling omitted, incorrect, illegible, or incomplete. 			X
Construction - General	3.7	3.7	<ul style="list-style-type: none"> Thread ends not trimmed throughout the garment; Needle chews likely to develop into a hole; Components missing or wrong size of component used; Cuts, tears, holes, mends, lumps, creases, weak places, or other deficiencies seriously affected serviceability; Any operation improperly performed. 			X
			<ul style="list-style-type: none"> Any draw cord caught in the hem, casing, or tunnel stitching restricting the functionality of the assembly; Any draw cord ends not knotted and/or fused; Any draw cord insufficient in length for function. 			X

Detail	Reference		Criteria	Classification of Infraction ¹		
	Annex B (Shirt)	Annex C (Trousers)		Deviation	Infraction	Observation
			<ul style="list-style-type: none"> Any part of slide fastener assembly bent, broken, or otherwise defective; and Any part of the slide fastener not attached to the assembly. 			X

2.2 PRODUCTION. At the discretion of the DND Quality Assurance Representative (DNQAR), the Government of Canada reserves the right to conduct a validation inspection throughout the production period on delivered product to confirm a Contractor's continued ability to meet the mandated technical specifications. In addition to this general validation requirement, the Government of Canada requires the following specific testing to be conducted during production:

2.2.1 SLIDE FASTENERS. Test reports for strength must be submitted for the classes of slide fastener listed in Table IV through the production stage at the frequency noted. Test reports for slide fastener manufacturers' in-house testing facilities will be accepted.

Table IV – Production Requirements for Slide Fasteners

Material	Requirement and Reference	Testing Requirements and Frequency	
		Production	
Slide Fasteners	ALL SLIDE FASTENERS must in be accordance with Annex B, para 3.4.2 and Annex C, para 3.4.3	Testing to be submitted every 10,000 units and/or when supplier changes.	
		Test reports for strength (Strength – Crosswise On Chain and Strength – Single Scoop Pull Off) will be submitted for Classes 3 and 4 slide fasteners.	
		Test results done by accredited independent laboratory.	

2.2.2 LABORATORY ANALYSIS. In addition, laboratory analysis in accordance with those requirements detailed in **Annex H** shall be submitted.

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TEXTILE SUBMISSION REQUIREMENTS

DSSPM 2-2-80-239

**Cloth, Twill, Aramid/FR Viscose, 185 g/m²
CADPAT™ (TW) and CADPAT™ (AR)**

1. General Requirements.

1.1 Tests and test results will be required for each textile at the frequency stated below before the material is delivered to Canada, or put into garment production when contractor supplied textile.

1.2 All tests and test methods must be in accordance with the specified requirements. All testing must be conducted by an accredited independent laboratory familiar with textile testing. Testing carried out by university textile testing laboratories and NATO member nation government laboratories will also be acceptable. Should a non-accredited laboratory be required for specific tests, approval must be sought and received in writing from the Technical Authority, DSSPM 2-2, in advance.

1.3 The test interval is subject to change. It may be increased or decreased at the discretion of DND. DND may also request additional tests and samples at any time.

EXIGENCES DE SOUMISSION DES TEXTILES

DSSPM 2-2-80-239

**Tissu à armure sergé, aramide/rayonne
résistant aux flammes, 185 g/m²
DCamC^{MC} (RBT) et DCamC^{MC} (RA)**

1. Exigences généraux.

1.1 Des essais et des résultats d'essai seront exigés pour chaque textile à la fréquence prescrite ci-dessous avant que le tissu soit livré au gouvernement, ou avant qu'il puisse être utilisé pour la production du vêtement quand le tissu en question est fourni par l'entrepreneur.

1.2 Tous les essais et toutes les méthodes d'essai doivent être conformes aux exigences prescrites. Les essais doivent être menés par un laboratoire indépendant accrédité ayant une bonne expérience des essais textiles. Les essais réalisés par des laboratoires universitaires effectuant des essais textiles et les laboratoires du gouvernement membre de l'OTAN seront aussi acceptables. Si un laboratoire non accrédité menait certains essais, il faudrait obtenir au préalable l'autorisation écrite de l'autorité technique, DAPES 2-2.

1.3 La fréquence des essais peut être modifiée, soit augmentée ou diminuée, à la discrétion du MDN. Le MDN peut aussi exiger d'autres essais et échantillons en tout temps.

1.4 When a fabric sample is required, the sample must be clearly identified and traceable to production lots and part or reference numbers. The contractor must provide the QA documentation to assure the fact that the test results submitted were obtained on fabric from the same production as the submitted sample.

1.5 Reporting of test results for all properties may not be required at all stages, however, it is mandatory that the requirements be met in accordance with the applicable specification in its entirety. Canada reserves the right to carry out testing of any specified property in order to confirm the compliance of the fabric with the applicable specification in its entirety.

1.6 The pre-production testing and sample must be from the production that is intended for use in this current contract, so are production samples and testing. The pre-production samples must be representative of the finished product in all respects.

1.7 Complete test results must be submitted before the material is put into garment production when there is any change in the source of supply for the material. Department of National Defence (DND) written approval is required prior to using any material from a new supplier.

2. Bid Submission Requirements.

2.1 Full test results in accordance with DSSPM 2-2-80-239, Cloth, Twill, Aramid/FR Viscose 185 g/m², in its entirety, including the specified results for both CADPAT™ (TW)

1.4 Lorsqu'un échantillon de tissu est nécessaire, il doit être clairement identifié et être traçable aux lots de production et au numéro de la partie ou du référence. L'entrepreneur doit fournir la documentation d'assurance de la qualité garantissant que les résultats des essais présentés ont été obtenus avec le tissu provenant du même lot de production que l'échantillon soumis.

1.5 Même s'il n'est parfois pas nécessaire de présenter un rapport sur les résultats d'essai pour certains articles, il est obligatoire que les exigences soient respectées conformément à la spécification applicable dans sa totalité. Le gouvernement se réserve le droit de mettre à l'essai n'importe laquelle des propriétés afin de s'assurer de la conformité du tissu à toutes les exigences de la spécification applicable.

1.6 Les résultats d'essai et l'échantillon de présérie, de même que les résultats d'essai et les échantillons de production, doivent provenir du tissu que le soumissionnaire prévoit utiliser pour le présent contrat. Les échantillons de présérie doivent être représentatifs du produit fini sous tous les rapports.

1.7 Les résultats complets des essais doivent être soumis avant que le tissu soit utilisé pour la production du vêtement en cas de changement de la source d'approvisionnement. L'approbation écrite du ministère de la Défense nationale (le MDN) est nécessaire avant d'utiliser un matériau provenant d'un nouveau fournisseur.

2. Exigences préalables à l'adjudication.

2.1 Il faut fournir un rapport sur les résultats complets des essais effectués conformément, dans sa totalité, au document DSSPM 2-2-80-239, Tissu à armure sergé,

and CADPAT™ (AR) prints in accordance with DSSPM 3-6-80-001 must be submitted.

2.2 Submission of one (1) meter full width fabric sample of each of the proposed products in Para 2.1 is required.

3. Pre-Production Requirements.

3.1 After award of contract and prior to commencing garment production, the contractor must submit full test results in accordance with DSSPM 2-2-80-239, Cloth, Twill, Aramid/FR Viscose 185 g/m², in its entirety, for each fabric production lot, for both CADPAT™ TW and AR, that will be used in garment production.

3.1.1 Test results must be for the same lot of fabric as the fabric sample submitted for evaluation.

3.2 The contractor must submit a one (1) meter full width fabric samples, for each of CADPAT™ TW and AR in Para 3.1, is required.

4. Production Requirements.

4.1 For each 10,000 metres of fabric production (CADPAT™ TW and AR), used in garment production, full test results in accordance with DSSPM 2-2-80-239, Cloth, Twill, Aramid/FR Viscose 185 g/m² must be submitted.

4.2 A one (1) meter full width fabric sample

aramide/rayonne résistant aux flammes, 185 g/m², y compris les résultats spécifiés pour DCamC^{MC} (RBT) et DCamC^{MC} (RA), conformément au document DSSPM 3-6-80-001.

2.2 En ce qui concerne le tissu proposé, il faut en soumettre un échantillon plein largeur d'un (1) mètre.

3. Exigences relatives à la pré-production.

3.1 À la suite de l'adjudication du contrat et avant le début de la production en série du vêtement, il faut soumettre un rapport sur les résultats complets des essais effectués conformément, dans sa totalité, au document DSSPM 2-2-80-239, Tissu à armure sergé, aramide/rayonne résistant aux flammes, 185 g/m², pour chaque lot de tissu, DCamC^{MC} RBT et RA, qui servira à la production du vêtement.

3.1.1 Les résultats des tests doivent être pour le même lot de tissu que l'échantillon de tissu soumis à l'évaluation.

3.2 On doit soumettre un échantillon de tissu pleine largeur d'un (1) mètre pour chacun de DCamC^{MC} RBT et RA.

4. Exigences relatives à la production.

4.1 Pour chaque 10,000 mètres de production du tissu pour utilisation dans la production de vêtement, pour chaque tissu (DCamC^{MC} RBT et RA) il faut soumettre un rapport sur les résultats complets des essais effectués conformément du document DSSPM 2-2-80-239, Tissu à armure sergé, aramide/rayonne résistant aux flammes, 185 g/m².

4.2 Pour chaque 10,000 mètres de tissu

is required for each 10,000 metres of fabric produced for each of CADPAT™ TW and AR.

4.3 Complete test results must be submitted when there is any change in the source of supply for the material before material is put into production.

4.4 The Technical Authority's written approval is required prior to using any material from a new supplier.

4.5 If Options on the contract are exercised, for each fabric (CADPAT™ TW and AR), a one (1) meter full width sample and its associated full test results in accordance with Specification DSSPM 2-2-80-239 in its entirety must be submitted prior to delivery of options quantities. Para's 4.1 through 4.4 above apply for the duration of the Options period.

5. Additional Information Regarding Technical Evaluations (all phases).

5.1 Fabric count, specified in DSSPM 2-2-80-239 Table I, is to be considered to be a guide for production, not a mandatory requirement.

5.2 Colour coordinates after laundering: results are to be submitted but will not be evaluated.

produit, il faut soumettre un échantillon de tissu pleine largeur d'un (1) mètre pour chacun de DCamC^{MC} RBT et RA.

4.3 En cas de changement de fournisseur de matériel, les résultats d'essais complets doivent être présentés.

4.4 Il est nécessaire d'obtenir l'autorisation écrite de l'autorité technique avant d'utiliser tout matériel d'un nouveau fournisseur.

4.5 Si les options sur le contrat sont exercées, pour chaque tissu (DCamCMC RBT et RA), un échantillon de largeur totale d'un (1) mètres et ses résultats de test complets associés conformément à la Spécification DSSPM 2-2-80-239 dans sa totalité doit être soumis avant la livraison des quantités d'options. Les paragraphes 4.1 à 4.4 ci-dessus s'appliquent pour la durée de la période d'options.

5. Renseignements supplémentaires relatifs aux évaluations techniques (toutes les phases).

5.1 La texture, spécifié dans le document DSSPM 2-2-80-239 tableau I, doit servir de guide pour la production et ne constitue pas une exigence obligatoire.

5.2 Coordonnées de couleur après blanchissage : les résultats doivent être fournis mais ne feront pas l'objet d'une évaluation.

Summary of Fabric Submission Requirements at each Contract Stage:

Fabric & Reference	Bid Stage Requirements (sec. 2)	Pre-Production Requirements (sec. 3)	Production Requirements (sec. 4)	Contract Options (para 4.5)
DSSPM 2-2-80-239 Cloth, Twill, Aramid / FR Viscose, 185 g/m ² CADPAT™ (TW) DSSPM 3-6-80-001 Specification for CADPAT™ (Canadian Disruptive Pattern)	1 metre full-width fabric sample Complete test results	Prior to commencing garment production, for each fabric lot that will be used in garment production: 1 metre full-width fabric sample Complete test results	For each 10,000 metres of production and/or when change in supplier: 1 meter full-width fabric sample Complete test results	Prior to first delivery of Option quantity Pre- Production requirements (sec. 3) apply. Throughout duration of production of option quantities, Production requirements (sec. 4) apply.
DSSPM 2-2-80-239 Cloth, Twill, Aramid / FR Viscose, 185 g/m ² CADPAT™ (AR) DSSPM 3-6-80-001 Specification for CADPAT™ (Canadian Disruptive Pattern)	1 metre full-width fabric sample Complete test results	Prior to commencing garment production, for each fabric lot that will be used in garment production: 1 metre full-width fabric sample Complete test results	For each 10,000 metres of production and/or when change in supplier: 1 meter full-width fabric sample Complete test results	Prior to first delivery of Option quantity Pre- Production requirements (sec. 3) apply. Throughout duration of production of option quantities, Production requirements (sec. 4) apply.

Résumé des exigences de soumission des tissus à chaque étape du contrat:

Tissu et référence	Exigences préalables à l'adjudication (sec. 2)	Exigences relatives à la pré-production (sec. 3)	Exigences relatives à la production (sec. 4)	Options contractuelles (para. 4.5)
DSSPM 2-2-80-239 Tissu à armure sergé, aramide/rayonne résistant aux flammes, 185 g/m ² DCamC ^{MC} (RBT)	Un échantillon de tissu pleine largeur d'un (1) mètre Un rapport sur les résultats complets des essais	Avant de commencer la production du vêtement, pour chaque lot de tissu qui sera utilisé dans la production de vêtements, il faut soumettre: Un échantillon de tissu pleine largeur d'un (1) mètre Un rapport sur les résultats complets des essais	Pour chaque 10,000 mètres de tissu produit, il faut soumettre : Un échantillon de tissu pleine largeur d'un (1) mètre Un rapport sur les résultats complets des essais	Avant la première livraison de la quantité d'option, les exigences de pré-production (sec. 3) s'appliquent. Tout au long de la durée de production (sec. 4) des quantités d'options, les exigences de production s'appliquent.
DSSPM 3-6-80-001 Spécification DCamC ^{MC} (Dessin de camouflage Canadien)	Un échantillon de tissu pleine largeur d'un (1) mètre Un rapport sur les résultats complets des essais	Avant de commencer la production du vêtement, pour chaque lot de tissu qui sera utilisé dans la production de vêtements, il faut soumettre: Un échantillon de tissu pleine largeur d'un (1) mètre Un rapport sur les résultats complets des essais	Pour chaque 10,000 mètres de tissu produit, il faut soumettre : Un échantillon de tissu pleine largeur d'un (1) mètre Un rapport sur les résultats complets des essais	Avant la première livraison de la quantité d'option, les exigences de pré-production (sec. 3) s'appliquent. Tout au long de la durée de production (sec. 4) des quantités d'options, les exigences de production s'appliquent.



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Annex I

W8486-184672
01-10-2016

Special Size Requirements

1. **PURPOSE.** The purpose of this Annex is to describe the requirements to be met by the Contractor when a special size is requested by Department of National Defence (DND).

2. **SPECIAL SIZES**

2.1. The term "special size" is defined as those sizes outside the realm of the scale of measurements presently held in order to obtain a proper fit. When the contractor is requested to provide a special size, DND will supply the following body measurements with the order:

- a. Height without shoes;
- b. Chest / bust circumference;
- c. Waist circumference;
- d. Hip circumference (women only);
- e. Neck circumference;
- f. Sleeve length;
- g. Inseam; and
- h. Alteration notes, if required.

2.2. The Contractor must create any paper patterns required for special size garments.

2.3. Special size garments must be made in full technical compliance with the technical data included as Annexes to this requisition. Please refer to Annexes B, C and D for the NATO Stock Number for the special size.

Solicitation No. - N° de l'invitation

W8486-184672/A

Client Ref. No. - N° de réf. du client

W8486-184672

Amd. No. - N° de la modif.

File No. - N° du dossier

pr760. W8486-184672

Buyer ID - Id de l'acheteur

pr760

CCC No./N° CCC - FMS No./N° VME

ANNEX « J »

DND FORM 672 – Appendix 1 to Annex J

DND FORM 675 – Appendix 2 to Annex J

DESIGN CHANGE / DEVIATION MODIFICATION OU MODÈLE OU ÉCART AUTORISÉ

CONTRACTOR'S SERIAL NO. N° D'ORDRE DE L'ENTREPRENEUR
CONTRACT DEMAND NO. N° DE LA DEMANDE DE CONTRAT
PWGSC CONTRACT SERIAL NO. N° D'ORDRE DU CONTRAT DU DPSGC
PWGSC FILE NO. N° DU DOSSIER DU DPSGC
DESIGN AUTHORITY SERIAL NO. N° D'ORDRE DU BUREAU TECHNIQUE RESPONSABLE

Change
Modification ☐

Deviation
Ecart ☐

PART 1 – PARTIE 1

1. ITEM AFFECTED – ARTICLE TOUCHÉ

2. MAIN EQUIPMENT(S) AFFECTE – MATERIEL TOUCHÉ

3. DESCRIPTION OF DEPARTURE FROM ORIGINAL TECHNICAL DATA – DESCRIPTION DES POINTS QUI DIFFERENT DES DONNEES TECHNIQUES

4. REASON FOR REQUEST – NOTIF DE LA DEMANDE

5. WILL INTERCHANGEABILITY BE AFFECTED? L'INTERCHANGEABILITÉ EST-ELLE RÉDUITE? Component Parts: ☐ Yes ☐ No Assemblies: ☐ Yes ☐ No
Organes: Oui Non Ensembles: Oui Non

6. WILL SPARE PARTS SCHEDULE BE AFFECTED? LE TABLEAU EN PIÈCES DE RECHANGE EST-IL MODIFIÉ? ☐ Yes ☐ No
Oui Non

If "Yes" state details - Le cas échéant, donner des détails

7. PRODUCTION DATA – RENSEIGNEMENTS SUR LA PRODUCTION

7.1 COST AND DELIVERY COÛT ET LIVRAISON EN SERVICE			
7.1.1 Estimated Effect on delivery Effet prévu sur la livraison	\$ _____	7.3 RECOMMENDATIONS FOR PRIOR BUILT UNITS IN SERVICE RECOMMANDATIONS QUANT AUX UNITÉS DÉJÀ EN SERVICE	
7.1.2 Estimated Added Tooling Cost Coût supplémentaire prévu de l'usinage	\$ _____	7.3.1 Should Prior-built Units be modified? Les unités déjà en service devraient-elles être modifiées? <input type="checkbox"/> Yes <input type="checkbox"/> No Oui Non	
7.1.3 Estimated Surplus Material Value Valeur prévu des matériaux supplémentaires	\$ _____	7.3.2 Estimated Cost Per Unit – Coût prévu par unité \$ _____	
7.1.4 Estimated Change in Contract Cost Including Sales Tax and 7.1.2 and 7.1.3 (Indicate + or -) Valeur prévue du coût stipulé dans le contrat (Y compris la taxe de vente et les montants prévus en 7.1.2 et 7.1.3). (Indiquer + ou -)	\$ _____	Cost of Kit Coût du lot \$ _____ Cost of Rework Coût de réusinage \$ _____	
7.2 PRODUCTION CHANGE POINT INTRODUCTION DE LA MODIFICATION		7.3.3 Government held Spare Parts - Pièces de rechange posséder par gouvernement	
7.2.1 Estimated Starting Date and Serial No. Date d'introduction et N° de série prévue	\$ _____	Use <input type="checkbox"/> Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Utilisez Réusinage Mise au rebut	
7.2.2 Total Number of Units Involved. Nombre total d'unités touchées	\$ _____	Estimated Cost Each to Rework or Replace \$ Coût unitaire prévu du réusinage ou du remplacement \$ _____	

8. ORIGINATOR – AUTEUR DE LA DEMANDE

DATE	SIGNATURE (If other than Prime Contractor – Autre que l'entrepreneur principal)	DATE	SIGNATURE (Prime Contractor – entrepreneur principal)

PART II – PARTIE II**9. RECOMMENDATIONS OF QUALITY ASSURANCE REPRESENTATIVE – RECOMMANDATION DU RÉPRÉSENTATIVE DE L'ASSURANCE DE LA QUALITÉ**

NAME and RANK – NOM et GRADE	SIGNATURE	DESIGNATION – POSTE	TEL. – TEL.	DATE
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10. RECOMMENDATIONS OF DESIGN AUTHORITY – RECOMMANDATIONS DU BUREAU TECHNIQUE RESPONSABLE

Approved Approuvé <input type="checkbox"/>	Change Modification <input type="checkbox"/>	Deviation Écart <input type="checkbox"/>	Per Part I Voir partie I <input type="checkbox"/>	Or see remarks Ou voir observations <input type="checkbox"/>	Not approved Rejetée <input type="checkbox"/>
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COMMENTS

NAME and RANK – NOM et GRADE	SIGNATURE	DESIGNATION – DESIGNATION	TEL. – TEL.	DATE
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11. APPROVAL OF PROCUREMENT AUTHORITY – APPROBATION DE L'INSTANCE D'ACQUISITION

NAME and RANK – NOM et GRADE	SIGNATURE	DESIGNATION – DESIGNATION	TEL. – TEL.	DATE
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12. REFERENCES – DOCUMENTS DE REFERENCE (departmental file numbers, etc. – numéros de dossier ministère, etc.)**13. AUTHORIZED PRODUCTION ACTION ON THIS CONTRACT – MESURE DE PRODUCTION AUTORISÉE POUR LE PRÉSENT CONTRAT**

Change / Deviation Modification / Écart		Existing Stock Stock actuel	Complete Units Unités entières	Assemblies Ensembles	Component Parts Organes
A. Change Modification		Use Utilisez			
When to take effect: Prise d'effet:		Rework Réusinage			
B. Deviation Écart	TOTAL NUMBER OF UNITS INVOLVED NOMBRE D'UNITÉS TOUCHÉES:	Scrap Mise au rebut			

14. FORM DND 678 REQUIRED FROM MANUFACTURER? DND 678 EXIGÉE DU FABRICANT MESURE À L'ÉGARD DU MATÉRIEL EN STOCK ET EN SERVICE?	Yes Oui <input type="checkbox"/>	No Non <input type="checkbox"/>
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15. ACTION ON EQUIPMENT IN STOCK AND USE – MESURE À PRENDRE À L'ÉGARD DU MATÉRIEL EN STOCK ET EN SERVICE**16. ACTION ON SPARES IN STOCK AND USE – MESURE À PRENDRE À L'ÉGARD DES PIÈCES DE RECHANGE EN STOCK:**

17. DATE	SIGNATURE (for Department of National Defence pour le ministère de la Défense Nationale)	18. DATE	SIGNATURE: (for Public Works and Government Services Canada) (pour travaux publics et services Gouvernementaux Canada)
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19. DISTRIBUTION LIST – LISTE DE DIFFUSION	Copies Exemplaires	DISTRIBUTION LIST – LISTE DE DIFFUSION	Copies Exemplaires
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REQUEST FOR WAIVER or DEVIATION DEMANDE D'EXEMPTION ou DÉVIATION

1. <input type="checkbox"/> Waiver Exemption <input type="checkbox"/> Deviation Déviation				4. Waiver or Deviation No. N° Exemption ou Déviation			
2. <input type="checkbox"/> Technical Technique <input type="checkbox"/> Contractual Contractuel				5. PWGSC Contract No. TPSGC N° du contrat			
3. <input type="checkbox"/> Major Majeur <input type="checkbox"/> Minor Secondaire <input type="checkbox"/> Critical Critique				6. Contract Line Item No. N° d'inscription au contrat			
1a. Recurring Récurrent <input type="checkbox"/> yes / oui <input type="checkbox"/> no / non				7. Prime Contractor Name Nom de l'entrepreneur principal			
9. Item Description / Description de l'article :				8. Originating Date (dd/mm/yyyy) Date d'introduction (jj/mm/aaaa)			
9b. Primary Equipment Affected / Équipement primaire affecté				9a. Lot No. N° de lot		Batch No N° de fabrication	
						Item Serial No. N° de série de l'article	
9c. Part or Assembly Impacted Pièce ou assemblage affectée							
9d. Impact on the Contract Impact sur le contrat							
9e. Impact on Cost Impact sur le coût							
9f. Impact on Delivery Schedule Impact sur le calendrier de livraison							
9g. Impact on other Systems (ILS, interface & software) Impact sur autres systèmes (SLI, interface & logiciel)							
10. Description of Waiver or Deviation (Non-Conformity) / Description d'exemption ou déviation (non-conformité)							
11. Reason for Waiver or Deviation (Non-Conformity) / Raison d'exemption ou déviation (non-conformité)							
12. Originator Signature Block / Bloc de signature de l'auteur							
12a. Prime Contractor / entrepreneur principal							
Name / Nom (printed / imprimé)				Signature		Date (dd/mm/yyyy : jj/mm/aaaa)	
12b. Originator / Auteur de la demande							
(if different from 12a. / si différent de 12a.)				Name / Nom (printed / imprimé)		Signature	
						Date (dd/mm/yyyy : jj/mm/aaaa)	
13. Government Authorizations / Autorisations du gouvernement							
13a. Conditions to granting Waiver or Deviation / Conditions pour accorder l'exemption ou la déviation							
13b. Quality Assurance Representative / Représentant de l'assurance de la qualité							
<input type="checkbox"/> Recommended Recommandé		<input type="checkbox"/> Not Recommended Non-recommandé		Name / Nom (printed / imprimé)		Signature	
						Date (dd/mm/yyyy : jj/mm/aaaa)	
13c. Contractual Authority - PWGSC / Autorité contractuelle - TPSGC							
<input type="checkbox"/> Approved Approuvé		<input type="checkbox"/> Not Recommended Non-recommandé		Name / Nom (printed / imprimé)		Signature	
						Date (dd/mm/yyyy : jj/mm/aaaa)	
13d. Technical Authority - DND / Autorité technique - MDN							
<input type="checkbox"/> Approved Approuvé		<input type="checkbox"/> Not Approved Non-approuvé		Name / Nom (printed / imprimé)		Signature	
						Date (dd/mm/yyyy : jj/mm/aaaa)	



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SHIRT FLYERS' TACTICAL HELICOPTER - LA CHEMISE, ÉQUIPAGE D'HÉLICOPTÈRE TACTIQUE - A/A: 8415-20-007-9900 - CADPAT TW / DCAMC RBT - 2017-01-17				
NSN	SIZE	To Order	MTL	EDM
8415-20-007-9901	6734	25	15	10
8415-20-007-9902	6736	55	33	22
8415-20-007-9903	6738	115	69	46
8415-20-007-9905	6740	240	144	96
8415-20-007-9906	6742	250	150	100
8415-20-007-9907	6744	215	129	86
8415-20-007-9908	6746	85	51	34
8415-20-007-9909	7034	30	18	12
8415-20-007-9910	7036	60	36	24
8415-20-007-9911	7038	125	75	50
8415-20-007-9912	7040	330	198	132
8415-20-007-9913	7042	350	210	140
8415-20-007-9914	7044	260	156	104
8415-20-007-9915	7046	125	75	50
8415-20-007-9916	7048	75	45	30
8415-20-007-9917	7050	35	21	14
8415-20-007-9918	7052	30	18	12
8415-20-007-9919	7336	25	15	10
8415-20-007-9920	7338	120	72	48
8415-20-007-9922	7340	190	114	76
8415-20-007-9923	7342	200	120	80
8415-20-007-9924	7344	145	87	58
8415-20-007-9925	7346	20	12	8
8415-20-007-9926	7348	50	30	20
8415-20-007-9927	7350	40	24	16
8415-20-007-9928	7352	20	12	8
8415-20-007-9929	7636	15	9	6
8415-20-007-9930	7638	105	63	42
8415-20-007-9931	7640	150	90	60
8415-20-007-9932	7642	155	93	62
8415-20-007-9933	7644	140	84	56
8415-20-007-9934	7646	15	9	6
8415-20-007-9935	7648	10	6	4
8415-20-007-9936	7650	10	6	4
8415-20-007-9937	7652	10	6	4
TOTAL ORDER		3825	2295	1530
		4,035	2421	1614

TROUSERS FLYERS' TACTICAL HELICOPTER - LES PANTALONS ÉQUIPAGE D'HÉLICOPTÈRE TACTIQUE - A/A: 8415-20-007-9803 - CADPAT TW / DCAMC RBT - 2017-01-17				
NSN	SIZE	To Order	MTL	EDM
8415-20-007-9804	6728	50	30	20
8415-20-007-9805	6730	190	114	76
8415-20-007-9806	6732	210	126	84
8415-20-007-9807	6734	295	177	118
8415-20-007-9808	6736	300	180	120
8415-20-007-9809	6738	190	114	76
8415-20-007-9810	6740	70	42	28
8415-20-007-9811	7028	30	18	12
8415-20-007-9812	7030	260	156	104
8415-20-007-9813	7032	390	234	156
8415-20-007-9814	7034	395	237	158
8415-20-007-9815	7036	420	252	168
8415-20-007-9816	7038	205	123	82
8415-20-007-9817	7040	80	48	32
8415-20-007-9818	7042	60	36	24
8415-20-007-9819	7044	40	24	16
8415-20-007-9820	7046	20	12	8
8415-20-007-9821	7330	125	75	50
8415-20-007-9822	7332	205	123	82
8415-20-007-9823	7334	300	180	120
8415-20-007-9824	7336	175	105	70
8415-20-007-9825	7338	105	63	42
8415-20-007-9826	7340	69	41	28
8415-20-007-9827	7342	40	24	16
8415-20-007-9828	7344	20	12	8
8415-20-007-9829	7346	10	6	4
8415-20-007-9830	7630	70	42	28
8415-20-007-9831	7632	100	60	40
8415-20-007-9832	7634	170	102	68
8415-20-007-9833	7636	185	111	74
8415-20-007-9834	7638	159	95	64
8415-20-007-9835	7640	20	12	8
8415-20-007-9836	7642	14	8	6
8415-20-007-9837	7644	14	8	6
8415-20-007-9838	7646	14	8	6
TOTAL ORDER		5000	3000	2000
		5310	3186	2124



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SHIRT FLYERS' TACTICAL HELICOPTER - LA CHEMISE, ÉQUIPAGE D'HÉLICOPTÈRE TACTIQUE -
A/A: 8415-20-004-0921 - CADPAT AR / DCAMC RA - 2017-01-17

NSN	SIZE	To Order	MTL	EDM
8415-20-004-0922	6734	1	1	0
8415-20-004-0923	6736	0	0	0
8415-20-004-0924	6738	3	2	1
8415-20-004-0925	6740	10	6	4
8415-20-004-0926	6742	5	3	2
8415-20-004-0927	6744	2	1	1
8415-20-004-0928	6746	5	3	2
8415-20-004-0929	7034	0	0	0
8415-20-004-0930	7036	2	1	1
8415-20-004-0931	7038	10	6	4
8415-20-004-0932	7040	40	24	16
8415-20-004-0933	7042	25	15	10
8415-20-004-0934	7044	10	6	4
8415-20-004-0935	7046	3	2	1
8415-20-004-0936	7048	0	0	0
8415-20-004-0937	7050	0	0	0
8415-20-004-0938	7052	0	0	0
8415-20-004-0939	7336	9	5	4
8415-20-004-0940	7338	3	2	1
8415-20-004-0941	7340	24	14	10
8415-20-004-0942	7342	15	9	6
8415-20-004-0943	7344	7	4	3
8415-20-004-0944	7346	6	4	2
8415-20-004-0945	7348	0	0	0
8415-20-004-0946	7350	0	0	0
8415-20-004-0947	7352	0	0	0
8415-20-004-0948	7636	0	0	0
8415-20-004-0949	7638	3	2	1
8415-20-004-0950	7640	8	5	3
8415-20-004-0951	7642	6	4	2
8415-20-004-0952	7644	7	4	3
8415-20-004-0953	7646	0	0	0
8415-20-004-0954	7648	2	1	1
8415-20-004-0955	7650	2	1	1
8415-20-004-0956	7652	2	1	1
TOTAL ORDER		210	126	84

TROUSERS FLYERS' TACTICAL HELICOPTER - LES PANTALONS ÉQUIPAGE D'HÉLICOPTÈRE TACTIQUE - A/A: 8415-20-004-0958 - CADPAT AR / DCAMC RA - 2017-01-17				
NSN	SIZE	To Order	MTL	EDM
8415-20-004-0959	6728	0	0	0
8415-20-004-0960	6730	5	3	2
8415-20-004-0961	6732	10	6	4
8415-20-004-0962	6734	25	15	10
8415-20-004-0963	6736	30	18	12
8415-20-004-0964	6738	10	6	4
8415-20-004-0965	6740	0	0	0
8415-20-004-0966	7028	0	0	0
8415-20-004-0967	7030	10	6	4
8415-20-004-0968	7032	24	14	10
8415-20-004-0969	7034	35	21	14
8415-20-004-0970	7036	25	15	10
8415-20-004-0971	7038	15	9	6
8415-20-004-0972	7040	2	1	1
8415-20-004-0973	7042	0	0	0
8415-20-004-0974	7044	0	0	0
8415-20-004-0975	7046	0	0	0
8415-20-004-0976	7330	15	9	6
8415-20-004-0977	7332	20	12	8
8415-20-004-0978	7334	25	15	10
8415-20-004-0979	7336	20	12	8
8415-20-004-0980	7338	10	6	4
8415-20-004-0981	7340	3	2	1
8415-20-004-0982	7342	0	0	0
8415-20-004-0983	7344	0	0	0
8415-20-004-0984	7346	0	0	0
8415-20-004-0985	7630	5	3	2
8415-20-004-0986	7632	10	6	4
8415-20-004-0987	7634	10	6	4
8415-20-004-0988	7636	0	0	0
8415-20-004-0989	7638	0	0	0
8415-20-004-0990	7640	0	0	0
8415-20-004-0991	7642	1	1	0
8415-20-004-0992	7644	0	0	0
8415-20-004-0993	7646	0	0	0
TOTAL ORDER		310	186	124