



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
FAX pour soumissions: (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 To procure Sunhats for stock	
Solicitation No. - N° de l'invitation W8486-184371/A	Date 2018-04-12
Client Reference No. - N° de référence du client 6000409585	
GETS Reference No. - N° de référence de SEAG PW-\$\$PR-759-74714	
File No. - N° de dossier pr759.W8486-184371	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-05-14	Time Zone Fuseau horaire Heure Avancée de l'Est HAE
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: Lafleur, Mario	Buyer Id - Id de l'acheteur pr759
Telephone No. - N° de téléphone (873) 469-3173 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

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 Statement of Work

The "Requirement" is detailed under 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 Canadian Free Trade Agreement (CFTA).

1.5 Canadian Content

The requirement is solely limited to Canadian goods and/or services.

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: 180 days

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 Sample

Technical data and samples (if applicable) 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

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 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

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. : 604-365-2956 (Chris Huchzermeyer) OR
TEL. : 604-658-2799 (Betty Chan)
FAX : 604-775-7526
Attention: Chris Huchzermeyer (chris.huchzermeyer@tpsgc-pwgsc.gc.ca)
OR
Attention: Betty Chan (betty.chan@tpsgc-pwgsc.gc.ca)

Public Works & Government Services Canada

1713 Bedford Row, 5th Floor
Halifax, N.S. B3J 1T3
TEL: 902-496-5076
FAX: 902-496-5016

2.6 Technical Data

In order to receive Technical Data Packages against this solicitation, Bidders must send their request by email to name of mario.lafleur@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

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.

2.7 Specifications and Standards

2.7.1 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>

2.8 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 copies)
Section III: Certifications (1 hard copies)
Section IV: Additional Information (1 hard copy)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft 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>). 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 (refer to 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 Annex “L” Electronic Payment Instruments, to identify which ones are accepted.

If Annex “L” 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.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

Pre-Award Sample and Supporting Documentation

As part of the technical evaluation, to confirm a Bidder's capability of meeting the technical requirements, one (1) pre-award sample of the hat in size 7, fabric sample, **and supporting documentation such as** test reports *and* certificates of compliance must be included with the bid as specified at the Annex K. Additional details relating to the technical evaluation are also available in the Annex K.

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 and the supporting documentation as such the test reports **and** certificates of compliance as specified at the Annex K at no charge to Canada and must ensure that they are received with the bid at time and place of bid closing. If a certificate of compliance is not submitted with the bid, the Contracting Authority will inform the Bidder in writing and provide the Bidder with two (2) working days from the request to submit the certificate of compliance.

Failure to submit the required pre-award samples, test reports **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 sample will be evaluated for quality of workmanship and conformance to specified materials and measurements.

The requirement for a pre-award samples **and** test reports **and** certificates of compliance will not relieve the successful bidder from submitting samples **and** test reports **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.

CERTIFICATE OF COMPLIANCE

Please refer to Annex A, Section 3.1.4.

TEST REPORTS

Please refer to Annex A, Section 3.1.5

4.1.2 Financial Evaluation

4.1.2.1 Mandatory Financial Criteria

- a. The Bidder must submit firm unit prices in Canadian dollars, applicable taxes are excluded, DDP (Montreal, QC and Edmonton, AB) Incoterms 2000, transportation costs included, all applicable Customs Duties and Excise taxes included.
- b. The Bidder must submit firm unit pricing for the item and all destinations including options 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 quantity for the item, including all destinations and 100% of the option 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.
 - (a) 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 unmaturing, 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.

5.2.3 Additional Certifications Precedent to Contract Award

5.2.3.1 Canadian Content Certification

The Canadian Content applies to the main fabric used to manufacture the item and to the item itself.

5.2.3.1.1 SACC Manual clause A3050T (2014/11/27) Canadian Content Definition

Rules of Origin - Textiles

With reference to the Canadian Content Certification clause, item(s) on this solicitation are considered to be Canadian goods if they meet the following definition:

MODIFIED RULE OF ORIGIN FOR TEXTILES: "Textiles and textile articles classified in Chapters 50 to 60 inclusive of the Harmonized System that are woven, knitted or otherwise manufactured from yarns or fibres in Canada, and further processed in Canada by dyeing, finishing, coating or other processes as applicable, will be considered Canadian textiles. Woven fabrics of 100% cotton or of polyester and cotton blends that are dyed and finished in Canada will be considered Canadian."

Rules of Origin - Apparel

With reference to the Canadian Content Certification clause, apparel goods are considered to be Canadian goods according to the North American Free Trade Agreement Rules of Origin as follows:

Apparel goods classified in Chapters 61 and 62 of the Harmonized System that are both cut (or knit to shape) and sewn in Canada will be considered Canadian goods.

Canadian Content Certification

This procurement is limited to Canadian goods.

The Bidder certifies that:

() the good(s) offered are Canadian goods as defined in paragraph 1 of clause A3050T.

Plant Location

Items will be manufactured at: _____

5.2.3.2 Sample and Production Certification

The Bidder certifies that:

() the manufacturer that produced the pre-award sample(s) will remain unchanged for the pre-production samples 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

6.1.1 There is no security requirement applicable to the Contract.

6.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at 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 Required (Desirable) - Firm Quantity

All firm deliverables are requested complete by July 31, 2018.

Delivery - Firm Quantity - Phased

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

Delivery - Option Quantity

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 _____ each. The balance must be shipped at a rate of _____ each weekly after the first delivery until completion of the option quantity.

6.4.1.1 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) 7 CF Supply Depot Lancaster Park
Edmonton, Alta
780-973-4011, ext. 4524
- (b) 25 CF Supply Depot Montreal
Montreal, Qué.
514-252-2777, ext. 2363
25dfactrafficrdv@forces.gc.ca

6.4.1.2 Preparation for Delivery

The Contractor must prepare all items for delivery as per the Statement of Work, Annex A, 3.1.2.6 entitled "Packaging".

6.4.1.3 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 and Edmonton, AB Incoterms 2000 for shipments from commercial contractor.

6.4.1.4 Rejected Goods

If any goods are rejected and are sold to any resale, all markings and insignia must be removed before being turned over to the purchaser.

6.4.1.5 SACC Manual Clauses

D2025C 2017/08/17 Wood Packaging Materials
D5545C 2010/08/16 ISO 9001:2008 - Quality Management Systems - Requirements (QAC C)
D6010C 2007/11/30 Palletization

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Mario Lafleur
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 : 873-469-3173 Facsimile: 819-956-5454
E-mail address: mario.lafleur@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:

_____ (Name of Procurement Authority)

_____ (Title)

_____ (Organization)

_____ (Address)

Telephone: ____ - ____ - ____

Facsimile: ____ - ____ - ____

E-mail: _____.(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 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 a firm unit price, as specified in appendix 1 of the 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):

- a. Visa Acquisition Card;

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

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: DAAT _____
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.

6.8 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 SACC Manual Clauses

A3060C 2008/05/12 Canadian Content Certification

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, Requirement;
- d) Specifications;
- e) Drawings;

- f) Sealed Sample;
g) the Contractor's bid dated _____

6.11 Defence Contract

SACC *Manual* clause A9006C (2012/07/16) Defence Contract

6.12 SACC Manual Clauses

B7010C 2008/05/12 Marking and Labelling
C2611C 2007/11/30 Customs Duties - Contractor Importer
C2801C 2017/08//17 Priority Rating - Canadian-based Contractors

6.13 Materials: Contrator Total Supply

The Contractor will be responsible for obtaining all materials required in the manufacture of the item(s) Specified. The delivery stated for the item(s) allows the necessary time to obtain such materials.

6.14 Procedures for Design Change/Deviations

The Contractor must follow procedures outlined in Annex A - Statement of Work, 3.1.6 for any design change/deviation to contract specifications.

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.

2018-2019

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

2019-2020

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

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 to 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 Pre-Production Sample

1. The Contractor must provide a pre-production sample as identified at the Annex I accompanied by the sealed sample if applicable, to the Technical Authority for acceptance within **21** calendar days from date of contract award .
2. If the pre-production sample is rejected, the Contractor must submit a second pre-production sample within 15 calendar days of notification of rejection from the Technical Authority.
3. If the pre-production sample is 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 sample(s) 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 sample(s), the Contractor must provide laboratory test reports and certificates of compliance (Annex I), as applicable, to the Contracting Authority and Technical Authority, transportation charges prepaid, and without charge to Canada.
7. The pre-production sample 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 sample. 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 sample is 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 sample may not be required if the Contractor is currently in production. The request for waiver of pre-production sample 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.

Production Sample(s)

1. In accordance with Annex I paragraph 2.2, for every 10,000 meters or when the supplier changes the Contractor must produce a test report and one (1) meter physical sample from production and provide it to the Technical Authority."
2. Rejection by the Technical Authority of the production sample(s) submitted by the Contractor for failing to meet the contract requirements will be grounds for termination of the Contract for default.

CERTIFICATE OF COMPLIANCE

Please refer to Annex A, Section 3.1.4.

TEST REPORTS

Please refer to Annex A, Section 3.1.5

6.21.2 SealedSample - Guidance Only

The sealed sample is representative of the required item but is not part of the technical requirement. The sealed sample may not meet the technical requirement in all respects and must be used for guidance only during production.

6.21.3 Sealed Sample - Return to Sender

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

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

6.22 Specifications and Standards

6.22.1 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>

6.23 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.

APPENDIX 1 TO ANNEX "A" REQUIREMENT

1. TECHNICAL REQUIREMENT

The Contractor is required to provide Canada for the Department of National Defence (*DND*) with hat, sun temperate weather combat in accordance with the specifications in Annexes B and I, patterns, drawings, sealed sample.

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

3. DELIVERABLES

CONTRACT QUANTITY

Firm Quantity

Item	Description	Unit of Issue	Destination	Firm Quantity	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
1	hat, sun temperate weather combat	Each	Edmonton	4754	\$ _____
			Montreal	7131	\$ _____

*Size Roll: Refer to Annex J.

The following information in terms of delivery priorities

NSN / NNO	Nomenclature	Size / Grandeur	Delivery Priority
8415-21-914-5176	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	A/A	
8415-21-914-5177	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 1/2	7
8415-21-914-5181	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7	1
8415-21-914-5182	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/8	2
8415-21-914-5183	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/4	3
8415-21-914-5184	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 3/8	4
8415-21-914-5185	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/2	5
8415-21-914-5186	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 5/8	8
8415-21-914-5187	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 3/4	6

OPTIONS

OPTION 1				
Article	Description	Estimated Quantity	Unit of Issue	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
2	hat, sun temperate weather combat	11 885	Each	\$ _____
OPTION 2				
3	hat, sun temperate weather combat	11 885	Each	\$ _____

4. OPTION QUANTITIES - Identified as Items 2 and 3

The Contractor grants to Canada the irrevocable option to acquire the goods described under items #2 and 3 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 5 942, up to a maximum of 11 885 per amendment, distributed amongst destinations and will be evidenced through a contract amendment.

Only one amendment may be issued to exercise each option.

The Contracting Authority may exercise the **Option 1** within 24 months after contract award date by sending a written notice to the Contractor.

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

A size roll will be provided if and when the option is exercised.

ANNEX “L” 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)

STATEMENT OF WORK FOR HAT, SUN, TEMPERATE WEATHER, COMBAT

Requisition Number: W8486-184293

Date: 14-03-2018

Prepared by:
DSSPM 2
National Defence Headquarters
Major General George R. Pearkes Building
Ottawa, Ontario
K1A 0K2



NOTICE

This document has been examined by the Technical Authority for content and confirmed that it has no references to controlled goods.

OPI/BPR: DSSPM 2-3 / DAPES 2-3



©Her Majesty in Right of Canada as represented by the Minister of National Defence, 2017

©Sa Majesté la Reine en chef du Canada représentée par le Ministre de la Défense nationale, 2017

STATEMENT OF WORK
FOR
HAT, SUN, TEMPERATE WEATHER, COMBAT

1 SCOPE

1.1 Objective. The Department of National Defence's Directorate Soldier Systems Program Management (DSSPM) has a requirement to purchase quantities of the Hats, Sun, Temperate Weather, Combat (HSTWC) for replenishment of stocks held in Canadian Armed Forces (CAF) supply depots. This contract is intended to be a bridging contract to provide temperate weather hats until the Operational Footwear and Clothing Consolidated Contract (OCFC2) is awarded and hat deliveries are established through appropriate subcontracts.

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. DSSPM presently supports a client base of approximately 150,000 people, which includes the Canadian Army (CA), Royal Canadian Navy (RCN), and Royal Canadian Air Force (RCAF), regular and reserve force personnel, Cadets, Canadian Rangers and Junior Canadian Rangers.

1.2.2 The Hats, Sun, Temperate Weather, Combat (HSTWC) is worn by Canadian Army (CA) personnel and elements providing support to Canadian Army operations in temperate weather conditions within the ambient temperature range of +25° Celsius to 0° Celsius. The HSTWC is worn with the Enhanced Combat Uniform (Shirt and Trousers) whilst carry out a full range of tasks including marching over uneven terrain while carrying heavy loads, standing, climbing, operating and maintaining vehicles and equipment, and firing weapons.

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
DNDQAR	DND Quality Assurance Representative
DQA	Directorate of Quality Assurance
DSSPM	Directorate of Soldier Systems Program Management

HSTWC	Hats, Sun, Temperate Weather, Combat
OCFC2	Operational Clothing and Footwear Consolidated Contract
RCAF	Royal Canadian Air Force
RCN	Royal Canadian Navy
RFP	Request For Proposal
TA	Technical Authority

2 REFERENCE DOCUMENTS

2.1 Details of the required reference documents are contained in the pertinent Annexes. The list below identifies the Annexes that contain the detailed technical requirements. It is included to assist bidders navigate the Request for Proposal (RFP).

Annex / Annexe	Document Reference Number and Title	
Annex B	DSSPM 2-3-87-5176	Specification for Hat, Sun, Temperate Weather, Combat (HSTW)
Annexe B	DAPES 2-3-87-5176	Spécification Pour Chapeau De Soleil De Combat Pour Climat Tempéré (CSCCT)
Annex C	DSSPM 2-2-80-023	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² Spécification Tissu Léger De Nylon/Coton Simple Retors, 170 g/m ²
Annex D	DSSPM 2-2-80-500	Specification for CADPAT TM (TW) [Canadian Disruptive Pattern (Temperate Woodland)] Spécification DCamC ^{MC} (RBT) [Dessin De Camouflage Canadien, (Régions Boisées Tempérées)]
Annex E	DSSPM 2-2-80-059	Cloth, Coated, Nylon/Taffeta-Polyurethane Spécification Pour Tissu, Enduit, Taffetas, Nylon, Polyuréthane
Annex F	D-80-001-028/SF-001	Cord, Plaited, Spun Synthetic Fibre Spécification Pour Le Cordage Tressé De Fibres Synthétiques Filées

Annex / Annexe	Document Reference Number and Title	
Annex G	D-80-001-055/SF-001	Specification for Label, Clothing and Equipment Spécification Pour Les Étiquettes, Vêtements Et Matériel
Annex H	CFTPO-HATS CETFC-CHAPEAU	Canadian Forces Transportation and Packaging Instruction Commande d'Emballage pour le Transport – Forces canadiennes
Annex I	Pre-Production and Production Technical Validation Plan For The Hat, Sun, Temperate Weather, Combat (HSTW)	
Annexe I	Plan de validation technique de préproduction et de production pour les Chapeau De Soleil De Combat Pour Climat Tempéré (CSCCT)	
Annex J	Size Roll / Distribution De Taille	
Annex K	Guidance to Bidders Technical Evaluation Plan For The Hat, Sun, Temperate Weather, Combat (HSTW)	
Annexe K	Instructions à l'intention des soumissionnaires – Plan d'évaluation technique des Chapeau De Soleil De Combat Pour Climat Tempéré (CSCCT)	

2. REQUIREMENTS

2.1. Scope of Work. DND requires the production of Hat, Sun, Temperate Weather, Combat (HSTWC) and their subsequent delivery in the appropriate sizes and quantities, to the locations identified in the accordance with the specifications detailed in Annexes B to K.

2.2. Tasks.

2.2.1. Pre-Production.

2.2.1.1. The Contractor must produce the physical samples identified in Paragraph 2.1.2 of **Annex I** (Pre-Production and Production Technical Validation Plan).

2.2.1.2. The Contractor must produce the documentation identified in Paragraph 2.1.1 of **Annex I** (Pre-Production and Production Technical Validation Plan).

2.2.2. Production.

2.2.2.1. The Contractor must produce Hat, Sun, Temperate Weather, Combat (HSTWC) in accordance with **Annex B**, in the sizes and quantities detailed in **Annex J** (Size Roll).

2.2.2.2. Packaging.

2.2.2.2.1. The Contractor must package the Hat, Sun, Temperate Weather, Combat (HSTWC) in accordance with **Annex H** (CFTPO-Hats).

2.2.2.2.2. The Contractor must mark the packaged goods for shipment in accordance with D-LM-008-002/SF-001 (Marking for Storage and Shipment).

2.2.2.3. The Contractor must deliver the Hat, Sun, Temperate Weather, Combat (HSTWC) in the sizes and quantities detailed in **Annex J** (Size Roll) to the addresses provided in the Contract.

2.2.2.4. Documentation.

2.2.2.4.1. **Shell Material.** For every 10,000 meters of production or upon supplier changes of shell material, the Contractor must submit documentation and the physical samples for evaluation as identified in Paragraph 2.2.2 of **Annex I** (Pre-Production and Production Technical Validation Plan), detailed in Tables IV and V and the Contract.

2.2.2.4.2. **Components.** Upon supplier changes of the components, the Contractor must submit documentation and the physical samples for evaluation as identified in Paragraph 2.2.3 of **Annex I** (Pre-Production and Production Technical Validation Plan), detailed in Table VI, and the Contract.

3. DELIVERABLES.

3.1. Deliverables. To support the procurement of Hat, Sun, Temperate Weather, Combat (HSTWC), Canada requires the following deliverables.

3.1.1. Pre-Production. The Contractor must submit the physical examples and test results as identified in Paragraph 2.1.1 and Paragraph 2.1.2 of **Annex I** (Pre-Production and Production Technical Validation Plan).

3.1.2. Production.

3.1.2.1. The Contractor must deliver firm quantities of specific sizes of Naval Boarding Party Coveralls in accordance with **Annex J** (Size Roll).

3.1.2.2. The Contractor must submit test results and fabric samples during production, as outlined in Paragraph 2.2 of **Annex I** (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.

3.1.2.3. If the Contractor changes sub-component supplier(s), the Contractor must ensure that the sub-component demonstrates full compliance to the required specifications by:

- a. Submit the documentation identified in Paragraph 2.2 of **Annex I** (Pre-Production and Production Technical Validation Plan); and
- b. Submit the physical samples for evaluation as detailed in Paragraph 2.2 of **Annex I** (Pre-Production and Production Technical Validation Plan) and the Contract.

3.1.2.4. Option Quantities and Periods.

3.1.2.4.1. Option quantities and periods are detailed in the Contract. Options will be exercised on an as requested basis.

3.1.2.4.2. Note that the Contractor must continue to submit test results and fabric samples as outlined in Paragraph 2.2 of **Annex I** (Pre-Production and Production Technical Validation Plan).

3.1.2.5. **Changes in Colour.** Canada reserves the right to request changes in colour for all or partial quantities of any Option exercised. Canada will define technical requirements and fund any testing required to verify that changes comply with the technical requirements.

3.1.2.6. **Packaging.** Packaging and packing for the Hat, Sun, Temperate Weather, Combat (HSTWC) must be in accordance with **Annex H** (CFTPO-Hats).

3.1.2.7. **Marking.** Packing must be marked in accordance with D-LM-008-002/SF-001 (Marking for Storage and Shipment).

3.1.3. Format and Data Requirements. When submitted, technical / documentary deliverables must be delivered in accordance with the following requirements.

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

3.1.3.1.2. Documents must be written in English or Bilingual (English and French).

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

3.1.4. Certificates of Compliance.

3.1.4.1. **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.

3.1.4.2. 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 two (2) years before the Solicitation 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.

3.1.4.3. 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).

3.1.5. Test Reports.

3.1.5.1. All testing and test methods must be in accordance with the reference criteria. Test specimens must be sampled using best practices (for example, textiles taken from the same sample of cloth, leather conditioned and selected at random from each lot).

3.1.5.2. An accredited independent laboratory familiar with textile testing must conduct all testing unless otherwise stated. Testing carried out by university textile testing laboratories and NATO member nation government 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>).

3.1.5.3. Should a non-accredited laboratory be required for specific tests, approval must be sought and received in writing from the Contracting Authority (at pre-award) or Technical Authority (TA) (at pre-production and production) in advance.

3.1.5.4. 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.
- g. The date the first measurement was obtained for the reported test(s).

3.1.5.5. 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).

3.1.6. Design Changes, Deviations, and Waivers

3.1.6.1. **Procedures.** The Contractor must refer to D-02-006-008/SG-001 (Design Change, Deviation and Waiver Procedure) for instructions to complete Form DND 672 (Design Change/Deviation) and Form 675 (Request for Waiver or Deviation).

3.1.6.1.1. Design Change/Deviation.

3.1.6.1.1.1. The Contractor must fill out Part 1 of DND 672 and forward one (1) copy with any attachments in Adobe Acrobat file format via e-mail to the following personnel:

- a. DND TA/Design Authority (DA);
- b. DND Quality Assurance Representative (DNDQAR);
- c. DND Procurement Authority; and
- d. PSPC Contracting Authority.

3.1.6.1.1.2. The Contractor will be authorized to proceed upon receipt of the design change/deviation form signed by the Contracting Authority.

3.1.6.1.2. Request For Waiver or Deviation.

3.1.6.1.2.1. The Contractor must fill out Parts 1 to 12 of DND 675 and forward one (1) copy with any attachments in Adobe Acrobat file format via e-mail to the following personnel:

- a. DND TA/DA;
- b. DNDQAR;
- c. DND Procurement Authority; and
- d. PSPC Contracting Authority.

3.1.6.1.2.2. The Contractor will be authorized to proceed upon receipt of the request for waiver or deviation form signed by the Contracting Authority.

3.1.6.2. A contract amendment will be issued to incorporate the design change/deviation or waiver / deviation in the Contract.



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.

SPECIFICATION

FOR

**HAT, SUN, TEMPERATE WEATHER,
COMBAT (HSTW), CADPAT™ TEMPERATE WOODLANDS (TW)**

NSN 8415-21-914-5176 A/A

OPI/BPR: DSSPM 2-3

Canada 

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©Sa Majesté la Reine en chef du Canada représentée par le Ministre de la Défense nationale, 2017

SPECIFICATION
FOR
HAT, SUN, TEMPERATE WEATHER,
COMBAT (HSTW), CADPAT™ TEMPERATE WOODLANDS (TW)
NSN 8415-21-914-5176 A/A

1 SCOPE

1.1 **Scope.** This specification covers the materials, design and construction requirements for the Hat, Sun, Temperate Weather, Combat (HSTW).

1.2 **Intended Use.** The HSTW is intended to provide soldiers with protection from sun in temperate weather conditions.

2 APPLICABLE DOCUMENTS

2.1 The following documents form 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 those in effect on the date of the invitation to tender or the contract.

2.2 **Government Documents.** The documents listed below will be provided by the Government. Additional copies may be obtained from the Department of National Defence, Ottawa, Ontario, K1A 0K2, Attention: DSSPM 2-3

SPECIFICATIONS AND STANDARDS

Annex C	DSSPM 2-2-80-023 Cloth, Twist, Nylon/Cotton, Lightweight, 170g/m ²
Annex D	DSSPM 2-2-80-500 Specification For CADPAT™ (TW) [Canadian Disruptive Pattern (Temperate Woodland)]
Annex E	DSSPM 2-2-80-059 Cloth, Coated, Nylon/Taffeta-Polyurethane
Annex F	D-80-001-028/SF-001 Cord, Plaited, Spun Synthetic Fibre, Types I and II
Annex G	D-80-001-055/SF-001 Label, Clothing and Equipment
Annex H	CFTPO-HATS Canadian Forces Transportation Packaging Order

2.3 **Other Publications.** Documents listed below as specifications are not provided by the Government and may be purchased from the sources shown:

Canadian General Standards Board
11 Laurier Street
Place du Portage, Phase III
Gatineau, Quebec K1A 1G6
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)
Internet address: ncr.cgsb-ongc@pwgsc.gc.ca

CAN/CGSB-4.2 Textile Test Methods
CAN/CGSB-4.131-93 Cotton-Covered or Polyester-Covered Polyester Thread
CAN/CGSB-4.139-94 Polyester Staple Thread
CAN/CGSB-54.1-M Stitches and Seams – Part 1 and 2: Textiles: Stitch Types –
Classification and Terminology;
CAN/CGSB-86.1-2003 Care Labelling of Textiles

Pantone World Headquarters
590 Commerce Blvd.
Carlstadt, NJ 07072-3098
U.S.A.
Telephone: 201-935-5500
Fax: 201-896-0242

Pantone Colour Chart Textile Colour Chart

2.4 Figures. Figures are not to scale.

Figure 1 Front and Back
Figure 2 Front and Back Details
Figure 3 Side View
Figure 4 Inside Details

2.5 Sealed Samples. Sealed Samples are made available to the bidders and the contractor as a guide to production. The sealed pattern may not meet the technical requirements in all respects and must be used for guidance only during production. The sealed pattern numbers are:

DSSPM 109-99 Hat, Sun, Temperate Weather, Combat, CADPAT™ TW* (provided for construction and design guidance only)
DSSPM 259-01 Cloth, Twist, Nylon/Cotton, Lightweight, CADPAT™ (TW), Construction, Colours, and Pattern
DCGEM 272-80 Cloth, Coated, Nylon Taffeta-Polyurethane – Sealed for Finish
DSSPM 281-01 Canadian Average Green in CADPAT™ (TW)

NOTE: The following are deviations from sealed sample DSSPM 109-99. Sealed sample is provided for construction and design guidance only. The following changes have been made to the design of the HSTW.

- a. Brim width has been shortened to 1-3/4" (4.4 cm) wide;
- b. Webbing is only applied to accommodate reversible cat's eyes;

- c. Neck flap is eliminated from storage pouch; and
- d. Loop tape eliminated from sweatband.

2.6 **Paper Patterns.** Paper patterns for the manufacture of the Hat, Sun, Temperate Weather, Combat will be provided by the Government as Style Code **HSHWC13** and must be used to manufacture the hats.

2.7 **Order of Precedence.**

2.7.1 In the event of discrepancies between the documents referenced herein and the contents of this specification, the contents of this specification must be considered a superseding requirement.

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

2.7.3 In the event of inconsistency in contract documents such as contract, specification, and sealed patterns, the order of precedence must be contract, specification, and sealed patterns.

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

3 **REQUIREMENTS**

3.1 **Sealed Samples.** A sealed sample will be supplied to the successful bidder. The sealed sample must constitute the standard in regard to any properties not specified in the Specification.

3.2 **Definition of Product.** The Hat, Sun, Temperate Weather, Combat must be designed in accordance with Sealed Sample DSSPM 109-99 (with the exceptions outlined in para 2.5) and have the following design features:

- a. Brim around entire circumference of sidewall;
- b. Two (2) black screened vents and retention washers on each side of hat;
- c. Cord chinstrap with toggle;
- d. Concealable phosphorescent tabs (Cat's-eyes); and
- e. Webbing bar tacked at the back of the hatband for the attachment of camouflage materials.

3.2.1 Unless otherwise indicated, all components of the garment must conform to the applicable figures. Hat circumference dimensions with corresponding sizes are shown in the Scale of Measurements in Table I.

3.2 **Materials.**

3.2.1 **Shell Material.** The shell material must be Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m², Type V conforming to Annex C (DSSPM 2-2-80-023). The print colours and pattern must be CADPAT™ TW in accordance with Annex D (DSSPM 2-2-80-500).

3.2.2 **Brim Interlining Components.**

3.2.2.1 The brim interlining must consist of 1 layer of adhesive web, 1 layer of coated nylon, and 1 layer of stiffener.

3.2.2.1.1 **Adhesive Web.** The adhesive web must be a polyamide web having a weight of 20 g/m². Style Web 20 from Veratex Lining Limited (5425 Ave Casgrain, Suite 701, Montreal, Quebec H2T 1X6) has been known to meet these requirements. This layer of adhesive web must be in between the top layer of shell and the coated nylon.

3.2.2.1.2 **Coated Nylon.** The coated-nylon material must be cloth, coated, nylon taffeta-polyurethane conforming to Annex E (DSSPM 2-2-80-059). The finish must be in accordance with the Sealed Pattern DCGEM 272-80. The colour must be white.

3.2.2.1.3 **Stiffener.** The stiffener interlining must be a cross laid base, binder bonded material of 100% polyester. The colour must be white. The weight must be 115g/m² (+/- 10%). The average thickness must be 0.95 mm.

3.2.3 **Sweatband Interlining Components.** The sweatband interlinings must consist of 1 sweat absorption layer and 1 cover layer.

3.2.3.1 **Sweat Absorption Layer.** The sweat absorption layer must be a non-woven, non-fusible felt material. It must be white and must consist of polyester with an acrylic binder. The weight must be 142 g/m² (+/- 10%). The average thickness must be 1.10 mm (+/- 10%).

3.2.3.2 **Cover Layer.** The cover layer must be white and fibre content of 80 to 90% polyester and 10 to 20% rayon. The material must be 36 to 42 g/m². Style number 226 available from Veratex Lining Ltd, 5425 Casgrain Avenue, Suite 701, Montreal, Quebec, H2T 1X6, (514) 274-4495 have been known to meet these requirements.

3.2.4 **Chinstrap.** The chinstrap cording must be Cord, Plaited, Spun Synthetic Fibre conforming to Type I (lightweight) of Annex F (D-80-001-028/SF-001). The colour must Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.2.5 **Webbing.** The webbing must be Textile, Spun Polyester, double jacquard weave, 19 g/m² (+/- 5%) in weight, the warp ends must be 192 with 19 picks/cm. Thickness must be 1.7mm (+/- 10%) and the width must be 9/16-inch (14.3 mm). The colour must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.2.6 **Screened Vents and Retention Washers.** The screened vents and retention washers must be brass and must have a dull, black, chemical finish. The screened vent must have an outside rim diameter of 9/16-inch (14.3 mm), and an outside screening diameter of 7/16-inch (11.1 mm). Screen item number D53, and washer item number C658 available from Stimpson Co Inc, 900 Sylvan Ave, Bayport, NY, 11705-1097, (516) 472-2000, Fax (516) 472-2425, have been known to meet these requirements.

3.2.7 **Toggle.** The toggle must be a black, cylindrical, round tipped, plastic type with a non-metallic tension adjustment mechanism. Cord Stopper, style number LC-SR available from YKK Canada Inc. (3939 Thimens Blvd, Ville St. Laurent, Quebec, H4R 1X3, (514) 332-3350, Fax (514) 332-6040) has been known to meet this requirement.

3.2.8 Thread (for Seaming and Stitching). The thread must be polyester staple conforming to CAN/CGSB-4.139-94, Size 50, R50 TEX, or polyester, cotton-covered or polyester-covered conforming to CAN/CGSB-4.131-93 class A or B, Size 75, R50 TEX. Thread colour must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01.

3.2.9 Luminescent Material. The luminescent material must be SPOT-LITE® GLO Film, Series 4100 CLL flexible plastic-backed film with pressure sensitive acrylic adhesive and 90 pound liner. This material is available from Hanovia Incorporated (6 Evans Street, Fairfield, New Jersey 07004, Phone (973) 651-5510 or Fax (973) 651-5550)).

3.2.10 Labels. The label must be Type I (Label, Woven, Coated and Printed) in accordance with Annex G (D-80-001-055/SF-001).

3.3 Cutting

3.3.1 Hats must be cut using Government supplied patterns. Patterns include seam allowances but do not include make-up allowance. The contractor must be responsible for any change, which may be required for make-up allowance to suit production methods, but the design, grading, or requirements specified herein must not be changed.

3.3.2 The shell parts of each hat must be cut in the direction of the warp as indicated on the pattern drawings.

3.3.3 The shell parts of each hat must be cut from the same print run of material with the exception of the sweatband, the inside crown binding, and the inside pocket pieces.

3.4 Sewing

3.4.1 All seams and stitching must be in accordance with CAN/CGSB-54.1-M.

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

3.4.3 All stitching must be lockstitch Type 301 with a minimum of 9 and maximum of 11 stitches per inch (3.5-4.3 stitches/cm). The serging may be done using any of the 500 series stitches and must have a minimum of 10 cover stitches per inch (4.0 stitches/cm).

3.4.4 Bartacks must be 3/8-inch (9.5 mm) to 7/16-inch (11 mm) long with 22-24 stitches. They must not exceed a width of 3/32-inch (2.4 mm).

3.4.5 The tension of the needle and bobbin threads must be adjusted to ensure correctly formed stitches.

3.5 Construction

3.5.1 Brim Construction. See Figure 4.

3.5.1.1 The hat brim must be constructed of the following layers from top to bottom: 1 layer of shell material on the top, 1 layer of adhesive web, 1 layer of coated nylon, 1 layer of stiffener, and 1 layer of shell on the bottom.

3.5.1.2 The top shell layer and the coated-nylon layer must be fused together with the adhesive web. All layers must be placed together so that they are flush at the outside brim edge. The brim topstitching must have lines of stitching running parallel to the circumference of the brim. The stitching must be evenly spaced at 1/4-inch (6.4 mm) +/- 1/16-inch (+/- 2 mm), and may be either separate rings or a spiral pattern.

3.5.1.3 The outside edge of the brim must be bound with bias cut shell material to a finished width of 3/8-inch (9.5 mm). The binding must have a clean finish with no raw edges exposed. The binding must start and finish at the centre back, with the turned end of the binding lapped of a minimum of 1/2-inch (12.5 mm) on the opposite end of the binding.

3.5.2 **Hatband and Sidewall Assembly.** The hatband must be applied by folding and edge stitching 1/16-inch (2 mm), +/- 1/16-inch (+/- 2 mm) the top edge of the hatband to the outside sidewall.

3.5.3 **Webbing Attachment.** The webbing must be placed on the centre back of the hat, and hatband. The hatband has a mark indicating where the webbing must be anchored. At each mark, stitch through the webbing, the hatband and the sidewall with a straight stitch, 3 times. Stitching must not extend past webbing. Centre of the webbing must be on the centre back of the hat. Webbing must not lay flat on the band. Care must be taken to allow ease between the webbing bar tacking. There must be 1/8-inch (3.2 mm) to 1/4-inch (6.4 mm) ease allowed per loop. The phosphorescent 'Cat's-eye' assemblies must be fed onto the webbing prior to closure of the back seam.

3.5.4 **Phosphorescent Tab Loop Assemblies (Cat's-eye).** See Figure 2.

3.5.4.1 Each loop must be constructed by folding each long edge in 3/8-inch (9.5 mm). One raw end of the loop must be folded up to within 1/4-inch (6.4 mm) of the other raw end, wrong sides together. The longer end must be folded down over the other raw edge, 1/4-inch (6.4 mm). The long edges must be topstitched 1/16-inch (1.5 mm) gauge.

3.5.4.2 The phosphorescent strips must have finished dimensions of 1-inch (2.5 cm) wide by 1/2-inch (1.3 cm) long. The strips must be placed on top of the raw edges of the loops 1/8-inch (3.2 mm) from the folded edge. The phosphorescent strips must be edge stitched to the shell loops in a box formation. Thread must be tone to tone with the phosphorescent strips.

3.5.4.3 The loop must be closed by folding it in half and securely edge stitching the short ends together. The loops must finish in accordance with the dimensions shown at figure 2. Loops must be fed onto the webbing. The loops must function such that they can be turned by hand into the desired position and not roll around the webbing freely.

3.5.4.4 The centre back seams of the inside and outside sidewalls must be stitched 3/8-inch (9.5 mm) gauge and finished with the seam allowances facing each other. The webbing ends must be secured into the centre back seam.

3.5.5 **Screened Vents Attachment.** Two screened vents must be applied to each side of the hat. They must be located in accordance with the markings on the pattern drawings. Care must be taken to affix them in accordance with the manufacturer's instructions and leaving no raw edges exposed. The vents must remain secure for the life of the hat.

3.5.6 **Inside Crown Pocket.** The raw edges of the inside pocket pieces must be turned under twice and topstitched at 1/4-inch (6.4 mm) gauge. The pocket pieces must be lapped over each other to form the inside crown.

3.5.6.1 The outer pocket edges, crown edge and top sidewall edges must be stitched together and the raw edges must be bias bound so that no raw edges are exposed.

3.5.6.2 The crown must be edge stitched through all layers from the top.

3.5.7 **Sweatband.**

3.5.7.1 The sweatband must consist of three layers. The outer layer must be shell material, the middle layer must be a sweat absorption interlining, and the next layer must be a cover interlining. The top edge of the shell layer must be serged and folded over the top edges of the interlinings 3/8-inch (9.5 mm). The folded edge must be edge stitched 1/16-inch (1.5 mm) gauge, catching all layers of the sweatband. The bottom edge of the shell layer must be folded over the bottom edges of the interlinings 3/8-inch (9.5 mm). The folded edge must be edge stitched 1/16-inch (2 mm) gauge, catching all layers of the sweatband.

3.5.7.2 When finished, the right side back edge must be folded under and lapped over the left back edge and topstitched. Care must be taken to overlap the right side back approximately 3/4-inch (19 mm) from the centre back to reduce bulk.

3.5.7.3 The bottom edges of the sidewall assembly must be stitched to the inside edge brim assembly at 3/8-inch (9.5 mm) gauge.

3.5.7.4 The bottom long edge of the sweatband must be edge stitched to the sidewall and brim assembly seam allowance, ensuring that the ends of the chinstrap are secured in the stitching. The finished length of cording for the chinstrap must be 30-inches (76 cm) for all sizes.

3.5.7.5 The bottom edge of the outside hatband must be edge stitched through all layers ensuring that the sweatband is facing in and up.

3.5.7.6 To secure the sweatband, single bar tacks must be placed at evenly for a total of seven bar tacks around the sweatband. The stitching must be done through all layers of the hatband and sweatband. Care must be taken to ensure that the sweatband is in the appropriate position while stitching through all layers.

3.5.7.7 The toggle must be placed on the chinstrap ensuring that it is secured by knotting the end of the cording.

3.6 **Marking and Label Information.** The following information and care symbols must be incorporated on the label (see paragraph 3.2.10). The label must be nominally 2-inches (5.0 cm) long by 1-1/4 inches (3.2 cm) wide. See figure 4 for placement of the label (marked identification label on figure).

- a. NATO Stock Number (NSN) that is specific for each size. NSN's will be designated in the contract by item and size;
- b. Size (twice the size of all other lettering);
- c. Contractor's identification or CA number;

- d. Contract Number;
- e. Month and year of manufacture (MM/YYYY);
- f. Space to write personal identification;
- g. Care Symbols in accordance with CAN/CGSB-86.1-2003 as follows:

- 1. Washing Symbol 6;
- 2. Bleaching Symbol 3;
- 3. Drying Symbol 2; and
- 4. Ironing/Pressing Symbol 5

Example:

NSN/NNO: 8415-21-914-5178			
Size/Taille: 6 5/8			
Canada Hat Co.			
W8486-123456	08/2017		
ID: _____			
			

3.6.1 **Hang Tags.** No brand or product names must be permanently attached to the garment in any way. However, brand hang tags that are easily removed without causing damage to the product may be acceptable at no cost to the Crown, provided that approval for text and use has been granted by the Contracting Authority.

3.7 **Finishing.** Following assembly, the hat must be steamed to remove wrinkles and to provide a uniform finish on the hat.

4. QUALITY CONTROL/INSPECTION

4.1 Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Contractors may utilize their own or any other inspection facility acceptable to the Government or its designated representative. The Government reserves the right to perform any of the inspections specified herein, where such inspections are deemed necessary to ensure materiel and services conform to prescribed requirements. The contractor is responsible for ensuring that all material or services submitted to the Government for acceptance comply with all requirements of the contract.

5. PACKAGING

5.1 Packaging and packing. Unless otherwise specified, packaging and packing as well as delivery shall be in accordance with the terms of the contract.

5.2 The hat must be individually packaged in accordance with Annex H (CFPTO-HAT). The abbreviated nomenclature for the label on the bags must be as follows:

Hat, Sun, CADPAT™ (TW) / Chapeau De Soleil, DcamC^{MC}(RBT)

6. DEFINITION OF TERMS

6.1 **Technical Authority / Design Authority.** The Technical Authority / Design Authority is the Government agency responsible for the technical aspects of the design and changes to the design. Unless otherwise specified in the contract, the Technical Authority / Design Authority is the Director, Soldier System Program Management (DSSPM 2).

6.2 **Master Sealed Sample.** The master sealed sample is the only authorized prototype of the item to be produced and is held by the Government.

6.3 **Sealed Sample.** The sealed sample is a duplicate of the master sealed sample and is available to the manufacturer to be used as a guide in production.

6.4 **Quality Assurance Authority.** The quality assurance Authority is the Government agency responsible for ensuring that the material and services supplied by the contractor perform to the specified requirements. The Quality Assurance Authority will be specified in the contract.

6.5 **Safety Health and Environmental Concerns.** 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.

TABLE I: SCALE OF MEASUREMENTS

REF	SIZE												TOL
	6-1/2	6-5/8	6-3/4	6-7/8	7	7-1/8	7-1/4	7-3/8	7-1/2	7-5/8	7-3/4	7-7/8	
A	20-1/2	20-7/8	21-1/4	21-5/8	22	22-3/8	22-3/4	23-1/8	23-1/2	23-7/8	24-1/4	24-7/8	N/A
B	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	1-3/4	+1/8
C	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	2-3/4	+1/8
D	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	3-1/2	+1/8
E	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	1-1/4	+1/8

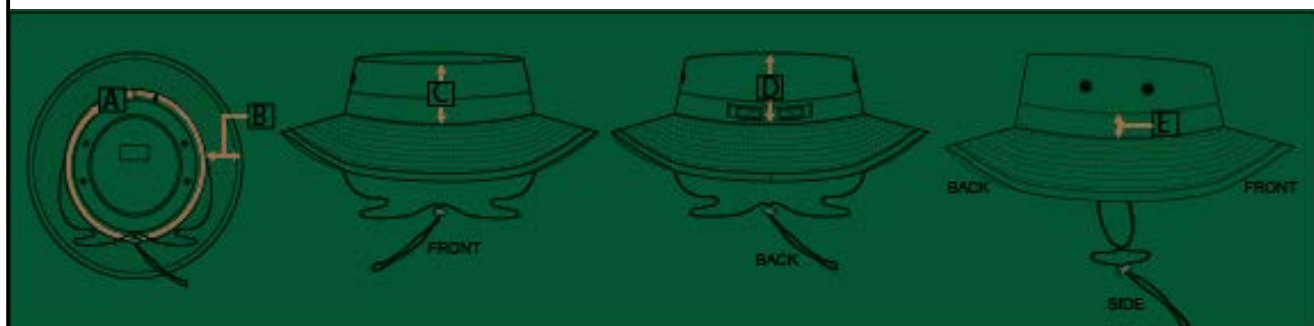
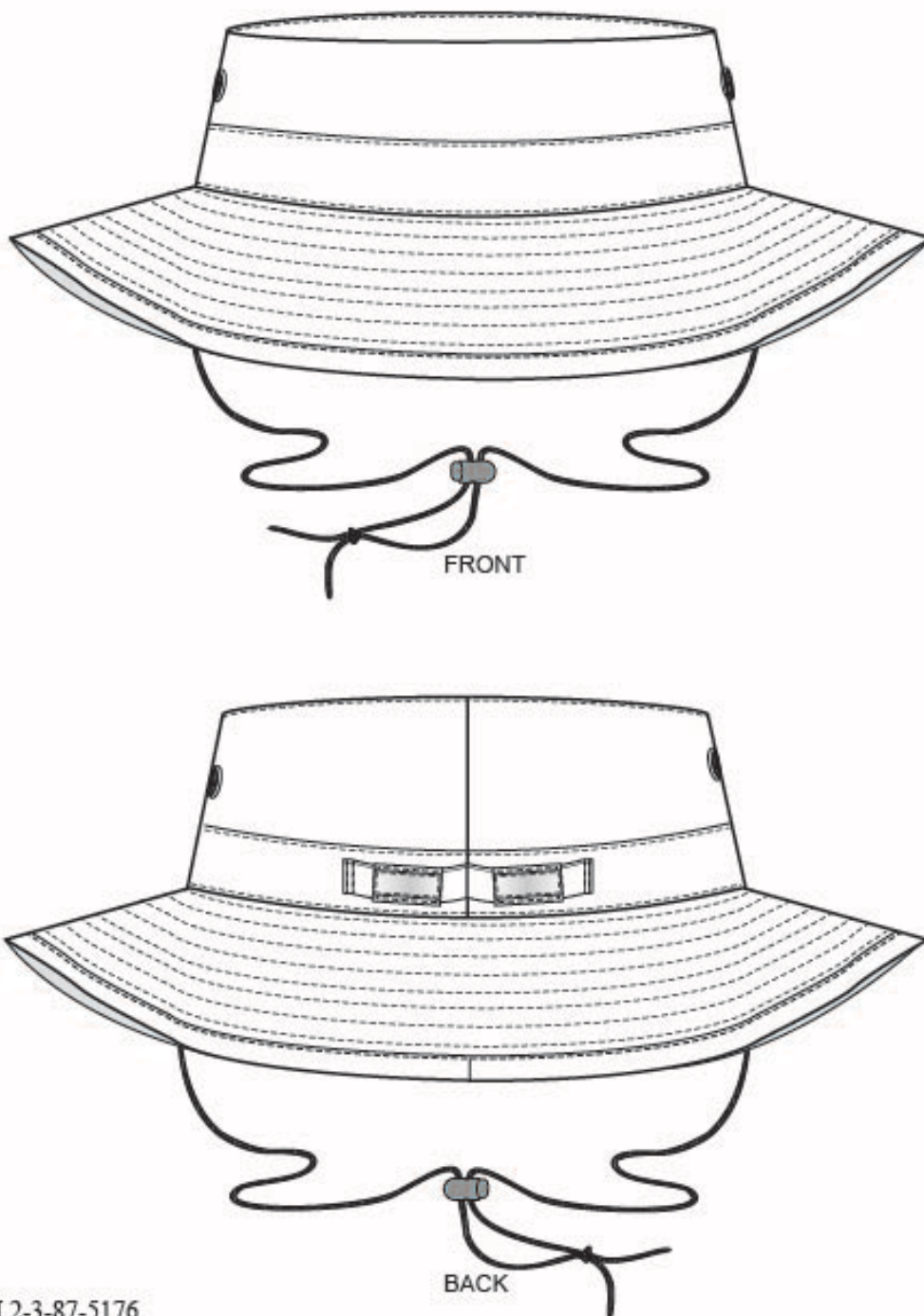


TABLE II - NSNS AND SIZES

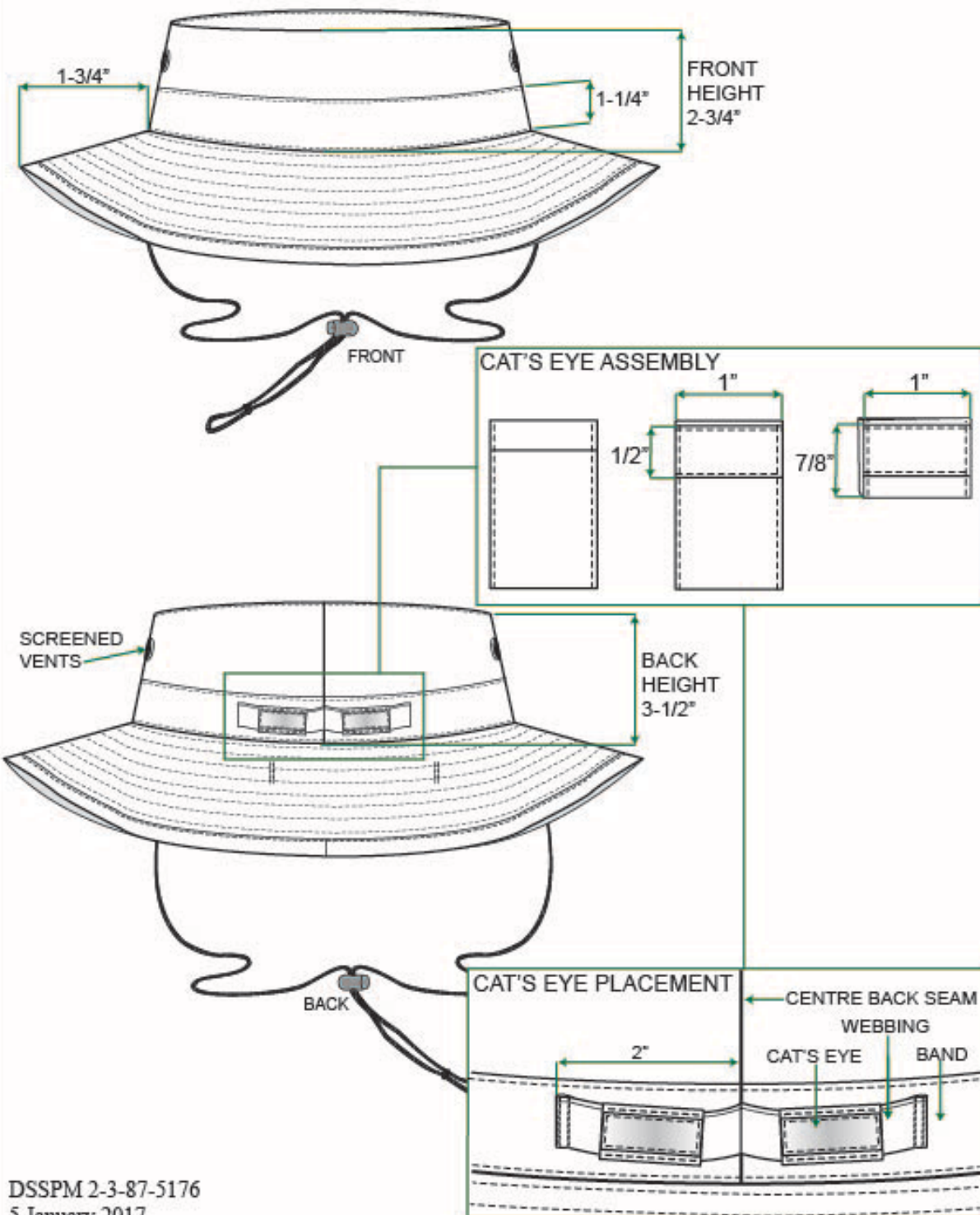
NSN	Nomenclature	Size
8415-21-914-5176	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	A/A
8415-21-914-5177	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 1/2
8415-21-914-5178	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 5/8
8415-21-914-5179	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 3/4
8415-21-914-5180	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 7/8
8415-21-914-5181	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7
8415-21-914-5182	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/8
8415-21-914-5183	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/4
8415-21-914-5184	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 3/8
8415-21-914-5185	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/2
8415-21-914-5186	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 5/8
8415-21-914-5187	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 3/4
8415-21-914-5188	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 7/8

FIGURE 1: FRONT AND BACK



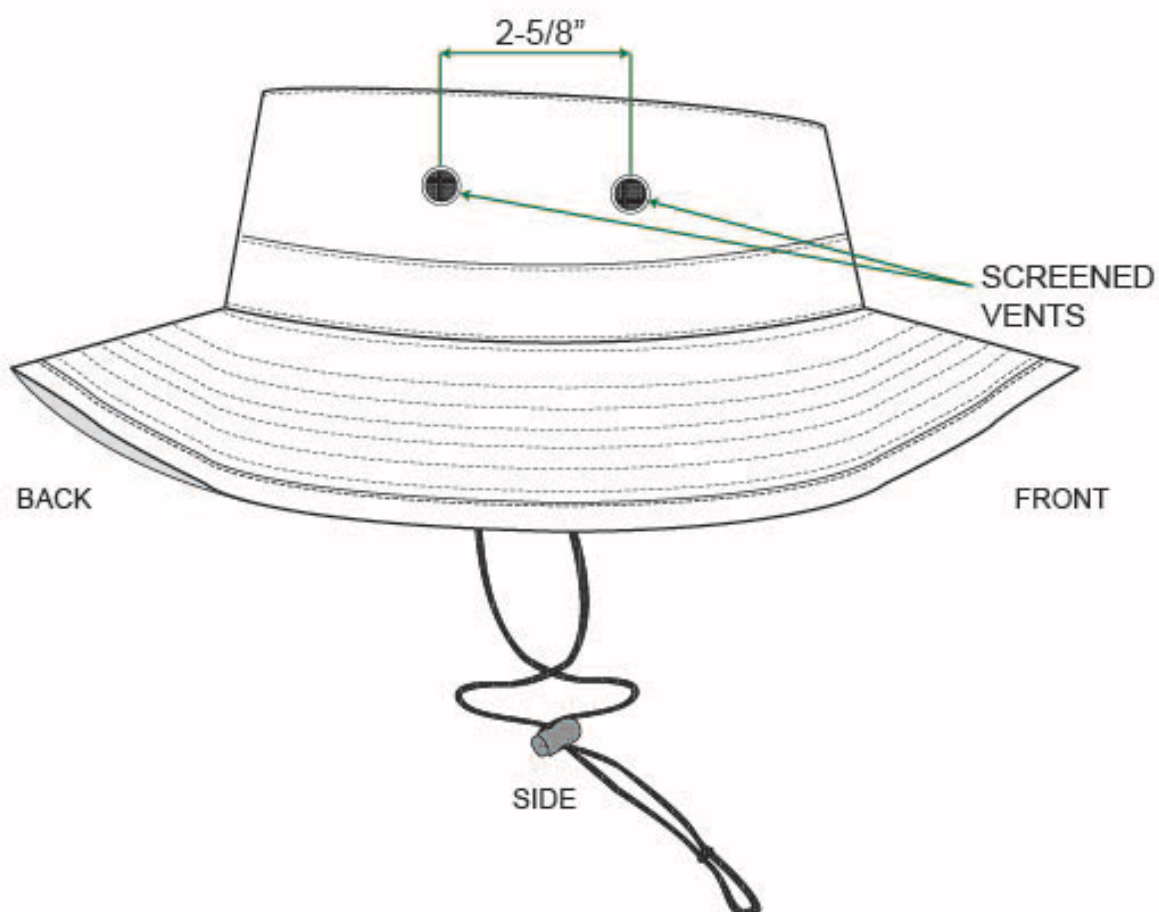
DSSPM 2-3-87-5176
5 January 2017

FIGURE 2: FRONT AND BACK DETAILS



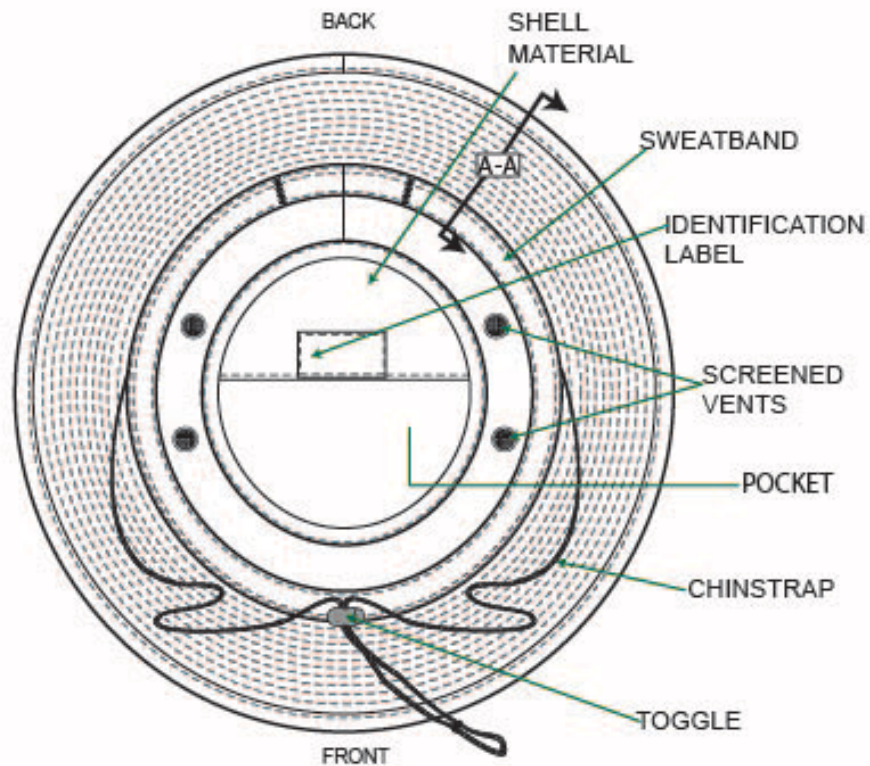
DSSPM 2-3-87-5176
5 January 2017

FIGURE 3: SIDE VIEW

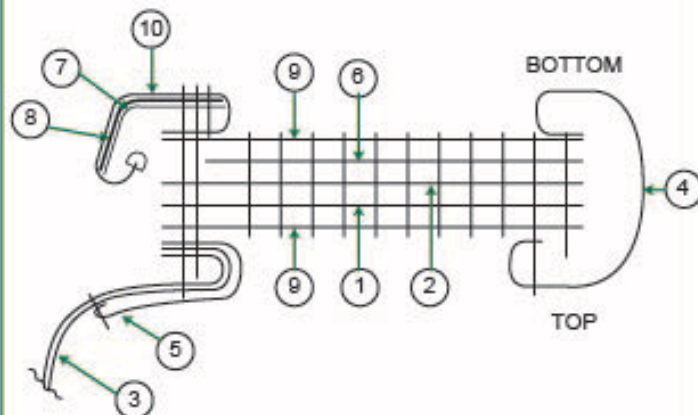


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5 January 2017

FIGURE 4: INSIDE DETAILS



BRIM, HATBAND AND SWEATBAND CROSS-SECTION
A-A



- | | |
|-----------------|--------------------------------|
| 1 ADHESIVE WEB | 6 STIFFENER INTERLINING - BRIM |
| 2 COATED NYLON | 7 INTERLINING COVER LAYER |
| 3 SIDEWALL | 8 INTERLINING SWEAT LINER |
| 4 SHELL BINDING | 9 SHELL MATERIAL |
| 5 HATBAND | 10 SWEATBAND |

DSSPM 2-3-87-5176
5 January 2017

DSSPM2-2-80-023
2012-01-31
SUPERCEDES/ REMPLACE
earlier dated versions of /
les versions antérieures de
DSSPM2-2-80-023 &
D-80-001-023/SF-001



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

CLOTH, TWIST, NYLON/COTTON

LIGHTWEIGHT, 170 g/m²

1. SCOPE

1.1 Scope. This Specification covers the requirements for cloth, twist, nylon/cotton, lightweight, 170 g/m².

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 shall be for the sole end use of DND. There shall 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 shall not be released, sold, or offered for sale, directly or indirectly, to any person or corporation other than Canada without the Minister's prior written authorization.

SPÉCIFICATION

TISSU LÉGER DE NYLON/COTON SIMPLE

RETORS, 170 g/m²

1. PORTÉE

1.1 Portée. La présente spécification vise les exigences relatives au tissu léger de nylon/coton simple retors, 170 g/m².

1.2 L'information contenue dans le présent document, ainsi que le modèle associé, sont la propriété de Sa Majesté la Reine du Canada et protégés par droit 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 modèle 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 en vente, directement ou indirectement, à toute personne physique ou morale autre que le Canada sans l'autorisation préalable écrite du ministre.

OPI/BPR: DSSPM 2-11



Canada

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1.3 CADPAT™, Canadian Disruptive Pattern, is intended for use, when specified, for all textiles used by the Canadian Forces for operational clothing and personal equipment. Any allowed deviations from the requirements stated for CADPAT™ performance shall be clearly defined in procurement documents.

1.3 Le dessin de camouflage canadien, DCamC^{MC}, est destiné à être utilisé, lorsque cela est prescrit, pour tous les tissus employés par les Forces canadiennes dans la confection de vêtements opérationnels et d'équipement individuel. Tous les écarts autorisés par rapport aux exigences énoncées dans le présent document pour le rendement du DCamC^{MC} doivent être clairement définis dans les documents d'achat.

1.4 Classification. The fabric shall be classified as follows:

1.4 Classification. Les tissus doivent être classés comme suit :

Type I	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² , CADPAT™ (TW) 8305-21-920-3746
Type II	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² , Canadian Average Green 8305-21-874-1045
Type III	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² , International Orange 8305-21-874-1044
Type IV	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² , Air Force Blue 8305-21-920-3747
Type V	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² , CADPAT™ (AR) 8305-21-921-7079
Type VI	Cloth, Twist, Nylon/Cotton, Lightweight, 170 g/m ² , United Nations (UN) Blue 8305-20-001-3075

Type I	Tissu léger de nylon/coton simple retors, 170 g/m2, DCamC ^{MC} (RBT) 8305-21-920-3746
Type II	Tissu léger de nylon/coton simple retors, 170 g/m2, vert canadien moyen 8305-21-874-1045
Type III	Tissu léger de nylon/coton simple retors, 170 g/m2, orangé international 8305-21-874-1044
Type IV	Tissu léger de nylon/coton simple retors, 170 g/m2, bleu de la Force Aérienne 8305-21-920-3747
Type V	Tissu léger de nylon/coton simple retors, 170 g/m2, DCamC ^{MC} (RA) 8305-21-921-7079
Type VI	Tissu léger de nylon/coton simple retors, 170 g/m2, bleu des Nations Unies (ONU) 8305-20-001-3075

2. APPLICABLE DOCUMENTS

2.1 Government Documents. The following publications form part of this Specification to the extent specified herein. The effective dates shall be those in effect on the date of the invitation to tender. Copies of this Specification may be obtained from the Department of National Defence, Ottawa, Ontario, Canada, K1A 0K2, Attention: DSSPM 2.

2. DOCUMENTS APPLICABLES

2.1 Documents du gouvernement. Les documents suivants font partie intégrante de la présente spécification dans la mesure prescrite dans cette dernière. La version en vigueur à la date de l'appel d'offres s'applique. Des copies de la présente spécification peuvent être obtenues du ministère de la Défense nationale, Ottawa (Ontario), Canada K1A 0K2, à l'attention de : DAPES 2.

SPECIFICATIONS

D-LM-008-002/SF-001 Marking for Storage and Shipment (Appendix 3)

SPÉCIFICATIONS

D-LM-008-002/SF-001 Spécification visant le marquage pour l'entreposage et l'expédition (Annexe 3)

CADPAT™ PATTERN REQUIREMENTS

DSSPM 2-2-80-500
D-80-001-500/SF-001 CADPAT™ (TW)
[temperate woodland] requirements for colour and
infra-red reflection

DSSPM 2-2-80-501
D-80-001-501/SF-001 CADPAT™ (AR) [arid
region] requirements for colour and infra-red
reflection

2.2 Other Publications. The following documents
form part of this Specification to the extent specified
herein. Effective dates shall be those in effect on the
date of manufacture. Sources are as shown.

CAN/CGSB-4.2 Textile Test Methods
Canadian General Standards Board
11 Laurier Street
Place du Portage, Phase III
Hull, Quebec, K1A 1G6

FED-STD-191 Textile Test Methods
Defense Automated Printing Services,
Bldg. 4D (DPM-DODSSP)
700 Robbins Ave.,
Philadelphia PA 19111-5094 USA

Pantone Colour Chart
Pantone Inc.,
Carlstadt, New Jersey, USA
tel: 201-935-5500

2.3 Sealed Patterns. Sealed patterns are made
available to the bidders and the contractor(s) as a guide
to production. Sealed pattern numbers are:

DSSPM 259-01	Cloth, Twist, Nylon/Cotton, Lightweight, CADPAT™(TW), construction, colours, pattern, finish, motif size, clarity, penetration, hand, print quality
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EXIGENCES RELATIVES AU DCamC^{MC}

DSSPM 2-2-80-500
D-80-001-500/SF-001 Exigences relatives à la
couleur et à la réflectance dans l'infrarouge pour le
DCamC^{MC} (RBT) [régions tempérées boisées]

DSSPM 2-2-80-501
D-80-001-501/SF-001 Exigences relatives à la
couleur et à la réflectance dans l'infrarouge pour le
DCamC^{MC} (RA) [régions arides]

2.2 Autres publications. Les publications
suivantes font partie intégrante de la présente
spécification selon les modalités indiquées ci-après. La
date d'entrée en vigueur doit être celle en vigueur à la
date de fabrication. La source de diffusion est celle qui
est indiquée.

CAN/CGSB-4.2 Méthodes pour épreuves textiles
Office des normes générales du Canada
11, rue Laurier
Place du Portage, Phase III
Gatineau (Québec) K1A 1G6

FED-STD-191 Textile Test Methods
Defense Automated Printing Services,
Bldg. 4D (DPM-DODSSP)
700 Robbins Ave.,
Philadelphia PA 19111-5094 ÉTATS-UNIS

Tableau des couleurs Pantone
Pantone Inc.,
Carlstadt, New Jersey ÉTATS-UNIS
Téléphone : 201-935-5500

2.3 Modèles réglementaires. Des modèles
réglementaires sont mis à la disposition des
soumissionnaires et des entrepreneurs comme guide
pour la production. Voici les numéros des modèles
réglementaires :

DSSPM 259-01	Tissu coton/nylon simple retors, DCamC ^{MC} (RBT), pour la confection, les couleurs, la taille des motifs, la distribution des couleurs, la qualité de l'impression, la pénétration, la clarté et le fini à la main
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DSSPM 281-01	Cloth, Twist, Nylon/Cotton, Lightweight, Canadian Average Green, construction, colour, IRR, hand (NOTE: Canadian Average Green is the predominant, darker, green)	DSSPM 281-01	Tissu léger de nylon/coton simple retors, vert canadien moyen, pour la construction, la couleur, la RIR et la main (REMARQUE : Le vert canadien moyen est le vert foncé prédominant)
DCGEM 263-78	Cloth, Nylon, Plain Weave, International Orange, colour only. Use 281-01 for construction	DCGEM 263-78	Tissu de nylon à armure unie, orangé international, couleur seulement. Utiliser 281-01 pour la confection
DCGEM 257-90	Cloth, Twist, Nylon/Cotton, Lightweight, Air Force Blue, colour only. Use 281-01 for construction	DCGEM 257-90	Tissu léger de nylon/coton simple retors, bleu pétrole, couleur seulement. Utiliser 281-01 pour la confection
DSSPM 253-02	Cloth, Twist, Nylon/Cotton, Lightweight, CADPAT™(AR), construction, colours, motif size, colour distribution, print quality, penetration, clarity, hand, finish	DSSPM 253-02	Tissu coton/nylon simple retors, DCamC ^{MC} (RA), pour la confection, les couleurs, la taille des motifs, la distribution des couleurs, la qualité de l'impression, la pénétration, la clarté, la main et le fini
DSSPM 252-04	Cloth, Twist, Nylon/Cotton, Lightweight, United Nations (UN) Blue, colour only. Use 281-01 for construction	DSSPM 252-04	Tissu léger de nylon/coton simple retors, bleu des Nations Unies (ONU), couleur seulement. Utiliser 281-01 pour la confection
DSSPM 2-2-1000	Package, Temperate Woodland, for pattern creation (NOTE: this will be applied for and obtained from the design authority, DSSPM 2, if required. See para 6.2.1)	DSSPM 2-2-1000	Ensemble de dessins, régions boisées tempérées, pour la création du motif (REMARQUE : Ce modèle devra être demandé au besoin à l'autorité responsable de la conception, DAPES 2-2, qui le fournira. Voir le paragraphe 6.2.1)
DSSPM 2-2-1001	Poster, Arid, for pattern creation (NOTE: this will be applied for and obtained from the design authority, DSSPM 2, if required. See para 6.2.1)	DSSPM 2-2-1001	Affiche, régions arides, pour la création de motifs (REMARQUE : Ce modèle devra être demandé au besoin à l'autorité responsable de la conception, DAPES 2-2, qui le fournira. Voir le paragraphe 6.2.1)

2.4 CADPAT™ Specifications. The technical requirement is defined and included in the applicable

2.4 Spécifications relatives au DCamC^{MC}. L'exigence technique est définie et incluse dans la spécification

DSSPM specification, either DSSPM 2-2-80-500 for CADPAT™(TW) or DSSPM 2-2-80-501 for CADPAT™(AR). *On request*, a full scale photograph showing the motif (pattern) size required and correct colour distribution may be made available. This is the CADPAT™(TW) Temperate Pattern Package DSSPM 2-2-1000. Note that there are colour measurement requirements for each of the 4 colours, individual IRR requirements for Canadian average green and black, and that the IRR requirement for colours light green and brown are the same - the light green curve is specified for both colours. Similarly, *on request*, a full scale poster for the pattern will be made available for CADPAT™ (AR), identified as DSSPM 2-2-1001. Each of the three colours is defined numerically, and each IRR curve is colour specific.

2.4.1 For bidding purposes, the sealed patterns for Types I and V, CADPAT™ printed cloth, DSSPM 259-01 and DSSPM 253-02, are supplied as a full metre. Under no circumstances are any Sealed Patterns to be mutilated or cut.

2.4.2 Canadian Average Green. The technical requirement is defined and included in this Specification as Appendix I. This includes requirements for colour and for Infra-red Reflection.

2.5 Order of Precedence

2.5.1 In the event of conflict between the documents referenced herein and the contents of this Specification, the contents of this document shall take precedence.

2.5.2 In the event of inconsistency within this Specification, including inconsistency between the two languages, the Design Authority (para 6.2.1) shall be contacted for clarification.

2.5.3 In the event of inconsistency between contract documents, such as contract, Specification, and Sealed Patterns, the order of precedence shall be contract, Specification, and then Sealed Pattern.

3. REQUIREMENTS

3.1 The cloth is a plain weave construction, to be made in accordance with the contract as Type I, II, III, IV, V, or VI. Its application is for operational combat clothing

DAPES applicable, soit DSSPM 2-2-80-500 pour le DCamC^{MC} (RBT) ou DSSPM 2-2-80-501 pour le DCamC^{MC} (RA). On peut obtenir *sur demande* une photographie grandeur nature montrant la taille requise du dessin (motif) et la bonne répartition des couleurs. Il s'agit du document DSSPM 2-2-1000, Ensemble de dessins pour le DCamC^{MC} (RBT). Veuillez prendre note qu'il existe des exigences de mesure des couleurs pour chacune des quatre couleurs, des exigences individuelles pour la mesure de la RIR pour le vert canadien moyen et le noir, et que les exigences relatives à la RIR pour le vert pâle et le brun sont les mêmes – la courbe pour le vert pâle est précisée pour les couleurs. De même, on peut obtenir *sur demande* une affiche grandeur nature pour le DCamC^{MC} (RA); il s'agit du document DSSPM 2-2-1001. Chacune des trois couleurs est définie numériquement, et chaque courbe RIR est propre à une couleur donnée.

2.4.1 Aux fins de soumissionner, les modèles réglementaires pour le tissu imprimé DCamC^{MC} de type I et V (DSSPM 259-01 et DSSPM 253-02) sont fournis comme mètre intégral. En aucun cas, les modèles réglementaires ne doivent être endommagés ni coupés.

2.4.2 Vert canadien moyen. Les exigences techniques sont définies et énoncées à l'annexe I de la présente spécification. Ces exigences portent notamment sur la couleur et la réflectance dans l'infrarouge.

2.5 Ordre de préséance

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

2.5.2 En cas d'incohérence dans l'énoncé de la spécification, incluant toute incohérence entre les deux langues, il faut communiquer avec l'autorité responsable de la conception (par. 6.2.1) pour obtenir des précisions.

2.5.3 En cas d'incohérence entre les documents contractuels, soit le contrat, la spécification et les modèles réglementaires, l'ordre de préséance est le suivant : le contrat, la spécification et les modèles réglementaires.

3. EXIGENCES

3.1 Le tissu doit être à armure unie et fabriqué conformément aux exigences du contrat pour les types I, II, III, IV, V ou VI. Ce tissu est employé pour les tenues

for the Canadian Forces, primarily for shirts, trousers, coveralls, hats, and helmet covers.

3.2 The materiel covered by this specification shall be free from imperfections or blemishes such as may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes shall be considered defects when clearly visible at a normal inspection distance of approximately one metre under good, preferably North Light, lighting conditions.

3.3 Sealed Patterns. Sealed patterns, when furnished, shall constitute the standard only in regard to any properties not defined in this Specification, and in association with any notes which may be included on the reverse side of the sealed pattern tag.

3.4 Yarns. The yarns for both warp and weft shall be continuous filament, bright, high tenacity nylon, twisted with cotton singles yarn.

3.5 Fabric. When tested in accordance with the applicable test methods, the finished fabric shall comply with the requirements specified in Table I for Types I and V; and in Table II for Types II, III, and IV, and VI.

3.6 Colour.

3.6.1 Types I and V shall be printed in a wet process with dyes. Printing is to be carried out on pre-dyed goods. Only vat dyestuffs for the cotton component and acid dyestuffs for the nylon component are acceptable for both dyeing and printing operations. Colours are defined numerically in DSSPM 2-2-80-500 and DSSPM 2-2-80-501 and allowed tolerances are included. The final colours achieved must meet these requirements, while the sealed patterns serve as visual guides to the colours. Overall print quality, including colour penetration (i.e. the overall colouring of the wrong side of the printed cloth), uniformity of each colour, clarity, definition, evenness, and all other qualities indicative of a good print must be at least as good as depicted by the respective Sealed Patterns DSSPM 259-01 and DSSPM 253-02. Minimal flare or metamerism is required when viewed under standard daylight, horizon, and fluorescent light for all colours.

Note: Colour measurement taken after 15 launderings

de combat opérationnelles des Forces canadiennes, principalement pour les chemises, pantalons, combinaisons, chapeaux et couvre-casque.

3.2 Le tissu visé par la présente spécification doit être exempt de défauts pouvant nuire à son aspect ou à sa tenue en service. À des fins d'inspection, sont considérés comme défauts ceux qui sont clairement visibles à une distance d'inspection normale d'environ un mètre sous un bon éclairage, de préférence la lumière du nord. Aucun défaut dans le tissage ou les fils n'est acceptable si l'intégrité de l'enduit est en cause.

3.3 Modèles réglementaires. Les modèles réglementaires, quand ils sont fournis, doivent constituer la norme uniquement en ce qui concerne les propriétés qui ne sont pas définies aux présentes, compte tenu des notes qui peuvent figurer au verso de l'étiquette du modèle réglementaire. Les modèles réglementaires sont par ailleurs fournis à titre indicatif.

3.4 Fils. Les fils de chaîne et de trame doivent être en filaments continus, lustrés, à haute ténacité, retors avec fils de coton simples.

3.5 Tissu. Lors des essais réalisés conformément aux méthodes d'essai applicables, le tissu fini doit être conforme aux exigences prescrites au tableau I, pour les types I et V, et au tableau II, pour les types II, III et IV et VI.

3.6 Couleur.

3.6.1 Les tissus de types I et V doivent être imprimés par un procédé au mouillé, avec des colorants.

L'impression doit être effectuée sur des tissus teints au préalable. Seuls des colorants de cuve pour les composants en coton et des colorants acides pour les composants de nylon sont acceptables pour les opérations de teinture et d'impression. Les couleurs sont définies numériquement dans les documents DSSPM 2-2-80-500 et DSSPM 2-2-80-501 et les tolérances autorisées y sont indiquées. Les couleurs finales obtenues doivent répondre à ces exigences, les modèles réglementaires servant de guides visuels pour les couleurs. 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, la régularité, et toutes les autres qualités indicatives d'une bonne impression, doit être au moins aussi bonne que celle des modèles réglementaires respectifs DSSPM 259-01 et DSSPM 253-02. Les tissus doivent présenter un éclat ou un

when laundered in accordance with CAN/CGSB-4.2 Test Method 58 III.E.3 must be submitted when requested. Compliance with DSSPM 2-2-80-500 or DSSPM 2-2-80-501 is not required after 15 launderings for the time being.

3.6.2 Types II, III, IV, and VI shall be dyed in a wet process with the cotton component dyed with vat dyestuffs and the nylon component with acid or neutral pre-metalized dyestuffs. Colour requirements for Type II are defined in Appendix I. Sealed pattern DSSPM 281-01 may be used as a colour guide. For Types III, IV and VI the sealed patterns represent the colour required, and a good visual match under north daylight is required. Minimal flare or metamerism is required when viewed under standard daylight, horizon, and fluorescent light for all colours. For Type VI colour UN Blue, Pantone Textile Colour Number 16-413TC may be used as a guide, however, Sealed Pattern DSSPM 252-04 accurately represents the required and approved colour.

3.6.3 Complete penetration of both component fibres is required. Colour shall be uniform across both fibres such that colour speckling does not occur. After printing and/or dyeing in an aqueous medium the fabrics shall be stabilized by drying, heat setting, and sanforizing if required to achieve the desired properties defined in Tables I and II, and soft hand as depicted by the sealed patterns.

3.7 Infra-red Reflection. For Types I and V, the required IRR characteristics are defined in Specifications DSSPM 2-2-80-500 and DSSPM 2-2-80-501, as applicable. For Type II, the colour coordinates and IRR requirements are included in this specification in Appendix I. These requirements must be met both when manufactured and after 15 laundering cycles when laundered in accordance with CAN/CGSB-4.2 Test Method 58 (see Tables I and II).

métamérisme minimal lorsqu'on les examine à la lumière du jour, contre l'horizon et sous une lumière fluorescente, et ce, pour toutes les couleurs.

Remarque : Les résultats des mesures colorimétriques effectuées après 15 cycles de blanchissage effectués conformément à la norme CAN/CGSB-4.2 58, méthode d'essai III.E. 3, doivent être présentés sur demande. Le respect des documents DSSPM 2-2-80-500 ou DSSPM 2-2-80-501 n'est pas nécessaire après 15 cycles de blanchissage, pour le moment.

3.6.2 Les tissus de type II, III, IV et VI doivent être teints par un procédé au mouillé, les composants en coton étant teints avec des colorants de cuve et les composants de nylon avec un colorant acide ou prémétallisé neutre. Les exigences colorimétriques pour le tissu de type II sont définies à l'annexe I. On peut utiliser le modèle réglementaire DSSPM 281-01 comme guide des couleurs. Pour les tissus de type III, IV et VI, les modèles réglementaires représentent la couleur désirée, et un bon appariement visuel à la lumière diurne du nord est requis. Les tissus doivent présenter un éclat ou un métamérisme minimal lorsqu'on les examine à la lumière du jour, contre l'horizon et sous une lumière fluorescente, et ce, pour toutes les couleurs. Pour le tissu de type VI (bleu des Nations Unies), on peut utiliser la couleur de textile Pantone numéro 16-413TC comme guide; cependant, le modèle réglementaire DSSPM 252-04 représente précisément la couleur requise et approuvée.

3.6.3 La pénétration complète des deux fibres composant le tissu est requise. La couleur doit être homogène dans les deux fibres, de sorte qu'il n'y ait pas de tacheture des couleurs. Après l'impression ou la teinture dans un milieu aqueux, les tissus doivent être convenablement stabilisés par des procédés tels que le séchage, le thermofixage et le sanforisage au besoin, pour obtenir les propriétés désirées définies dans les tableaux I et II, et présenter un toucher doux selon les indications des modèles réglementaires.

3.7 Réflectance dans l'infrarouge. Pour les types I et V, les caractéristiques RIR sont définies dans les spécifications DSSPM 2-2-80-500 et DAPES 2-2-80-501, le cas échéant. Pour le type II, les coordonnées colorimétriques et les exigences pour la RIR sont incluses cette spécification, à la fin (Annexe I). Ces exigences doivent être respectées à la fabrication et après 15 cycles de blanchissage quand celui-ci est réalisé conformément à la norme CAN/CGSB-4.2, méthode d'essai 58 (voir les tableaux I et II).

3.8 Finish. No finish will be applied to obtain fabric stability. Fabric finish shall be in accordance with either Sealed Pattern DSSPM 259-01 for Type I CADPAT™(TW), DSSPM 281-01 for Types II, III, IV, and VI, and DSSPM 253-02 for Type V, and para 3.6.3.

3.9 Length.

3.9.1 For delivery to the Department of National Defence and unless otherwise specified in contractual documents, the cloth shall be delivered in pieces of approximately 100 metres with no more than two lengths per piece, the shorter of which shall be not less than 20 metres.

3.9.2 When made under contract to a Defence supplier and not for delivery direct to the Crown, para 3.9.1 above need not apply.

3.10 Piece Marking. Each piece shall have a label attached to the selvedge at one end. The label shall be made of linen or heavy cardboard, with a reinforced eyelet for attaching a tying cord, and shall be legibly marked with the following information:

- (a) Contractor's identification
- (b) Contract Number
- (c) Gross length in metres, including allowance
- (d) Net length in metres
- (e) Piece number
- (f) Number of lengths per piece
- (g) Nomenclature/Classification (para 1.2)
- (h) Colour
- (i) NATO Stock Number
- (j) Date of manufacture

All of the above information is required when the goods are contracted for and being delivered directly to the Crown. When contracted by a third party with delivery not to the Crown, only (a), (e), (g), (h), (j), and (k) are

3.8 Fini. Aucun fini ne sera appliqué pour obtenir une stabilité du tissu. Le tissu fini doit être conforme au modèle réglementaire DSSPM 259-01 pour le DCamC^{MC} (RBT) type 1, DSSPM 281-01 pour les types II, III, IV et VI, et DSSPM 253-02 pour le type V, ainsi qu'aux exigences du paragraphe 3.6.3.

3.9 Longueur.

3.9.1 Sauf indication contraire dans les documents contractuels, le tissu doit être livré au ministère de la Défense nationale en pièces d'environ 100 m de longueur avec au plus deux longueurs par pièce, dont la plus courte ne doit pas être inférieure à 20 m.

3.9.2 Lorsque le tissu est fabriqué sous contrat pour un fournisseur du MDN et n'est pas livré directement au gouvernement, le paragraphe 3.8.1 ci-dessus ne s'applique pas.

3.10 Marquage des pièces. Chaque pièce de tissu doit porter, à une extrémité, une étiquette fixée à la lisière. 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) Numéro du contrat
- (c) Longueur brute en mètres, y compris la réserve
- (d) Longueur nette en mètres
- (e) Numéro de la pièce
- (f) Nombre de longueurs par pièce
- (g) Nomenclature / classification (par. 1.2)
- (h) Couleur
- (i) Numéro de nomenclature OTAN
- (j) Date de fabrication

Tous les renseignements ci-dessus sont requis lorsque les marchandises sont obtenues dans le cadre d'un contrat et sont livrées directement au gouvernement. Lorsque les marchandises sont obtenues par contrat par

mandatory. The other information must be readily available to the Crown and/or its contractor if required.

4. QUALITY CONTROL/INSPECTION

4.1 Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspections and tests as specified herein and to demonstrate that the materiel and services conform to the requirements specified in this Specification. Contractors may utilize their own or any other inspection facility acceptable to the Crown or its designated representative. Contractors may also utilize their own test facilities so long as Crown approval has been obtained in advance and the conditions stated in ISO quality and manufacturing publications are followed.

4.2 The Crown reserves the right to perform any of the inspections or tests specified herein, where such are deemed necessary to ensure the materiel and/or services submitted to the Crown for acceptance meet 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.

5. PACKAGING

5.1 Unless otherwise specified, packaging, packing, and marking of shipping containers shall be in accordance with the terms of the contract.

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- (a) title, number and date of this Specification
- (b) NATO Stock number of required item
- (c) Nomenclature/Classification (para 1.2)

une tierce partie sans être livrées au gouvernement, seuls les éléments a), e), g), h), j), et k) sont obligatoires. Les autres renseignements doivent être facilement accessibles pour le gouvernement ou son entrepreneur, le cas échéant.

4. CONTRÔLE DE LA QUALITÉ/INSPECTION

4.1 Sauf indication contraire dans le contrat ou les documents d'achat, l'entrepreneur est tenu d'effectuer toutes les inspections et les essais prescrits ci-après afin de démontrer que les matériaux et les services sont conformes aux exigences énoncées dans la présente spécification. L'entrepreneur peut utiliser ses propres installations d'inspection ou avoir recours à toute autre installation jugée acceptable par le gouvernement ou son représentant désigné. L'entrepreneur peut également utiliser ses propres installations d'essai, pourvu qu'il ait obtenu à l'avance l'approbation du gouvernement et que les conditions décrites dans les publications de l'ISO sur la fabrication et la qualité soient respectées.

4.2 Le gouvernement se réserve le droit d'effectuer toute vérification ou tout essai jugé nécessaire pour s'assurer que le matériel et les services présentés au gouvernement pour acceptation sont conformes à toutes les exigences énoncées dans le contrat. Ceci 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.

5. CONDITIONNEMENT

5.1 Sauf indication contraire, le conditionnement, l'emballage et le marquage des conteneurs d'expédition doivent être conformes aux modalités du contrat.

6. REMARQUES

6.1 Données de commande. Les documents d'achat doivent préciser :

- (a) Titre, numéro et date de la présente spécification
- (b) Numéro de nomenclature OTAN des articles requis
- (c) Nomenclature / classification (par. 1.2)

- | | |
|--|--|
| (d) Pre-production requirements | (d) Exigences de présérie |
| (e) Packaging, packing, and marking of shipping containers | (e) Conditionnement, emballage et marquage des conteneurs d'expédition |
| (f) The Design Authority | (f) Autorité responsable de la conception |
| (g) The Quality Assurance Authority | (g) Autorité responsable de l'assurance de la qualité |

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 requirement is the Director of Soldier Systems Programme Management (DSSPM), Department of National Defence.

6.2.2 Quality Assurance Authority. The Quality Assurance Authority is the Government agency responsible for providing assurance the materiel and services supplied by the contractor are in accordance with the terms of the contract. The Quality Assurance Authority is the Directorate of Quality Assurance (DQA), Department of National Defence.

6.2.3 Master Sealed Pattern. A master sealed pattern is the authorized prototype of the item to be produced and is held only by the government.

6.2.4 Sealed Pattern. The sealed pattern is a duplicate of the master sealed pattern which is the Department of National Defence's authorized prototype of the item to be produced. Sealed patterns are available for the contractor to use as a *conceptual example for production*. Contractors should note that sealed patterns may not incorporate all the details cited in this Specification and the order of precedence prevails (see para 2.5).

6.2.5 Specification Copies. Copies of this Specification are available from the Department of National Defence, Directorate of Soldier Systems Programme Management, Ottawa, Ontario, K1A 0K2, Attention: DSSPM 2.

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 de la Direction – Administration du programme de l'équipement du soldat (DAPES).

6.2.2 Autorité responsable de l'assurance de la qualité. L'autorité responsable de l'assurance de la qualité est l'organisme gouvernemental chargé d'assurer que le matériel et les services fournis par l'entrepreneur satisfont aux modalités du contrat. L'autorité responsable de l'assurance de la qualité est le directeur de l'assurance de la qualité, ministère de la Défense nationale du Canada.

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

6.2.4 Modèle réglementaire. Copie exacte du modèle réglementaire principal, qui est le prototype autorisé par le ministère de la Défense nationale pour l'article qui doit être fabriqué. Les modèles réglementaires sont mis à la disposition de l'entrepreneur comme exemple conceptuel pour la production. Les entrepreneurs doivent prendre note que les modèles réglementaires n'incorporent pas nécessairement tous les détails indiqués aux présentes, en cas de divergence, l'ordre de préséance mentionné au paragraphe 2.5 prévaut.

6.2.5 Copies de la spécification. Des copies de la présente spécification peuvent être obtenues auprès du ministère de la Défense nationale, Direction de l'administration du programme de l'équipement du soldat, Ottawa (Ontario), K1A 0K2, à l'attention de : DAPES 2-2.

7. MANUFACTURING GUIDELINE

7. DIRECTIVES POUR LA FABRICATION

7.1 The information detailed below has been found satisfactory for the manufacture of fabric meeting the requirements of this Specification, and is given as a guide. As manufacturing conditions can introduce differences in performance, the use of this information is not a guarantee that the cloth will be acceptable, as all requirements of this whole Specification document must be met.

7.2 Yarns

7.2.1 Warp. Nylon: 1 end of 156 dtex continuous filament OR 2 ends of 78 dtex continuous filament.

Twist: ITPI "Z"

Cotton: 1 end 166 dtex

Twist factor: 3.75 "Z" twist

7.2.2 Weft. Same as warp (see para 7.2.1)

7.2.3 Ply Twist. Twist Factor: 3.75 "S" twist. Care shall be taken in applying tension to the twist components during the twisting operation, to ensure that yarn distortion of either component does not occur in weaving. It has been found in general that applying more tension to the cotton component than to the filament nylon is very helpful in reducing yarn distortion. Ply twist factors are as follows:

Selvedge	1 cm each side, yarn as warp
Weave	plain
Reed	14 by 4
Picks per cm	21 (greige)
Mass	170 g/sq. m. (greige)

7.1 Les informations ci-dessous ont été jugées satisfaisantes pour la fabrication du tissu répondant aux exigences de la présente spécification et sont présentées à titre indicatif. Comme les conditions de fabrication peuvent introduire des différences dans le rendement du produit, l'utilisation de ces informations ne garantit pas que le tissu sera acceptable, car toutes les exigences du présent document de spécification doivent être respectées.

7.2 Fils

7.2.1 Chaîne. Nylon: 1 fil de filaments continus de 156 dtex ou 2 fils de filaments continus de 78 dtex.

Torsion : « Z » ITPI

Coton : 1 fil 166 dtex

Facteur de torsion : 3,75 torsions « Z »

7.2.2 Trame. Identique à la chaîne (voir 7.2.1)

7.2.3 Torsion de retordage. Facteur de torsion : 3,75 torsions « S ». On doit prendre garde quand on applique la tension aux composants torsadés au cours de l'opération de torsion, afin qu'il n'y ait pas de distorsion des fils de l'un ou l'autre composant pendant le tissage. Il a été constaté en général que l'application d'une plus grande tension au composant en coton qu'au filament de nylon est très utile pour réduire la distorsion des fils. Les facteurs de torsion de retordage sont les suivants :

Lisière	1 cm de chaque côté, comme fil de chaîne
Armure	Unie
Peigne	14 par 4
Duites par cm	21 (tissu écru)
Masse	170 g/m ² (tissu écru)

Table I
Requirements for Finished Fabric, Types I & V, CADPAT™

PROPERTY	TEST METHOD	SPECIFIED REQUIREMENTS	MINIMUM ACCEPTABLE	MAXIMUM ACCEPTABLE
Fibre content	14.3*	50% cotton 50% nylon	45% cotton 45% nylon	55% cotton 55% nylon
Weave		plain		
Mass	5.1*	170 g/m ²	161 g/m ²	179 g/m ²
Width (excluding selvedge)	4.1*	152 cm	150 cm	154 cm
Woven Count yarns per cm	6*	warp: 25 weft: 22	warp: 24 weft: 20	
Breaking Strength	9.1* (Test 6.1)	warp: 1045N weft: 930N	warp: 934N weft: 840N	
Tear strength	12.1*	warp: 49N weft: 49N	warp: 36N weft: 36N	
Colour fastness to light, each colour	16** Option 3	Grey Scale 4 After 40 AATCC Fading Units	Grey Scale 3-4 After 40 AATCC Fading Units	
Colour fastness to crocking, each colour dry wet	116**	Colour change GS 5 Colour change GS 5		Colour change GS 3-4 Colour change GS 3
Colour fastness to laundering, each colour	19.1* Test 2	Colour change GS 5 Staining GS 5		Colour change GS 4 Staining GS 3
Colour fastness to water, each colour	20*	Colour change GS 5 Staining GS 5		Colour change GS 4 Staining GS 4
Colour fastness to perspiration, each colour	23*	Colour change GS 5 Staining GS 5		Colour change GS 4 Staining GS 4
Dimensional stability in laundering (after 3 cycles)	24.2* or 58* Test III.E.3			warp 2% weft 2%
Resistance to abrasion	5306*** 75 revolutions, H-18 calibrase wheels, 500 grams pressure			.08 gram weight loss
Air permeability	36*		55 cm ³ /cm ² .s ⁻¹	
pH	2811***	6.5 to 8.5		
IRR		para 3.7		
Colour		para 3.6.1		

* CAN/CGSB-4.2 Textile Test Methods

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*** FED-STD-191 Textile Test Methods

Tableau I
Exigences pour le tissu fini, types I et V, DCamC^{MC}

PROPRIÉTÉ	MÉTHODE D'ESSAI	EXIGENCES PRESCRITES	MINIMUM ACCEPTABLE	MAXIMUM ACCEPTABLE
Teneur en fibres	14.3*	50 % coton 50 % nylon	45 % coton 45 % nylon	55 % coton 55 % nylon
Armure		unie		
Masse	5.1*	170 g/m ²	161 g/m ²	179 g/m ²
Largeur (lisières non comprises)	4.1*	152 cm	150 cm	154 cm
Contexture Nombre de fils/cm	6*	Chaîne : 25 trame : 22	Chaîne : 24 Trame : 20	
Résistance à la rupture	9.1* (Essai 6.1)	Chaîne : 1045 N Trame : 930 N	Chaîne : 934 N Trame : 840 N	
Résistance au déchirement	12.1*	Chaîne : 49 N Trame : 49 N	Chaîne : 36 N Trame : 36 N	
Solidité de la couleur à la lumière	16** option 3	Échelle de gris 4 après l'exposition à 40 unités de décoloration de l'AATCC	Échelle de gris 3-4 après l'exposition à 40 unités de décoloration de l'AATCC	
Solidité de la couleur au frottement sec mouillé	116**	Changement de couleur : Échelle de gris 5 Changement de couleur : Échelle de gris 5		Changement de couleur Échelle de gris 3-4 Changement de couleur Échelle de gris 3
Solidité de la couleur au lavage	19.1* Essai n° 2	Changement de couleur : Échelle de gris 5 Tachage Échelle de gris 5		Changement de couleur Échelle de gris 4 Tachage Échelle de gris 3
Solidité de la couleur à l'eau	20*	Changement de couleur : Échelle de gris 5 Tachage Échelle de gris 5		Changement de couleur Échelle de gris 4 Tachage Échelle de gris 4
Solidité de la couleur à la sueur	23*	Changement de couleur Échelle de gris 5 Tachage Échelle de gris 5		Changement de couleur Échelle de gris 4 Tachage Échelle de gris 4
Stabilité dimensionnelle au blanchissage (après 3 cycles)	24.2* ou 58* Essai III.E.3			Chaîne 2 % Trame 2 %
Résistance à l'abrasion	5306*** 75 révolutions, roues à l'émeri H-18, pression de 500 g			Perte de poids de 0,08 g
Perméabilité à l'air	36*		55 cm ³ /cm ² .s ⁻¹	
pH	2811***	6.5 à 8.5		
RIR		3.7		
Couleur		3.6.1		

* CAN/CGSB-4.2 Méthodes pour épreuves textiles

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Table II
Requirements for Finished Fabric, Types II, III, IV, & VI

PROPERTY	TEST METHOD	SPECIFIED REQUIREMENTS	MINIMUM ACCEPTABLE	MAXIMUM ACCEPTABLE
Fibre content	14.3*	50% cotton 50% nylon	45% cotton 45% nylon	55% cotton 55% nylon
Weave		plain		
Mass	5.1*	170 g/m ²	161 g/m ²	179 g/m ²
Width (excluding selvedge)	4.1*	152 cm	150 cm	154 cm
Woven Count yarns per cm	6*	warp: 25 weft: 22	warp: 24 weft: 20	
Breaking Strength	9.1* (Test 6.1)	warp: 1045N weft: 930N	warp: 934N weft: 840N	
Tear strength	12.1*	warp: 49N weft: 49N	warp: 36N weft: 36N	
Colour fastness to light	16** Option 3	Grey Scale 4 After 40 AATCC Fading Units	Grey Scale 3-4 After 40 AATCC Fading Units	
Colour fastness to crocking dry wet	116**	Colour change GS 5 Staining GS 5 Colour change GS 5 Staining GS 5		Colour change GS 4 Staining GS 4 Colour change GS 4 Staining GS 4
Colour fastness to laundering	19.1* Test 2	Colour change GS 5		Colour change GS 4
Colour fastness to water	20*	Colour change GS 5 Staining GS 5		Colour change GS 4 Staining GS 4
Colour fastness to perspiration	23*	Colour change GS 5 Staining GS 5		Colour change GS 4 Staining GS 4
Dimensional stability in laundering (after 3 cycles)	24.2* or 58* Test III.E.3			warp 2% weft 2%
Resistance to abrasion	5306*** 75 revolutions, H-18 calibrase wheels, 500 grams pressure			.08 gram weight loss
Air permeability	36*		55 cm ³ /cm ² .s ⁻¹	
pH	2811***	6.5 to 8.5		
IRR for Type II		para 3.7		
Colour		para 3.6.2		

* CAN/CGSB-4.2 Textile Test Methods

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*** FED-STD-191 Textile Test Method

Tableau II
Exigences pour le tissu fini, types, types II, III, IV et VI

PROPRIÉTÉ	MÉTHODE D'ESSAI	EXIGENCES PRESCRITES	MINIMUM ACCEPTABLE	MAXIMUM ACCEPTABLE
Teneur en fibres	14.3*	50 % coton 50 % nylon	45 % coton 45 % nylon	55 % coton 55 % nylon
Armure		unie		
Masse	5.1*	170 g/m ²	161 g/m ²	179 g/m ²
Largeur (lisières non comprises)	4.1*	152 cm	150 cm	154 cm
Contexture	6*	Chaîne : 25 Trame : 22	Chaîne : 24 Trame : 20	
Résistance à la rupture	9.1* (Essai 6.1)	Chaîne : 1045 N Trame : 930 N	Chaîne : 934 N Trame : 840 N	
Résistance au déchirement	12.1*	Chaîne : 49 N Trame : 49 N	Chaîne : 36 N Trame : 36 N	
Solidité de la couleur à la lumière	16** option 3	Échelle de gris 4 après l'exposition à 40 unités de décoloration de l'AATCC	Échelle de gris 3-4 après l'exposition à 40 unités de décoloration de l'AATCC	
Solidité de la couleur au frottement sec mouillé	116**	Changement de couleur : Échelle de gris 5 Tachage Échelle de gris 5 Changement de couleur : Échelle de gris 5 Tachage Échelle de gris 5		Changement de couleur Échelle de gris 4 Tachage Échelle de gris 4 Changement de couleur Échelle de gris 4 Tachage Échelle de gris 4
Solidité de la couleur au lavage	19.1* Essai n° 2	Changement de couleur : GS 5		Changement de couleur Échelle de gris 4
Solidité de la couleur à l'eau	20*	Changement de couleur : Échelle de gris 5 Tachage Échelle de gris 5		Changement de couleur Échelle de gris 4 Tachage Échelle de gris 4
Solidité de la couleur à la sueur	23*	Changement de couleur Échelle de gris 5 Tachage Échelle de gris 5		Changement de couleur Échelle de gris 4 Tachage Échelle de gris 4
Stabilité dimensionnelle au blanchissage (après 3 cycles)	24.2* ou 58* Essai III.E.3			chaîne 2 % trame 2 %
Résistance à l'abrasion	5306*** 75 révolutions, roues à l'émeri H-18, pression de 500 g			Perte de poids de 0,08 g
Perméabilité à l'air	36*		55 cm ³ /cm ² .s ⁻¹	
pH	2811***	6.5 à 8.5		
RIR pour le type II		par. 3.7		
Couleur		par. 3.6.2		

* CAN/CGSB-4.2 Méthodes pour épreuves textiles

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**APPENDIX I to
DSSPM 2-2-80-023**

**REQUIREMENTS FOR CANADIAN
AVERAGE GREEN FOR COLOUR AND
INFRA-RED REFLECTION**

1. The colour requirements and IRR requirements are found on the following pages.
2. All measurements are to be made in accordance with CIE publication 15.2 and ASTM E308.99 using CIE Illuminant C and a 2 degree observer, specular component included. These conditions of measurement must be followed and included in all test reports.^{see notes}
3. Sample preparation for all chromaticity and IRR measurements shall be in accordance with AATCC Instrumental Measurement Procedure #6, A1.3, non-opaque samples.^{see notes} (It has been found that 3 layers of self fabric on a black backing may provide consistent readings. It is the responsibility of the operator to determine and follow a standard sample preparation which meets the stated conditions.)
4. Tolerance is plus/minus 1.5 CIE LAB units for each coordinate ($L^*a^*b^*$ values, not deltas). Maximum tolerance is 2 CIE LAB units.
5. Gloss values shall be less than 1 unit at 20, 60, and 85 degrees.
6. Infra-red values shall lie between the proscribed plus/minus standard deviation (SD) and are to be applied to the substrate as follows:

Canadian Average Green - as specified (average reflectance)
7. Infra-red requirements must be met both when

**ANNEXE I du document
DAPES 2-2-80-023**

**EXIGENCES RELATIVES À LA COULEUR
ET À LA RÉFLECTANCE DANS
L'INFRAROUGE POUR LE VERT
CANADIEN MOYEN**

1. Les exigences pour la couleur et la RIR sont présentées dans les pages suivantes.
2. Toutes les mesures doivent être effectuées conformément aux publications CIE 15.2 et ASTM E308.99 à l'aide de l'illuminant C et de l'observateur à 2° de la CIE, composante spéculaire incluse. Ces conditions de mesure doivent être respectées et incluses dans tous les rapports d'essai.
Voir les notes.
3. La préparation des échantillons pour toutes les mesures de couleur et de RIR doit être réalisée conformément à la procédure de mesure instrumentale n° 6 de l'American Association of Textile Chemists and Colorists (AATCC), A1.3, pour des échantillons non opaques.^{Voir les notes.} (On a constaté que trois épaisseurs de tissu extérieur sur un fond noir peuvent donner une lecture uniforme.) Il incombe à l'opérateur de déterminer et de suivre un protocole standard de préparation des échantillons qui répond aux conditions énoncées.
4. La tolérance est de $\pm 1,5$ unité CIE LAB pour chaque coordonnée (valeurs $L^*a^*b^*$, pas les valeurs delta). La tolérance maximale est de 2 unités CIE LAB.
5. Les valeurs de lustre doivent être inférieures à une (1) unité à 20°, 60° et 85° lorsque le lustre est une exigence prescrite.
6. Les valeurs dans l'infrarouge doivent être comprises en deçà de l'écart type indiqué (\pm) et être appliquées au substrat comme suit :
7. Les exigences pour l'infrarouge doivent être

manufactured (new) and after 15 laundering cycles when laundered in accordance with CAN/CGSB-4.2 Test Method 58, III.E.3.

8. The on-going Canadian requirement is for IRR values ranging from 400nm to 2000nm as shown in the following pages. Currently compliance is mandatory from 400nm to 1300nm. Every effort should be made to meet the required curves beyond 1300nm, however compliance is not mandatory at this time. Because the specification calls for 400 to 2000 nm, testing must be conducted over this full range, not just the mandatory range.

Note 1: Referee conditions are: - diffuse spectral 8^0 /hemispherical reflectance factors using a 150 mm diameter integrating sphere accessory coated with BaSO₄
- measurements made at 1 mm intervals over the entire required range with a fixed spectral bandpass of 5 nm up to 860 nm and a variable spectral bandpass of <20 nm from 860 nm to 2000 nm
- measurement geometry 8^0 incidence, hemispherical collection ($8^0/t$), with the spectral component included

Note 2: Referee sample measurement: the irradiated area to be 8 mm x 15 mm with a bandpass of 5 nm (preferred)
- where sample necessary, irradiated area may be reduced to 4 mm x 9 mm with the bandpass also reduced to 2 nm

Note 3: Where it is impractical to follow this preparation method, a single layer of the sample may be backed by NRC (National Research Council) standard black felt backing, Reference REN09870.DAT

respectées pour les tissus fabriqués (neufs) et après 15 cycles de blanchissage selon la norme CAN/CGSB-4.2, procédure d'essai 58, III.E.3.

8. Selon les exigences canadiennes actuelles, on doit respecter les valeurs RIR entre 400 et 2 000 nm, comme il est indiqué dans les pages qui suivent. Actuellement, la plage obligatoire va de 400 à 1 300 nm. On ne devrait ménager aucun effort pour respecter les courbes requises au-delà de 1 300 nm; toutefois, cette exigence n'est pas obligatoire pour le moment. Comme la spécification précise la plage de 400 à 2 000 nm, des essais doivent être réalisés dans toute cette plage, et non seulement dans la plage obligatoire

Remarque 1 : Conditions de référence : - Facteurs de réflectance spectrale 8^0 / hémisphérique diffuse utilisant une sphère intégrante de 150 mm de diamètre, enduite de BaSO₄.
- Mesures effectuées à intervalles de 1 mm sur toute la plage requise avec une bande passante spectrale fixe de 5 nm à 860 nm et une bande passante spectrale variable < 20 nm entre 860 nm et 2 000 nm.
- Géométrie de mesure avec incidence de 8^0 et collecte hémisphérique ($8^0/t$), composante spectrale incluse.

Remarque 2 : Mesure des échantillons de référence : la zone irradiée doit être de 8 mm x 15 mm avec une bande passante de 5 nm (de préférence).
- Lorsque la taille des échantillons ou d'autres conditions l'exigent, la zone irradiée peut être réduite à 4 mm x 9 mm et la bande passante à 2 nm.

Remarque 3 : Quand il est impossible de suivre ce protocole de préparation, on peut placer une seule épaisseur de l'échantillon contre un fond en feutre noir standard du CNRC (Conseil national de recherches du Canada), référence REN09870.DAT.

Colour Requirements: Canadian Average Green (single colour fabric)
Exigences relatives aux couleurs : Vert canadien moyen (tissu de même couleur)

SPECIFICATIONS:		x	0.348 - 0.372
CIE 1931/CIE LAB 1976		y	0.374 - 0.386
ILLUMINANT C, 2 deg.		Y%	7.00 maximum
		DW.nm	569.36
		S%	38.50
		L*	27.41
		a*	-6.78
		b*	16.46

Wavelength nm	Reflection %	ST.DEV. %	Refl. Min %	Refl. Max %	Wavelength nm	Reflection %	ST.DEV. %	Refl. Min %	Refl. Max %
400	1.89	0.77	1.12	8.67	840	42.14	14.80	27.35	62.94
410	1.95	0.85	1.10	8.79	850	42.50	14.90	27.60	63.39
420	2.00	0.93	1.07	8.93	860	42.85	15.00	27.85	63.85
430	2.11	1.04	1.07	9.16	870	43.20	15.11	28.09	64.31
440	2.26	1.17	1.09	9.43	880	43.20	15.05	28.15	64.24
450	2.39	1.28	1.11	9.67	890	43.16	14.99	28.16	64.15
460	2.46	1.33	1.14	9.79	900	43.11	14.94	28.17	64.06
470	2.53	1.37	1.16	9.90	910	43.07	14.90	28.17	63.97
480	2.62	1.43	1.19	10.10	920	43.03	14.86	28.18	63.89
490	2.72	1.50	1.22	10.22	930	43.00	14.82	28.18	63.82
500	2.95	1.63	1.32	10.58	940	42.82	14.76	28.06	63.58
510	3.70	2.02	1.68	11.72	950	42.64	14.70	27.94	63.33
520	4.45	2.44	2.01	12.88	960	42.45	14.64	27.81	63.09
530	5.24	2.84	2.40	14.09	970	42.28	14.60	27.68	62.87
540	6.05	3.26	2.79	15.31	980	42.09	14.56	27.53	62.64
550	6.65	3.59	3.06	16.24	990	41.91	14.52	27.39	62.44
560	6.41	3.53	2.88	15.94	1000	42.56	14.65	27.91	63.20
570	6.17	3.49	2.68	15.65	1010	43.21	14.77	28.43	63.98
580	5.84	3.36	2.48	15.20	1020	43.85	14.90	28.95	64.76
590	5.47	3.22	2.26	14.69	1030	44.45	15.04	29.41	65.49
600	5.14	3.08	2.05	14.22	1040	45.15	15.18	29.97	66.33
610	4.86	2.97	1.89	13.84	1050	45.51	15.22	30.30	66.73
620	4.60	2.88	1.72	13.48	1060	45.59	15.15	30.43	66.74
630	4.39	2.78	1.61	13.16	1070	45.66	15.09	30.56	66.75
640	4.19	2.67	1.52	12.87	1080	45.73	15.04	30.69	66.76
650	3.96	2.54	1.42	12.50	1090	45.81	14.99	30.82	66.79
660	3.65	2.33	1.32	11.98	1100	45.88	14.94	30.94	66.81
670	3.34	2.13	1.21	11.47	1110	44.88	14.74	30.14	65.61
680	4.52	2.71	1.81	13.23	1120	43.87	14.55	29.32	64.42
690	5.87	3.42	2.45	15.30	1130	42.87	14.39	28.48	63.25
700	8.94	4.60	4.34	19.54	1140	41.87	14.24	27.63	62.10
710	14.61	6.69	7.92	27.30	1150	40.86	14.11	26.76	60.97
720	20.27	8.94	11.33	35.21	1160	39.87	14.00	25.87	59.86
730	26.37	10.48	15.89	42.86	1170	38.72	13.46	25.26	58.18
740	32.48	12.31	20.17	50.78	1180	37.49	13.01	24.49	56.50
750	35.95	13.20	22.75	55.15	1190	36.27	12.66	23.61	54.93
760	36.58	13.40	23.18	56.99	1200	35.04	12.43	22.61	53.47
770	37.52	13.62	23.91	57.14	1210	36.48	12.40	24.08	54.88
780	38.46	13.84	24.62	58.29	1220	36.68	12.37	24.31	55.05
790	39.40	14.06	25.34	59.46	1230	36.87	12.35	24.53	55.22
800	40.33	14.29	26.04	60.62	1240	37.07	12.33	24.75	55.40
810	41.28	14.53	26.75	61.81	1250	37.26	12.30	24.96	55.57
820	41.44	14.60	26.83	62.04	1260	37.46	12.28	25.18	55.75
830	41.79	14.70	27.09	62.49	1270	37.65	12.27	25.39	55.92

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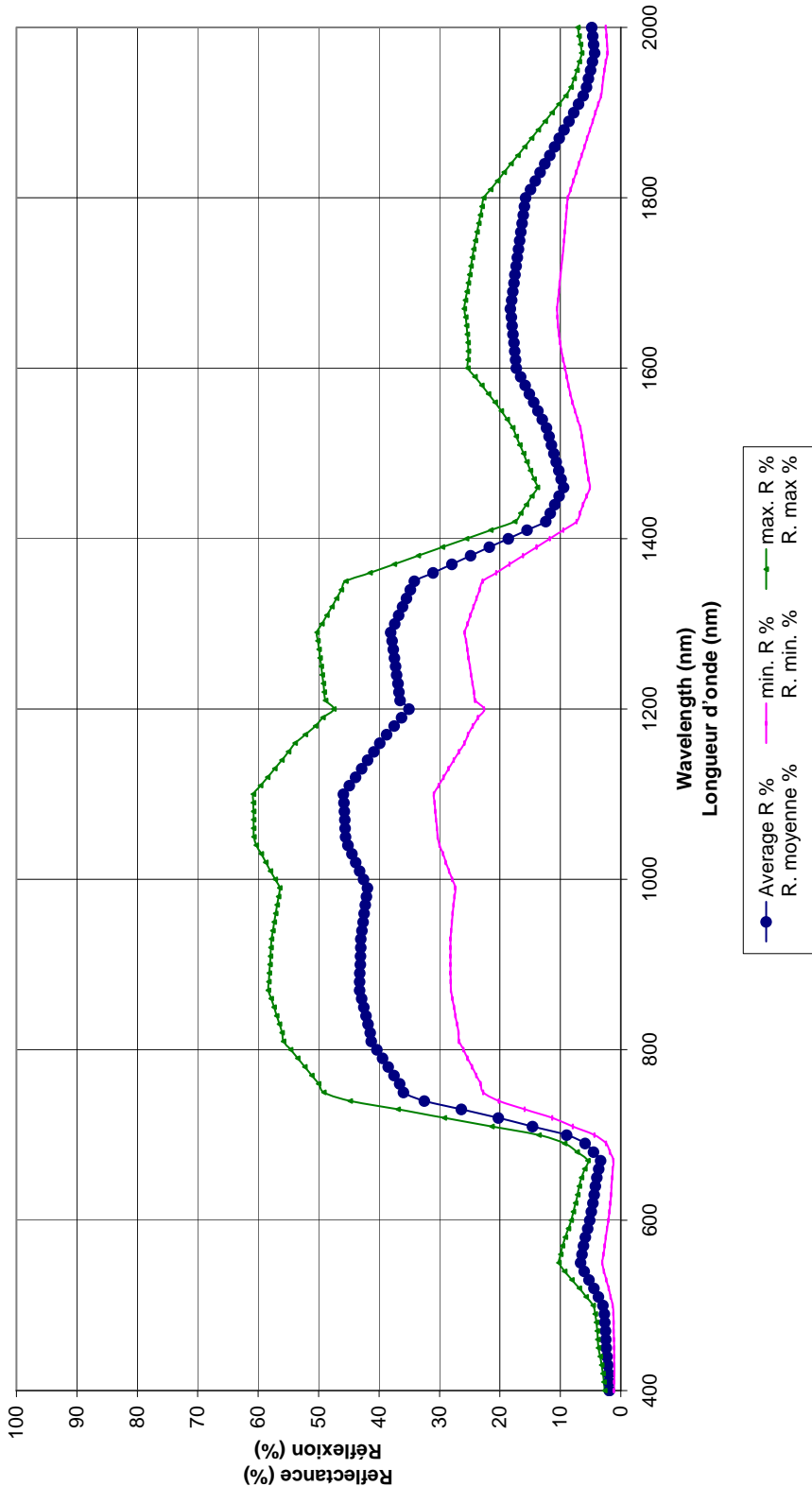
Wavelength nm	Reflection %	ST.DEV. %	Refl. Min %	Refl. Max %	Wavelength nm	Reflection %	ST.DEV. %	Refl. Min %	Refl. Max %
1280	37.85	12.25	25.60	56.10	1720	17.30	7.49	9.81	30.79
1290	38.05	12.24	25.81	56.28	1730	17.11	7.45	9.66	30.56
1300	37.40	12.05	25.36	55.45	1740	16.92	7.42	9.50	30.34
1310	36.75	11.87	24.88	54.62	1750	16.72	7.34	9.38	30.07
1320	36.10	11.71	24.39	53.81	1760	16.52	7.26	9.26	29.79
1330	35.45	11.57	23.88	53.01	1770	16.33	7.18	9.14	29.51
1340	34.80	11.44	23.36	52.23	1780	16.12	7.11	9.02	29.23
1350	34.15	11.32	22.83	51.47	1790	15.92	7.03	8.89	28.96
1360	31.04	10.44	20.61	47.48	1800	15.72	6.96	8.76	28.68
1370	27.94	9.55	18.39	43.49	1810	14.93	6.63	8.30	27.55
1380	24.83	8.66	16.17	39.50	1820	14.13	6.29	7.85	26.42
1390	21.73	7.78	13.95	35.50	1830	13.34	5.95	7.39	25.29
1400	18.62	6.89	11.73	31.51	1840	12.55	5.62	6.93	24.16
1410	15.52	6.00	9.51	27.52	1850	11.75	5.28	6.47	23.03
1420	12.41	5.12	7.29	23.53	1860	10.96	4.94	6.01	21.90
1430	11.67	4.90	6.76	22.57	1870	10.16	4.61	5.56	20.77
1440	10.93	4.70	6.23	21.63	1880	9.37	4.27	5.10	19.64
1450	10.19	4.52	5.67	20.71	1890	8.57	3.94	4.64	18.51
1460	9.46	4.35	5.10	19.81	1900	7.78	3.60	4.18	17.38
1470	9.85	4.52	5.33	20.37	1910	6.99	3.26	3.72	16.25
1480	10.26	4.69	5.56	20.95	1920	6.19	2.93	3.26	15.12
1490	10.66	4.87	5.79	21.53	1930	5.65	2.58	3.07	14.23
1500	11.06	5.05	6.01	22.11	1940	5.32	2.41	2.91	13.73
1510	11.46	5.24	6.22	22.70	1950	4.99	2.28	2.71	13.26
1520	11.86	5.42	6.44	23.39	1960	4.67	2.19	2.48	12.86
1530	12.27	5.61	6.66	23.88	1970	4.33	2.16	2.18	12.49
1540	12.98	5.83	7.16	24.81	1980	4.48	2.21	2.27	12.69
1550	13.69	6.10	7.59	25.79	1990	4.63	2.27	2.36	12.90
1560	14.41	6.42	7.99	26.82	2000	4.79	2.33	2.46	13.12
1570	15.12	6.78	8.34	27.89					
1580	15.83	7.17	8.66	29.00					
1590	16.55	7.60	8.95	30.15					
1600	17.26	8.05	9.21	31.31					
1610	17.40	7.86	9.54	31.26					
1620	17.54	7.72	9.82	31.25					
1630	17.67	7.61	10.06	31.29					
1640	17.82	7.56	10.26	31.38					
1650	17.96	7.55	10.40	31.51					
1660	18.09	7.59	10.49	31.68					
1670	18.23	7.68	10.55	31.92					
1680	18.04	7.64	10.40	31.69					
1690	17.85	7.60	10.25	31.45					
1700	17.67	7.56	10.11	31.23					
1710	17.49	7.52	9.96	31.01					

FIGURE 1 CADPAT™ (TW)

COLOUR: CANADIAN AVERAGE GREEN

FIGURE 1 DCamC^{MC} (RBT)

COULEUR: VERT CANADIEN MOYEN



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

CADPAT™ (TW)

**[CANADIAN DISRUPTIVE PATTERN
(TEMPERATE WOODLAND)]**

SPÉCIFICATION

DCamC^{MC} (RBT)

**[DESSIN DE CAMOUFLAGE CANADIEN,
(RÉGIONS BOISÉES TEMPÉRÉES)]**

1. SCOPE

1.1 Scope. This specification covers the technical performance requirements for both colour and Infra-red Reflectance for CADPAT™ (TW), Canadian Disruptive Pattern Temperate Woodland. It is intended for use, when specified, for all textiles used by the Canadian Forces for operational clothing and personal equipment. Any allowed deviations from the requirements stated herein shall be clearly defined in procurement documents.

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 shall be for the sole end use of DND. There shall be no selling or offering for sale of goods incorporating the CADPAT™ pattern and

1. PORTÉE

1.1 Portée. La présente spécification vise les exigences de rendement technique relatives à la couleur et à la réflectance dans l'infrarouge du dessin de camouflage canadien, régions boisées tempérées [DCamC^{MC} (RBT)]. Elle est destinée à être utilisée, lorsque cela est prescrit, pour tous les tissus employés par les Forces canadiennes dans la confection des vêtements opérationnels et de l'équipement individuel. Tous les écarts autorisés par rapport aux exigences énoncées dans le présent document doivent être clairement définis dans les documents d'achat.

1.2 L'information contenue dans le présent document, ainsi que le modèle associé, sont la propriété de Sa Majesté la Reine du Canada et protégés par droit 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 modèle 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

OPI/BPR: DSSPM / DAPES 2-11

Canada 

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2. APPLICABLE DOCUMENTS

2.1 Government Documents. Copies of this specification may be obtained from the Department of National Defence, Ottawa, Ontario, Canada, K1A 0K2, Attention: DSSPM 2-2.

2.2 Other Publications. The following documents form part of this Specification to the extent specified herein. Effective dates shall be those in effect on the date of manufacture. Sources are as shown.

ASTM International
P.O. Box C700

2. DOCUMENTS APPLICABLES

2.1 Documents du gouvernement. Des copies de la présente spécification peuvent être obtenues du ministère de la Défense nationale, Ottawa (Ontario), Canada, K1A 0K2, à l'attention de: DAPES 2-2.

2.2 Autres publications. Les publications suivantes font partie intégrante de la présente spécification selon les modalités indiquées ci-après. La date d'entrée en vigueur doit être celle en vigueur à la date de fabrication. La source de diffusion est celle indiquée.

ASTM International
P.O. Box C700
West Conshohocken, PA

West Conshohocken, PA
19428-2959, USA
Telephone: 610-832-9585
Email: service@astm.org

AATCC
P.O. Box 12215
Research Triangle Park, NC
27709, USA
Telephone: 919-549-3526
Email: jonesb@aatcc.org

CIE
International Committee on Illumination
CIE Central Bureau
Kegelgasse 27, A-1030
Vienna, Austria

or

Information Handling Services
15 Inverness Way East, M/S B203
Englewood, CO
80112-5776, USA

19428-2959, ÉTATS-UNIS
Téléphone : 610-832-9585
Courriel: service@astm.org

AATCC
P.O. Box 12215
Research Triangle Park, NC
27709, ÉTATS-UNIS
Téléphone : 919-549-3526
Courriel: jonesb@aatcc.org

CIE
Commission internationale de l'éclairage
Bureau central de la CIE
Kegelgasse 27, A-1030
Vienne, AUTRICHE

ou

Information Handling Services
15 Inverness Way East, M / S B203
Englewood, CO
80112-5776, ÉTATS-UNIS

2.3 Sealed Patterns. Sealed patterns are made available to the bidders and the contractor(s) as a guide to production. In the case of CADPAT™ the sealed pattern reflects the design, pattern, motifs, repeat, clarity, that is required.

2.3 Modèles réglementaires. Des modèles réglementaires sont mis à la disposition des soumissionnaires et des entrepreneurs comme guide pour la production. Dans le cas du DCamC^{MC}, le modèle réglementaire reflète la conception, le dessin, les motifs, les répétitions et la clarté qui sont requis.

DSSPM 259-01 Cloth, Twist, Nylon/Cotton, Lightweight, CADPAT™ (TW), sealed for colours, motif size, colour distribution, print quality, penetration, clarity and pattern.

DSSPM 259-01 Tissu coton/nylon simple retors, DCamC^{MC} (RBT), pour les couleurs, la taille des motifs, la distribution des couleurs, la qualité de l'impression, la pénétration, la clarté et le modèle.

2.4 Order of Precedence.

2.4 Ordre de préséance.

2.4.1 In the event of any inconsistency in contract documents such as contract, specification and sealed patterns, the order of precedence shall be contract, specification, and sealed pattern.

2.4.1 En cas d'incohérence entre les documents contractuels, soit le contrat, la spécification et les échantillons réglementaires, l'ordre de préséance est le suivant: le contrat, la spécification et le modèle réglementaire.

2.4.2 In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

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

2.4.3 In the event of inconsistency within the specification, the Design Authority (DSSPM 2-2) shall be contacted for clarification.

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

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

3. REQUIREMENTS

3.1 CADPAT™ (TW) specifications. The materiel covered by this specification shall be free from imperfections or blemishes such as may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes shall be considered defects when clearly visible at a normal inspection distance of approximately one metre under good, preferably North Light, lighting conditions.

3.2 Sealed Patterns. Sealed patterns, when furnished, shall constitute the standard only in regard to any properties not defined in this Specification, and in association with any notes which may be included on the reverse side of the sealed pattern tag. Under no circumstance are the Sealed Patterns to be mutilated or cut.

3.3 Colour.

3.3.1 Unless otherwise specified, the printing shall be carried out in a wet process, with dyes. Woven goods shall be pre-dyed prior to printing. Only vat dyestuffs shall be used for any cotton component. Only acid dyestuffs shall be used for any nylon component. Only disperse dyestuffs shall be used for any polyester component. These requirements exist for both dyeing and printing operations.

3.3.2 For CADPAT™(TW) the colours specified in para 3.3.9 below, numerically, must be met, unless otherwise specified in procurement documents, while any sealed pattern provided serves as a guide to the colours. Allowable tolerances are also stated below. Minimal flare when viewed under standard daylight, horizon, and fluorescent light for all colours is required. These colour measurements shall fall within the specified tolerances after 15 laundering cycles when laundered in accordance with the method specified in the applicable cloth specification unless otherwise specified by the applicable cloth specification.

2.4.4 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.

3. EXIGENCES

3.1 Spécification du DCamC^{MC} (RBT). Le tissu visé par la présente spécification doit être exempt d'imperfections ou de défauts qui pourraient nuire à son aspect ou à sa tenue en service. À des fins d'inspection, sont considérés comme défauts ceux qui sont clairement visibles à une distance d'inspection normale d'environ un mètre sous un bon éclairage, de préférence la lumière du nord.

3.2 Modèles réglementaires. Les modèles réglementaires, quand ils sont fournis, doivent constituer la norme uniquement en ce qui concerne les propriétés qui ne sont pas définies aux présentes, compte tenu des notes qui peuvent figurer au verso de l'étiquette du modèle réglementaire. En aucun cas, les modèles réglementaires ne doivent être endommagés ni coupés.

3.3 Couleur.

3.3.1 Sauf indication contraire, l'impression doit être effectuée selon un procédé au mouillé, avec des colorants. Les tissus doivent être teints au préalable, avant l'impression. Seuls des colorants de cuve doivent être utilisés pour tout élément en coton. Seuls des colorants acides doivent être utilisés pour tout élément en nylon. Seuls des colorants dispersés doivent être utilisés pour tout élément en polyester. Les présentes exigences s'appliquent aux opérations de teinture et d'impression.

3.3.2 Pour le DCamC^{MC} (RBT), les couleurs précisées sous forme numérique au paragraphe 3.3.9 ci-dessous doivent être respectées, sauf indication contraire dans les documents d'achat, tous les modèles réglementaires fournis devant servir de guide pour les couleurs. Les tolérances admissibles sont également indiquées ci-dessous. Les tissus doivent présenter un éclat minimal lorsqu'on les examine à la lumière du jour, contre l'horizon et sous une lumière fluorescente, et ce, pour toutes les couleurs. Ces mesures de couleur doivent se situer à l'intérieur des tolérances prescrites après 15 cycles de blanchissage selon la méthode décrite dans la norme applicable au tissu, sauf indication contraire.

3.3.3 Print quality. Complete penetration of all component fibres in the specified cloth is required. Overall print quality, including colour penetration (i.e. the overall colouring of the wrong side of the printed cloth), uniformity of each colour, clarity, definition, evenness, and all other qualities

indicative of a good print must be at least as good as depicted by the Sealed Pattern DSSPM 259-01.

3.3.4 After printing and/or dyeing in an aqueous medium, all fabrics shall be appropriately stabilized by processes such as drying, heat setting, sanforizing, or other appropriate and durable means, if required to achieve the desired properties defined in the applicable Tables of the cloth specifications.

3.3.5 Hand of the finished, printed specified textiles shall be as represented by the appropriate sealed patterns for the finished cloths.

3.3.6 Infra-red Reflection (IRR). The required IRR characteristics are defined in para 3.3.10 and 3.3.11.2 and Tables I, II, III, and IV of this specification, and depicted graphically in Figures I, II, III, and IV of this specification. Note that the requirements are mandatory from 400-1350 nm for Canadian Average Green, from 730 – 1350 nm for Light Green and Brown, and from 400 – 2000 nm for Black. The waveband range 1351 – 2000 nm for colours Canadian Average Green, Light Green, and Brown is not mandatory at this time; however, the Canadian Forces requirement remains as stated in the respective colour tables and should always be any manufacturer's target. Unless otherwise specified for the textile on order, these characteristics must be met both when manufactured (new) and after 15 laundering cycles when laundered in accordance with the method specified in the applicable cloth specification (See para 3.3.11.2).

3.3.7 Finish. No finish will be applied to obtain fabric stability or temporary colour and/or IRR compliance unless required in the applicable textile specification.

3.3.8 Measurement requirements.

3.3.3 Qualité d'impression. La pénétration complète de toutes les fibres composant le tissu prescrit 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, la régularité, et toutes les autres qualités indicatives d'une bonne impression, doit être au moins aussi bonne que ce qui est indiqué dans le modèle réglementaire DSSPM 259-01.

3.3.4 Après l'impression ou la teinture dans un milieu aqueux, tous les tissus doivent être convenablement stabilisés par des procédés tels que le séchage, le thermofixage, le sanforisage ou tout autre moyen approprié et durable, au besoin, pour obtenir les propriétés désirées définies dans les tableaux applicables de la spécification relative au tissu.

3.3.5 La main des tissus prescrits, finis et imprimés, doit être identique aux modèles réglementaires appropriés des tissus finis.

3.3.6 Réflectance dans l'infrarouge (RIR). Les caractéristiques de la RIR requises sont définies aux paragraphes 3.3.10 et 3.3.11.2 et dans les tableaux I, II, III et IV de la présente spécification, et elles sont représentées graphiquement dans les figures I, II, III et IV. Veuillez prendre note que les exigences sont obligatoires dans la plage de 400 à 1 350 nm pour le vert canadien moyen, de 730 à 1 350 nm pour le vert pâle et le brun, et de 400 à 2 000 nm pour le noir. La plage de longueurs d'ondes de 1 351 à 2 000 nm pour le vert canadien moyen, le vert pâle et le brun n'est pas obligatoire pour le moment; toutefois, les exigences des Forces canadiennes demeurent comme il est indiqué dans les tables de couleurs respectives et le fabricant doit chercher à les respecter. Sauf indication contraire pour le tissu commandé, ces caractéristiques doivent être respectées tant pour les tissus fabriqués (neufs), qu'après 15 cycles de blanchissage selon la méthode décrite dans la spécification relative au tissu (voir le paragraphe 3.3.11.2).

3.3.7 Fini. Aucun fini ne sera appliqué pour obtenir une stabilité du tissu ou le respect temporaire de la couleur ou de la RIR, à moins qu'un tel fini ne soit prescrit dans la spécification relative au tissu.

3.3.8 Exigences relatives aux mesures.

3.3.8.1 Toutes les mesures de couleur et de

3.3.8.1 All measurements for both colour and infra-red reflection are to be made in accordance with CIE publication 15 - 2004 and ASTM E308.2008 using CIE Illuminant C and a 2 degree observer, specular component included. These conditions of measurement must be followed and included in all test reports.

3.3.8.2 Sample preparation for all chromaticity and IRR measurements shall be in accordance with AATCC Instrumental Measurement Procedure #6, A1.3, non-opaque samples. It has been found that more than one layer 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.

3.3.8.3 Representative samples are to be measured a minimum of four times, rotating the sample 90° after each measurement. All measurements are then to be averaged to produce a single set of reflectance values. The test results shall include the average spectral reflectance of each measured sample.

NOTE: Referee conditions:

- diffuse spectral 8°/hemispherical reflectance factors using a 150 mm diameter integrating sphere accessory coated with BaSO₄
- measurements made at 1 nm intervals over the entire required range with a fixed spectral bandpass of 5 nm up to 860 nm and a variable spectral bandpass of <20 nm from 860 nm to 2000 nm
- measurement geometry 8° incidence, hemispherical collection (8°/t), with the spectral component included
- referee sample measurement: the irradiated area to be 8 mm x 15 mm with a bandpass of 5 nm (preferred)
- where sample size or other condition dictates, irradiated area may be reduced to 4 mm x 9 mm with the bandpass also reduced to 2 nm
- where it is impractical to follow this preparation method, a single layer of the sample may be backed by NRC (National Research Council) standard black felt backing, Reference REN09870.DAT

réflectance dans l'infrarouge doivent être effectuées conformément aux publications CIE 15-2004 et ASTM E308.2008 à l'aide de l'illuminant C et de l'observateur à 2° de la CIE, composante spéculaire incluse. Ces conditions de mesure doivent être respectées et incluses dans tous les rapports d'essai.

3.3.8.2 La préparation des échantillons pour toutes les mesures de couleur et de RIR doit être réalisée conformément à la procédure de mesure instrumentale n° 6 de l'American Association of Textile Chemists and Colorists (AATCC), A1.3, pour des échantillons non opaques. On a constaté que plusieurs épaisseurs de tissu extérieur sont habituellement requises pour donner une lecture uniforme. L'emploi d'un fond noir standard est recommandé. Il incombe à l'opérateur de déterminer et de suivre un protocole standard de préparation des échantillons qui répond aux conditions énoncées.

3.3.8.3 Des échantillons représentatifs doivent être mesurés au moins quatre fois, en tournant l'échantillon de 90° après chaque mesure. On doit ensuite calculer la moyenne de toutes les mesures pour produire un ensemble unique de valeurs de réflectance. Les résultats du test doivent comprendre la réflectance spectrale moyenne de chaque échantillon mesuré.

REMARQUE: Conditions de référence:

- Facteurs de réflectance spectrale 8° / hémisphérique diffuse utilisant une sphère intégrante de 150 mm de diamètre, enduite de BaSO₄
- Mesures effectuées à intervalles de 1 nm sur toute la plage requise avec une bande passante spectrale fixe de 5 nm à 860 nm et une bande passante spectrale variable < 20 nm entre 860 nm et 2 000 nm
- Géométrie de mesure avec incidence de 8° et collecte hémisphérique (8°/t), composante spectrale incluse
- Mesure des échantillons de référence: la zone irradiée doit être de 8 mm x 15 mm avec une bande passante de 5 nm (de préférence)
- Lorsque la taille des échantillons ou d'autres conditions l'exigent, la zone irradiée peut être réduite à 4 mm x 9 mm et la bande passante à 2 nm
- Quand il est impossible de suivre ce protocole de préparation, on peut placer une seule épaisseur de l'échantillon contre un fond en feutre noir standard du CNRC (Conseil national de recherches du Canada), référence REN09870.DAT

3.3.9 Colour. The CIE LAB 1976 co-ordinates for illuminant C, 2° observer are:

3.3.9 Couleur. Les coordonnées CIE LAB de 1976 pour l'illuminant C et un observateur à 2° sont:

	L*	a*	b*
Canadian Average Green / Vert canadien moyen	27.41	-6.78	16.46
Light Green / Vert pâle	42.90	-13.40	26.80
Brown / Brun	36.50	4.60	14.50
Black / Noir	18.71	0.41	1.21

3.3.9.1 Maximum tolerance is plus/minus 2 CIE LAB units for each coordinate (L*a*b* values, not deltas).

3.3.9.1 La tolérance maximale est de +/- 2 unités CIE LAB pour chaque coordonnée (valeurs L*a*b*, pas les valeurs delta).

3.3.9.1.1 These criteria are repeated in each of the applicable tables, I-IV, at the end of this document, with the CIE 1931/CIE LAB 1976 values also.

3.3.9.1.1 Ces critères sont repris dans chacun des tableaux applicables, I-IV, à la fin de ce document, ainsi qu'avec les valeurs CIE 1931/CIE LAB 1976.

3.3.9.2 Gloss. Unless otherwise specified by the applicable cloth specification, gloss values shall be less than 1.5 units at 20, 60, and 85 degrees when gloss is a specified requirement. Gloss is measured in accordance with ASTM D523.

3.3.9.2 Lustre. Sauf indication contraire dans la spécification applicable au tissu, les valeurs de lustre doivent être inférieures à 1,5 unité à 20°, 60° et 85° lorsque le lustre est une exigence prescrite. Le lustre est mesuré selon la norme ASTM D523.

3.3.10 Infra-red Reflection. Tables I, II, III, and IV contain the requirements for Infra-red reflection for each colour. Upper and lower tolerances are included in each Table. Figures I, II, III, and IV relate to the Tables and are a visual representation of the requirement with upper and lower tolerances shown.

3.3.10 Réflectance dans l'infrarouge. Les tableaux I, II, III et IV contiennent les exigences relatives à la réflectance dans l'infrarouge pour chaque couleur. Les tolérances supérieures et inférieures sont incluses dans chaque tableau. Les figures I, II, III et IV sont associées aux tableaux et sont une représentation visuelle des exigences, avec les tolérances supérieures et inférieures indiquées.

3.3.11 Requirement after Laundering.

3.3.11 Exigence après lavage.

3.3.11.1 Unless otherwise specified, the colour measurements specified herein shall remain within the original tolerances (+/- 2 CIELAB units) after 15 laundering cycles, when the laundering cycles are carried out in accordance with the methodology prescribed in the applicable textile specification.

3.3.11.1 Sauf indication contraire, les mesures de la couleur spécifiées dans les présentes doivent être à l'intérieur des tolérances d'origine (+/- 2 unités CIELAB) après 15 cycles de lavage, lorsque ces cycles sont réalisés conformément à la méthode prescrite dans les spécifications applicables des tissus.

3.3.11.2 Unless otherwise specified, the infra-red reflectance measurements specified herein shall remain within the original tolerances indicated in

3.3.11.2 Sauf indication contraire, les mesures de la réflectance dans l'infrarouge prescrites aux présentes doivent respecter les tolérances d'origine

the Tables for each colour after 15 laundering

cycles, when the laundering cycles are carried out in accordance with the methodology prescribed in the applicable textile specification.

3.4 Piece Marking. Unless otherwise specified, each piece shall have a label attached to the selvage at one end. The label shall be made of linen or heavy cardboard, with a reinforced eyelet for attaching a tying cord, and shall be legibly marked with the following information:

- a) Contractor's identification (name or CA number)
- b) Contract Number
- c) Gross length in metres, including allowance
- d) Net length in metres
- e) Piece number
- f) Number of lengths per piece
- g) Nomenclature/Classification (textile specification)
- h) Colour
- j) NATO Stock Number
- k) Date of manufacture

All of the above information is required when the goods are contracted for and being delivered directly to the Crown. When contracted by a third party with delivery not to the Crown, only (a), (e), (g), (h), (j), and (k) are mandatory. The other information must be readily available to the Crown and/or its contractor if required.

4. QUALITY CONTROL/INSPECTION

4.1 Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspections and tests as specified herein and to demonstrate that the materiel and services conform to the requirements specified in this Specification. Contractors may utilize their own or any other inspection facility acceptable to the Crown or its designated representative. Contractors may also utilize their own test facilities so long as Crown approval has been obtained in advance and the conditions stated in ISO quality and manufacturing publications are followed.

indiquées aux tableaux pour chaque couleur après

15 cycles de lavage, lorsque ces cycles sont réalisés conformément à la méthode prescrite dans la spécification applicable au tissu.

3.4 Marquage des pièces. Chaque pièce de tissu livrée au Canada doit porter, à une extrémité, une étiquette fixée à la lisière. 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 (nom ou numéro de CA)
- b) Numéro du contrat
- c) Longueur brute en mètres, y compris la réserve
- d) Longueur nette en mètres
- e) Numéro du rouleau
- f) Nombre de longueurs par rouleau
- g) Nomenclature/classification (spécification relative au tissu)
- h) Couleur
- j) Numéro de nomenclature OTAN
- k) Date de fabrication

Tous les renseignements ci-dessus sont requis lorsque les marchandises sont obtenues dans le cadre d'un contrat et sont livrées directement au gouvernement. Lorsque les marchandises sont obtenues par contrat par une tierce partie sans être livrées au gouvernement, seuls les éléments a), e), g), h), j), et k) sont obligatoires. Les autres renseignements doivent être facilement accessibles pour le gouvernement ou son entrepreneur, le cas échéant.

4. CONTRÔLE DE LA QUALITÉ ET INSPECTION

4.1 Sauf indication contraire dans le contrat ou les documents d'achat, l'entrepreneur est tenu d'effectuer toutes les inspections et les essais prescrits ci-après afin de démontrer que les matériaux et les services sont conformes aux exigences énoncées dans la présente spécification. L'entrepreneur peut utiliser ses propres installations d'inspection ou avoir recours à toute autre installation jugée acceptable par le gouvernement ou son représentant désigné. L'entrepreneur peut également utiliser ses propres installations d'essai, pourvu qu'il ait obtenu à l'avance l'approbation du gouvernement et que les conditions décrites dans les

publications de l'ISO sur la fabrication et la qualité

soient respectées.

4.2 The Crown reserves the right to perform any of the inspections or tests specified herein, where such are deemed necessary to ensure the materiel and/or services submitted to the Crown for acceptance meet 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.

4.3 Any requirement for test data to be presented at pre-contract award or at pre-production will be stated in procurement documents. Unless otherwise specified, this data shall result from tests carried out on current production, at independent certified laboratories, in full accordance with all specified test methods and conditions, and these shall be included in the laboratory reports. Bidding and/or contractual documents shall include requirements for in-contract testing including: specific tests, their frequency, their source, and their reporting procedure. At a minimum, all shipments of CADPAT™ printed textile shall be accompanied by producer laboratory reports for colour and IRR measurements. These measurements shall have been carried out on the goods being shipped and shall have been carried out on each processed batch, and at least every 5,000 metres.

4.2 Le gouvernement se réserve le droit d'effectuer toute vérification ou tout essai jugé nécessaire pour s'assurer que le matériel et les services présentés au gouvernement pour acceptation sont conformes à toutes les exigences énoncées dans le contrat. Ceci 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.

4.3 Toute exigence relative aux données d'essai qui doivent être présentées à l'étape de préadjudication ou de présérie sera indiquée dans les documents d'achat. Sauf indication contraire, ces données doivent être obtenues par des essais effectués pendant la production courante dans des laboratoires indépendants accrédités, conformément à toutes les méthodes et conditions d'essai prescrites, et elles doivent figurer dans les rapports de laboratoire. Les documents d'appel d'offres ou du contrat doivent inclure les exigences relatives aux essais pendant l'exécution du contrat, y compris: la définition des essais, leur fréquence, leur source et la production des rapports. Au minimum, tous les lots de tissu DCam^{MC} imprimé doivent être accompagnés des rapports de laboratoire du producteur pour les mesures de couleur et de RIR. Ces mesures doivent avoir été réalisées sur les marchandises expédiées et effectuées sur chaque lot traité, et à tout le moins, à tous les 5 000 m.

5. PACKAGING

5.1 Unless otherwise specified, packaging, packing, and marking of shipping containers shall be in accordance with the terms of the contract.

5. CONDITIONNEMENT

5.1 Sauf indication contraire, le conditionnement, l'emballage et le marquage des conteneurs d'expédition doivent être conformes aux modalités du contrat.

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- a) title, number and date of this Specification and of the textile specification
- b) NATO Stock number of required item
- c) Nomenclature/Classification (textile)

6. REMARQUES

6.1 Données de commande. Les documents d'achat doivent préciser:

- a) le titre, le numéro et la date de la présente spécification et de la spécification relative au tissu
- b) le numéro de nomenclature OTAN des

specification)

- d) Pre-production requirements
- e) Packaging, packing, and marking of shipping containers
- f) The Design Authority
- g) The Quality Assurance Authority

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 requirement is the Directorate of Soldier Systems Programme Management (DSSPM), Department of National Defence.

6.2.2 Quality Assurance Authority. The Quality Assurance Authority is the Government agency responsible for providing assurance the materiel and services supplied by the contractor are in accordance with the terms of the contract. The Quality Assurance Authority is the Directorate of Quality Assurance (DQA), Department of National Defence.

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

6.2.4 Sealed pattern. The sealed pattern is a duplicate of the master sealed pattern which is the Department of National Defence's authorized prototype of the item to be produced. Sealed patterns are available for the contractor to use as a *conceptual example for production*. Contractors should note that sealed patterns may not incorporate all the details cited in this Specification and the order of precedence prevails (see para 2.4).

6.2.5 Specification Copies. Copies of this Specification are available from the Department of National Defence, Directorate of Soldier Systems Programme Management, Ottawa, Ontario, K1A 0K2, Attention: DSSPM 2-2.

6.3 The production of a product to this specification, or the evaluation of a product to this

articles requis

- c) la nomenclature ou la classification (spécification relative au tissu)
- d) les exigences de présérie
- e) le conditionnement, l'emballage et le marquage des conteneurs d'expédition
- f) l'autorité responsable de la conception
- g) l'autorité responsable de l'assurance de la qualité

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 connexe. Dans le cas des articles visés par la présente spécification, il s'agit de la Direction - Administration du programme de l'équipement du soldat (DAPES).

6.2.2 Autorité responsable de l'assurance de la qualité. L'autorité responsable de l'assurance de la qualité est l'organisme gouvernemental chargé d'assurer que le matériel et les services fournis par l'entrepreneur satisfont aux modalités du contrat. L'autorité responsable de l'assurance de la qualité est le directeur de l'assurance de la qualité, ministère de la Défense nationale du Canada.

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

6.2.4 Modèle réglementaire. Copie exacte du modèle réglementaire principal, qui est le prototype autorisé par le ministère de la Défense nationale pour l'article qui doit être fabriqué. Les modèles réglementaires sont mis à la disposition de l'entrepreneur comme *exemple conceptuel pour la production*. Les entrepreneurs doivent prendre note que les modèles réglementaires n'incorporent pas nécessairement tous les détails indiqués aux présentes, en cas de divergence, l'ordre de préséance mentionné au paragraphe 2.4 prévaut.

6.2.5 Copies de la spécification. Des copies de la présente spécification peuvent être obtenues auprès du ministère de la Défense nationale, Direction de l'administration du programme de l'équipement du soldat, Ottawa (Ontario), K1A 0K2, à l'attention: DAPES 2-2.

6.3 La fabrication ou l'évaluation d'un produit conformément à la présente spécification pourrait

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.

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 CADPAT™ REQUIREMENTS CANADIAN AVERAGE GREEN

TABLEAU I EXIGENCES RELATIVES AU DCamC^{MC} VERT CANADIEN MOYEN

SPECIFICATIONS / SPÉCIFICATIONS									
CIE 1931/CIE LAB 1976				x		y		0,3600	
ILLUMINANT C, 2 deg.				Y%		Y%		0,4098	
specular component included/				DW.nm		S%		569,36	
composante spéculaire incluse				L*		a*		38,50	
				b*		-6,78		27,41	
				16,46					
Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Ref. Min Réfl. min.	Ref. Max Réfl. max.	Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Ref. Min Réfl. min.	Ref. Max Réfl. max.
	%	%	%	%	nm	%	%	%	%
400	1,89	0,77	1,12	2,67	840	42,14	14,80	27,35	56,94
410	1,95	0,85	1,10	2,79	850	42,50	14,90	27,60	57,39
420	2,00	0,93	1,07	2,93	860	42,85	15,00	27,85	57,85
430	2,11	1,04	1,07	3,16	870	43,20	15,11	28,09	58,31
440	2,26	1,17	1,09	3,43	880	43,20	15,05	28,15	58,24
450	2,39	1,28	1,11	3,67	890	43,16	14,99	28,16	58,15
460	2,46	1,33	1,14	3,79	900	43,11	14,94	28,17	58,06
470	2,53	1,37	1,16	3,90	910	43,07	14,90	28,17	57,97
480	2,62	1,43	1,19	4,05	920	43,03	14,86	28,18	57,89
490	2,72	1,50	1,22	4,22	930	43,00	14,82	28,18	57,82
500	2,95	1,63	1,32	4,58	940	42,82	14,76	28,06	57,58
510	3,70	2,02	1,68	5,72	950	42,64	14,70	27,94	57,33
520	4,45	2,44	2,01	6,88	960	42,45	14,64	27,81	57,09
530	5,24	2,84	2,40	8,09	970	42,28	14,60	27,68	56,87
540	6,05	3,26	2,79	9,31	980	42,09	14,56	27,53	56,64
550	6,65	3,59	3,06	10,24	990	41,91	14,52	27,39	56,44
560	6,41	3,53	2,88	9,94	1000	42,56	14,65	27,91	57,20
570	6,17	3,49	2,68	9,65	1010	43,21	14,77	28,43	57,98
580	5,84	3,36	2,48	9,20	1020	43,85	14,90	28,95	58,76
590	5,47	3,22	2,26	8,69	1030	44,45	15,04	29,41	59,49
600	5,14	3,08	2,05	8,22	1040	45,15	15,18	29,97	60,33
610	4,86	2,97	1,89	7,84	1050	45,51	15,22	30,30	60,73
620	4,60	2,88	1,72	7,48	1060	45,59	15,15	30,43	60,74
630	4,39	2,78	1,61	7,16	1070	45,66	15,09	30,56	60,75
640	4,19	2,67	1,52	6,87	1080	45,73	15,04	30,69	60,76
650	3,96	2,54	1,42	6,50	1090	45,81	14,99	30,82	60,79
660	3,65	2,33	1,32	5,98	1100	45,88	14,94	30,94	60,81
670	3,34	2,13	1,21	5,47	1110	44,88	14,74	30,14	59,61
680	4,52	2,71	1,81	7,23	1120	43,87	14,55	29,32	58,42
690	5,87	3,42	2,45	9,30	1130	42,87	14,39	28,48	57,25
700	8,94	4,60	4,34	13,54	1140	41,87	14,24	27,63	56,10
710	14,61	6,69	7,92	21,30	1150	40,86	14,11	26,76	54,97
720	20,27	8,94	11,33	29,21	1160	39,87	14,00	25,87	53,88
730	26,37	10,48	15,89	36,86	1170	38,72	13,46	25,26	52,18
740	32,48	12,31	20,17	44,78	1180	37,49	13,01	24,49	50,50
750	35,95	13,20	22,75	49,15	1190	36,27	12,66	23,61	48,93
760	36,58	13,40	23,18	49,99	1200	35,04	12,43	22,61	47,47
770	37,52	13,62	23,91	51,14	1210	36,48	12,40	24,08	48,88
780	38,46	13,84	24,62	52,29	1220	36,68	12,37	24,31	49,05
790	39,40	14,06	25,34	53,46	1230	36,87	12,35	24,53	49,22
800	40,33	14,29	26,04	54,62	1240	37,07	12,33	24,75	49,40
810	41,28	14,53	26,75	55,81	1250	37,26	12,30	24,96	49,57
820	41,44	14,60	26,83	56,04	1260	37,46	12,28	25,18	49,75
830	41,79	14,70	27,09	56,49	1270	37,65	12,27	25,39	49,92

TABLE I CADPAT™ REQUIREMENTS
CANADIAN AVERAGE GREEN (cont.)

TABLEAU I EXIGENCES RELATIVES AU D_{Cam}C^{MC}
VERT CANADIEN MOYEN (suite)

Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Refi. Min Réfl. min. %	Refi. Max Réfl. max. %	Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Refi. Min Réfl. min. %	Refi. Max Réfl. max. %
1280	37.85	12.25	25.60	50.10	1720	17.30	7.49	9.81	24.79
1290	38.05	12.24	25.81	50.28	1730	17.11	7.45	9.66	24.56
1300	37.40	12.05	25.36	49.45	1740	16.92	7.42	9.50	24.34
1310	36.75	11.87	24.88	48.62	1750	16.72	7.34	9.38	24.07
1320	36.10	11.71	24.39	47.81	1760	16.52	7.26	9.26	23.79
1330	35.45	11.57	23.88	47.01	1770	16.33	7.18	9.14	23.51
1340	34.80	11.44	23.36	46.23	1780	16.12	7.11	9.02	23.23
1350	34.15	11.32	22.83	45.47	1790	15.92	7.03	8.89	22.96
1360	31.04	10.44	20.61	41.48	1800	15.72	6.96	8.76	22.68
1370	27.94	9.55	18.39	37.49	1810	14.93	6.63	8.30	21.55
1380	24.83	8.66	16.17	33.50	1820	14.13	6.29	7.85	20.42
1390	21.73	7.78	13.95	29.50	1830	13.34	5.95	7.39	19.29
1400	18.62	6.89	11.73	25.51	1840	12.55	5.62	6.93	18.16
1410	15.52	6.00	9.51	21.52	1850	11.75	5.28	6.47	17.03
1420	12.41	5.12	7.29	17.53	1860	10.96	4.94	6.01	15.90
1430	11.67	4.90	6.76	16.57	1870	10.16	4.61	5.56	14.77
1440	10.93	4.70	6.23	15.63	1880	9.37	4.27	5.10	13.64
1450	10.19	4.52	5.67	14.71	1890	8.57	3.94	4.64	12.51
1460	9.46	4.35	5.10	13.81	1900	7.78	3.60	4.18	11.38
1470	8.85	4.52	5.33	14.37	1910	6.99	3.26	3.72	10.25
1480	10.26	4.69	5.56	14.95	1920	6.19	2.93	3.26	9.12
1490	10.66	4.87	5.79	15.53	1930	5.65	2.58	3.07	8.23
1500	11.06	5.05	6.01	16.11	1940	5.32	2.41	2.91	7.73
1510	11.46	5.24	6.22	16.70	1950	4.99	2.28	2.71	7.26
1520	11.86	5.42	6.44	17.29	1960	4.67	2.19	2.48	6.86
1530	12.27	5.61	6.66	17.88	1970	4.33	2.16	2.18	6.49
1540	12.98	5.83	7.16	18.81	1980	4.48	2.21	2.27	6.69
1550	13.69	6.10	7.59	19.79	1990	4.63	2.27	2.36	6.90
1560	14.41	6.42	7.99	20.82	2000	4.79	2.33	2.46	7.12
1570	15.12	6.78	8.34	21.89					
1580	15.83	7.17	8.66	23.00					
1590	16.55	7.60	8.95	24.15					
1600	17.26	8.05	9.21	25.31					
1610	17.40	7.86	9.54	25.26					
1620	17.54	7.72	9.82	25.25					
1630	17.67	7.61	10.06	25.29					
1640	17.82	7.56	10.26	25.38					
1650	17.96	7.55	10.40	25.51					
1660	18.09	7.59	10.49	25.68					
1670	18.23	7.68	10.55	25.92					
1680	18.04	7.64	10.40	25.69					
1690	17.85	7.60	10.25	25.45					
1700	17.67	7.56	10.11	25.23					
1710	17.49	7.52	9.96	25.01					

FIGURE 1 CADPAT™ (TW)

COULEUR: CANADIAN AVERAGE GREEN

FIGURE 1 DCamC^{MC} (RBT)

COULEUR: VERT CANADIEN MOYEN

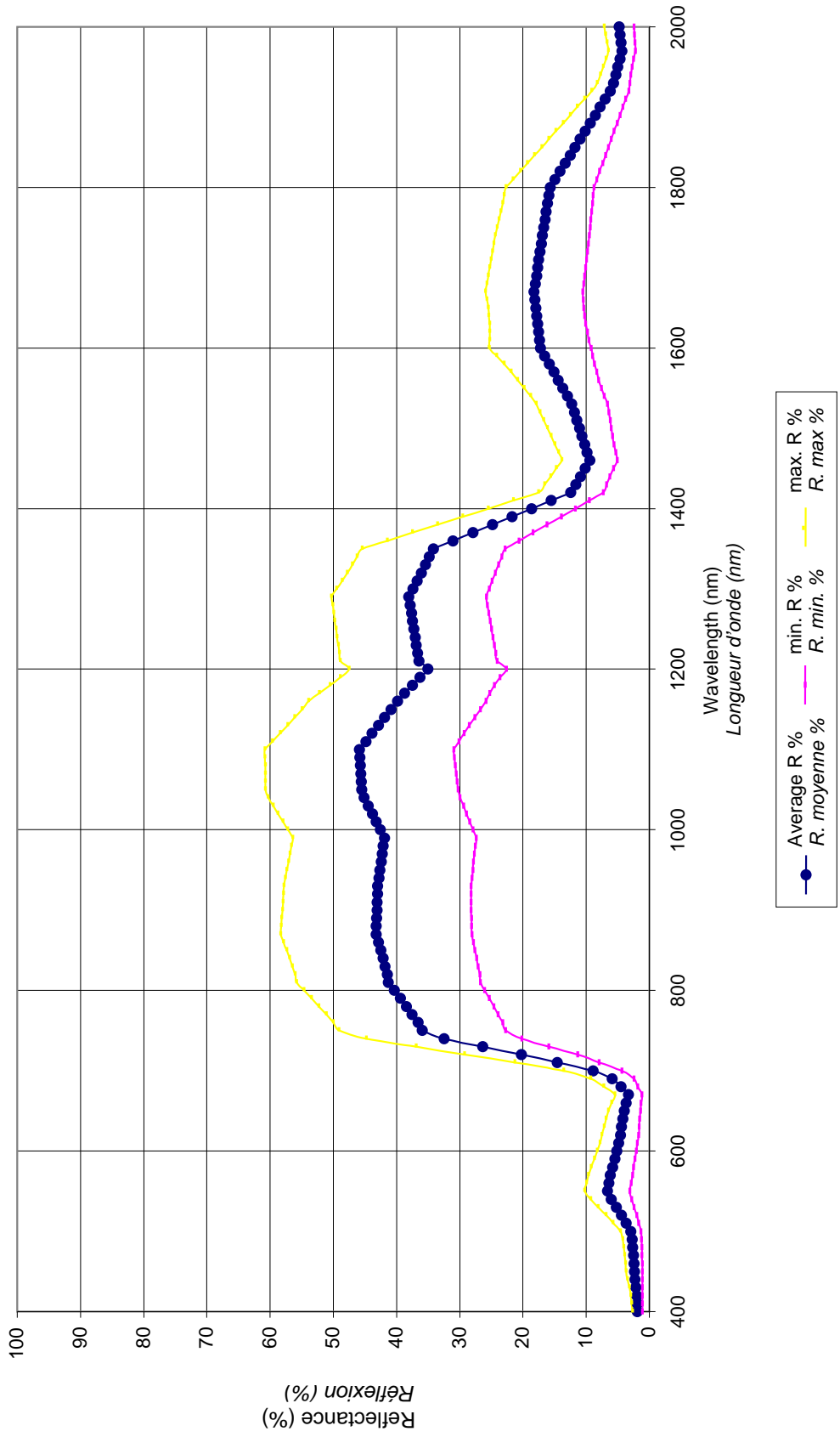


TABLE II CADPAT™ REQUIREMENTS
LIGHT GREEN

SPECIFICATIONS / SPÉCIFICATIONS:			
	x	y	0,3614
	y%		-0,4339
CIE 1931/CIE LAB 1976	DW,nm	S%	13,10
ILLUMINANT C, 2 deg.	L*	a*	566,70
specular component included	b*		44,70
composante spéculaire incluse			42,90
			-13,40
			26,80

TABLEAU II EXIGENCES RELATIVES AUDCamC^{MC}
VERT PÂLE

Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Refl. Min Refl. min. %	Refl. Max Refl. max. %	Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Refl. Min Refl. min. %	Refl. Max Refl. max. %
400	4.37				840	52.68	18.50	34.18	71.18
410	4.30				850	53.12	18.62	34.50	71.74
420	4.24				860	53.37	18.75	34.81	72.32
430	4.18				870	54.00	18.89	35.12	72.89
440	4.12				880	54.00	18.81	35.19	72.80
450	4.13				890	53.95	18.74	35.21	72.69
460	4.47				900	53.89	18.68	35.21	72.57
470	4.82				910	53.84	18.62	35.22	72.46
480	6.82				920	53.79	18.57	35.22	72.36
490	9.53				930	53.75	18.53	35.22	72.27
500	12.22				940	53.53	18.45	35.08	71.97
510	14.86				950	53.30	18.37	34.93	71.67
520	17.51				960	53.06	18.30	34.76	71.36
530	17.24				970	52.84	18.25	34.60	71.09
540	15.74				980	52.61	18.20	34.41	70.80
550	14.23				990	52.39	18.16	34.24	70.55
560	12.69				1000	53.20	18.31	34.89	71.51
570	11.15				1010	54.01	18.47	35.54	72.47
580	10.50				1020	54.82	18.63	36.19	73.45
590	10.24				1030	55.56	18.80	36.76	74.36
600	10.34				1040	56.43	18.97	37.46	75.41
610	11.91				1050	56.89	19.02	37.87	75.91
620	13.49				1060	56.98	18.94	38.04	75.92
630	15.05				1070	57.07	18.87	38.20	75.94
640	16.61				1080	57.16	18.80	38.36	75.95
650	17.94				1090	57.26	18.73	38.52	75.99
660	18.70				1100	57.35	18.67	38.67	76.02
670	19.47				1110	56.10	18.42	37.68	74.52
680	18.68				1120	54.84	18.19	36.65	73.03
690	17.71				1130	53.59	17.98	35.61	71.57
700	17.46				1140	52.33	17.80	34.54	70.13
710	18.30				1150	51.08	17.64	33.45	68.72
720	19.14				1160	49.83	17.50	32.33	67.33
730	32.97	13.10	19.86	46.07	1170	48.40	16.83	31.57	65.23
740	40.59	15.38	25.21	55.98	1180	46.87	16.26	30.61	63.13
750	44.94	16.50	28.43	61.44	1190	45.33	15.83	29.51	61.16
760	45.73	16.76	28.98	62.49	1200	43.80	15.54	28.26	59.34
770	46.90	17.02	29.88	63.92	1210	45.60	15.50	30.10	61.10
780	48.07	17.29	30.78	65.36	1220	45.85	15.46	30.38	61.31
790	49.25	17.58	31.67	66.82	1230	46.09	15.43	30.66	61.52
800	50.41	17.87	32.55	68.28	1240	46.34	15.41	30.93	61.75
810	51.60	18.17	33.43	69.77	1250	46.58	15.38	31.20	61.96
820	51.80	18.25	33.54	70.05	1260	46.83	15.36	31.47	62.18
830	52.24	18.37	33.87	70.61	1270	47.07	15.33	31.74	62.40

TABLE II CADPAT™ REQUIREMENTS
LIGHT GREEN (cont.)

TABLEAU II EXIGENCES RELATIVES AU DCamC^{MC}
VERT PÂLE (suite)

Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Refl. Min Réfl. min. %	Refl. Max Réfl. max. %	Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Refl. Min Réfl. min. %	Refl. Max Réfl. max. %
1280	47.32	15.32	32.00	62.63	1720	21.62	9.36	12.26	30.98
1290	47.56	15.30	32.26	62.86	1730	21.39	9.32	12.07	30.70
1300	46.76	15.06	31.70	61.82	1740	21.15	9.28	11.87	30.43
1310	45.94	14.84	31.10	60.78	1750	20.91	9.18	11.73	30.08
1320	45.12	14.64	30.48	59.76	1760	20.66	9.08	11.58	29.73
1330	44.31	14.46	29.85	58.77	1770	20.41	8.98	11.43	29.39
1340	43.50	14.30	29.20	57.79	1780	20.15	8.88	11.27	29.04
1350	42.69	14.16	28.53	56.84	1790	19.91	8.79	11.11	28.70
1360	38.80	13.05	25.76	51.85	1800	19.65	8.70	10.95	28.36
1370	34.92	11.94	22.98	46.86	1810	18.66	8.28	10.38	26.94
1380	31.04	10.83	20.21	41.87	1820	17.67	7.86	9.81	25.53
1390	27.16	9.72	17.44	36.88	1830	16.68	7.44	9.23	24.12
1400	23.28	8.61	14.66	31.89	1840	15.68	7.02	8.66	22.70
1410	19.39	7.51	11.89	26.90	1850	14.69	6.60	8.09	21.29
1420	15.51	6.40	9.11	21.91	1860	13.70	6.18	7.52	19.88
1430	14.58	6.13	8.45	20.71	1870	12.70	5.76	6.94	18.46
1440	13.66	5.88	7.79	19.54	1880	11.71	5.34	6.37	17.05
1450	12.74	5.65	7.09	18.38	1890	10.72	4.92	5.80	15.64
1460	11.82	5.44	6.38	17.26	1900	9.73	4.50	5.23	14.23
1470	12.32	5.65	6.67	17.97	1910	8.73	4.08	4.65	12.81
1480	12.82	5.87	6.95	18.69	1920	7.74	3.66	4.08	11.40
1490	13.33	6.09	7.24	19.42	1930	7.07	3.22	3.84	10.29
1500	13.82	6.32	7.51	20.14	1940	6.65	3.01	3.64	9.66
1510	14.33	6.55	7.78	20.87	1950	6.23	2.85	3.39	9.08
1520	14.83	6.78	8.05	21.61	1960	5.83	2.74	3.10	8.57
1530	15.34	7.01	8.32	22.35	1970	5.42	2.69	2.72	8.11
1540	16.23	7.28	8.95	23.51	1980	5.60	2.76	2.84	8.37
1550	17.11	7.62	9.49	24.73	1990	5.79	2.84	2.95	8.63
1560	18.01	8.02	9.99	26.03	2000	5.99	2.92	3.07	8.90
1570	18.90	8.47	10.42	27.37					
1580	19.79	8.97	10.82	28.75					
1590	20.68	9.50	11.18	30.19					
1600	21.58	10.07	11.51	31.64					
1610	21.75	9.83	11.92	31.58					
1620	21.92	9.65	12.28	31.57					
1630	22.09	9.52	12.58	31.61					
1640	22.27	9.45	12.82	31.72					
1650	22.44	9.44	13.00	31.89					
1660	22.61	9.49	13.12	32.10					
1670	22.79	9.61	13.18	32.39					
1680	22.56	9.55	13.00	32.11					
1690	22.32	9.5	12.82	31.81					
1700	22.09	9.45	12.64	31.54					
1710	21.86	9.40	12.45	31.26					

FIGURE 2 CADPAT™ (TW)

COLOUR: LIGHT GREEN

FIGURE 2 DCamC^{MC} (RBT)

COULEUR: VERT PÂLE

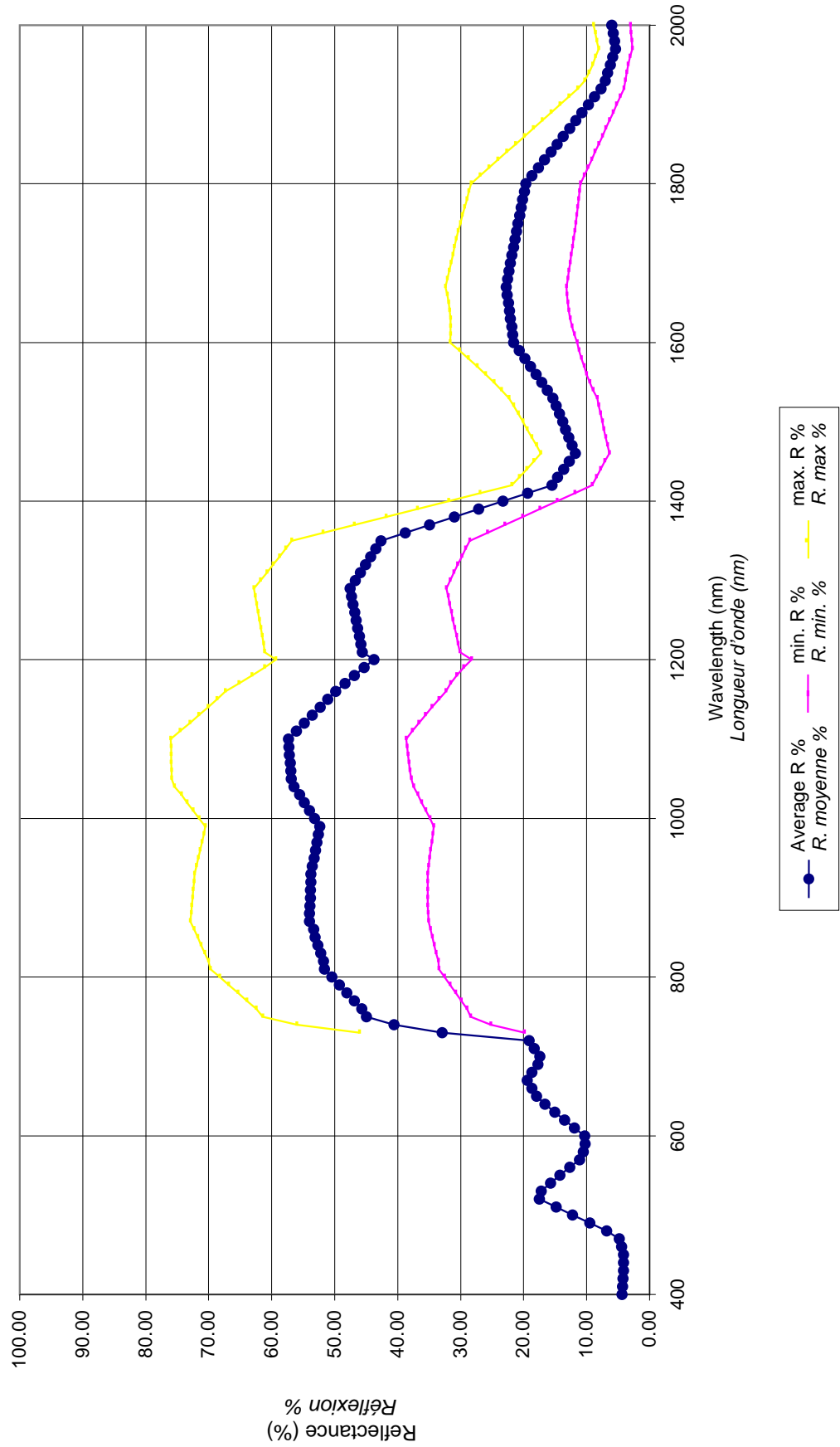


TABLE III CADPAT™ REQUIREMENTS
BROWN

SPECIFICATIONS / SPÉCIFICATIONS:			
CIE 1931/CIE LAB 1936 ILLUMINANT C, 2 deg. specular component included <i>composante spéculaire incluse</i>	x	y	0.3802
	Y%		0.3649
	DW, nm		9.30
	S%		583.00
	L*		31.60
	a*		36.50
	b*		4.60
			14.50

TABLEAU III EXIGENCES RELATIVES AUDCamC^{MC}
BRUN

Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refl. Min Réfl. min.	Refl. Max Réfl. max.	Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refl. Min Réfl. min.	Refl. Max Réfl. max.
nm	%	%	%	%	nm	%	%	%	%
400	5.26				840	52.68	18.50	34.18	71.18
410	5.19				850	53.12	18.62	34.50	71.74
420					860	53.57	18.75	34.81	72.32
430	5.04				870	54.00	18.89	35.12	72.89
440	4.97				880	54.00	18.81	35.19	72.80
450	4.94				890	53.95	18.74	35.21	72.89
460					900	53.89	18.68	35.21	72.57
470	5.31				910	53.84	18.62	35.22	72.46
480	6.34				920	53.79	18.57	35.22	72.36
490	7.72				930	53.75	18.53	35.22	72.27
500	8.90				940	53.53	18.45	35.08	71.97
510	9.30				950	53.30	18.37	34.93	71.67
520	9.71				960	53.06	18.30	34.76	71.36
530	9.29				970	52.84	18.25	34.60	71.09
540	8.51				980	52.61	18.20	34.41	70.80
550	7.83				990	52.39	18.16	34.24	70.55
560	7.50				1000	53.20	18.31	34.89	71.51
570	7.16				1010	54.01	18.47	35.54	72.47
580	8.44				1020	54.82	18.63	36.19	73.45
590	10.40				1030	55.56	18.80	36.76	74.36
600	12.06				1040	56.43	18.97	37.46	75.41
610	12.51				1050	56.89	19.02	37.87	75.91
620	12.95				1060	56.98	18.94	38.04	75.92
630	14.20				1070	57.07	18.87	38.20	75.94
640	15.65				1080	57.16	18.80	38.36	75.95
650	16.89				1090	57.26	18.73	38.52	75.99
660	17.62				1100	57.35	18.67	38.67	76.02
670	18.36				1110	56.10	18.42	37.68	74.52
680	17.59				1120	54.84	18.19	36.65	73.03
690	16.65				1130	53.59	17.98	35.61	71.57
700	16.44				1140	52.33	17.80	34.54	70.13
710	17.29				1150	51.08	17.64	33.45	68.72
720	25.34	11.17	14.18	36.51	1160	49.83	17.50	32.33	67.33
730	32.97	13.10	19.86	46.07	1170	48.40	16.83	31.57	65.23
740	40.59	15.38	25.21	55.96	1180	46.87	16.26	30.61	63.13
750	44.94	16.50	28.43	61.44	1190	45.33	15.83	29.51	61.16
760	45.73	16.76	28.98	62.49	1200	43.80	15.54	28.26	59.34
770	46.90	17.02	29.88	63.92	1210	45.60	15.50	30.10	61.10
780	48.07	17.29	30.78	65.36	1220	45.85	15.46	30.38	61.31
790	49.25	17.58	31.67	66.82	1230	46.09	15.43	30.66	61.52
800	50.41	17.87	32.55	68.28	1240	46.34	15.41	30.93	61.75
810	51.60	18.17	33.43	69.77	1250	46.58	15.38	31.20	61.96
820	51.80	18.25	33.54	70.05	1260	46.83	15.36	31.47	62.18
830	52.24	18.37	33.87	70.61	1270	47.07	15.33	31.74	62.40

TABLE III CADPAT™ REQUIREMENTS
BROWN (cont.)

TABLEAU III EXIGENCES RELATIVES AU DCamC^{MC}
BRUN (suite)

Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refl. Min Réfl. min.	Refl. Max Réfl. max.		Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refl. Min Réfl. min.	Refl. Max Réfl. max.
nm.	%	%	%	%		nm.	%	%	%	%
1280	47.32	15.32	32.00	62.63		1720	21.62	9.36	12.26	30.98
1290	47.56	15.30	32.26	62.86		1730	21.39	9.32	12.07	30.70
1300	46.76	15.06	31.70	61.82		1740	21.15	9.28	11.87	30.43
1310	45.94	14.84	31.10	60.78		1750	20.91	9.18	11.73	30.08
1320	45.12	14.64	30.48	59.76		1760	20.66	9.08	11.58	29.73
1330	44.31	14.46	29.85	58.77		1770	20.41	8.98	11.43	29.39
1340	43.50	14.30	29.20	57.79		1780	20.15	8.88	11.27	29.04
1350	42.69	14.16	28.53	56.84		1790	19.91	8.79	11.11	28.70
1360	38.80	13.05	25.76	51.85		1800	19.65	8.70	10.95	28.36
1370	34.92	11.94	22.98	46.86		1810	18.66	8.28	10.38	26.94
1380	31.04	10.83	20.21	41.87		1820	17.67	7.86	9.81	25.53
1390	27.16	9.72	17.44	36.88		1830	16.68	7.44	9.23	24.12
1400	23.28	8.61	14.66	31.89		1840	15.68	7.02	8.66	22.70
1410	19.39	7.51	11.89	26.90		1850	14.69	6.60	8.09	21.29
1420	15.51	6.40	9.11	21.91		1860	13.70	6.18	7.52	19.88
1430	14.58	6.13	8.45	20.71		1870	12.70	5.76	6.94	18.46
1440	13.66	5.88	7.79	19.54		1880	11.71	5.34	6.37	17.05
1450	12.74	5.65	7.09	18.38		1890	10.72	4.92	5.80	15.64
1460	11.82	5.44	6.38	17.26		1900	9.73	4.50	5.23	14.23
1470	12.32	5.65	6.67	17.97		1910	8.73	4.08	4.65	12.81
1480	12.82	5.87	6.95	18.69		1920	7.74	3.66	4.08	11.40
1490	13.33	6.09	7.24	19.42		1930	7.07	3.22	3.84	10.29
1500	13.82	6.32	7.51	20.14		1940	6.65	3.01	3.64	9.66
1510	14.33	6.55	7.78	20.87		1950	6.23	2.85	3.39	9.08
1520	14.83	6.78	8.05	21.61		1960	5.83	2.74	3.10	8.57
1530	15.34	7.01	8.32	22.35		1970	5.42	2.69	2.72	8.11
1540	16.23	7.28	8.95	23.51		1980	5.60	2.76	2.84	8.37
1550	17.11	7.62	9.49	24.73		1990	5.79	2.84	2.95	8.63
1560	18.01	8.02	9.99	26.03		2000	5.99	2.92	3.07	8.90
1570	18.90	8.47	10.42	27.37						
1580	19.79	8.97	10.82	28.75						
1590	20.68	9.50	11.18	30.19						
1600	21.58	10.07	11.51	31.64						
1610	21.75	9.83	11.92	31.58						
1620	21.92	9.65	12.28	31.57						
1630	22.09	9.52	12.58	31.61						
1640	22.27	9.45	12.82	31.72						
1650	22.44	9.44	13.00	31.89						
1660	22.61	9.49	13.12	32.10						
1670	22.79	9.61	13.18	32.39						
1680	22.56	9.55	13.00	32.11						
1690	22.32	9.50	12.82	31.81						
1700	22.09	9.45	12.64	31.54						
1710	21.86	9.40	12.45	31.26						

FIGURE 3 CADPAT™ (TW)

COULEUR: BROWN

FIGURE 3 DCamC^{MC} (RBT)

COULEUR: BRUN

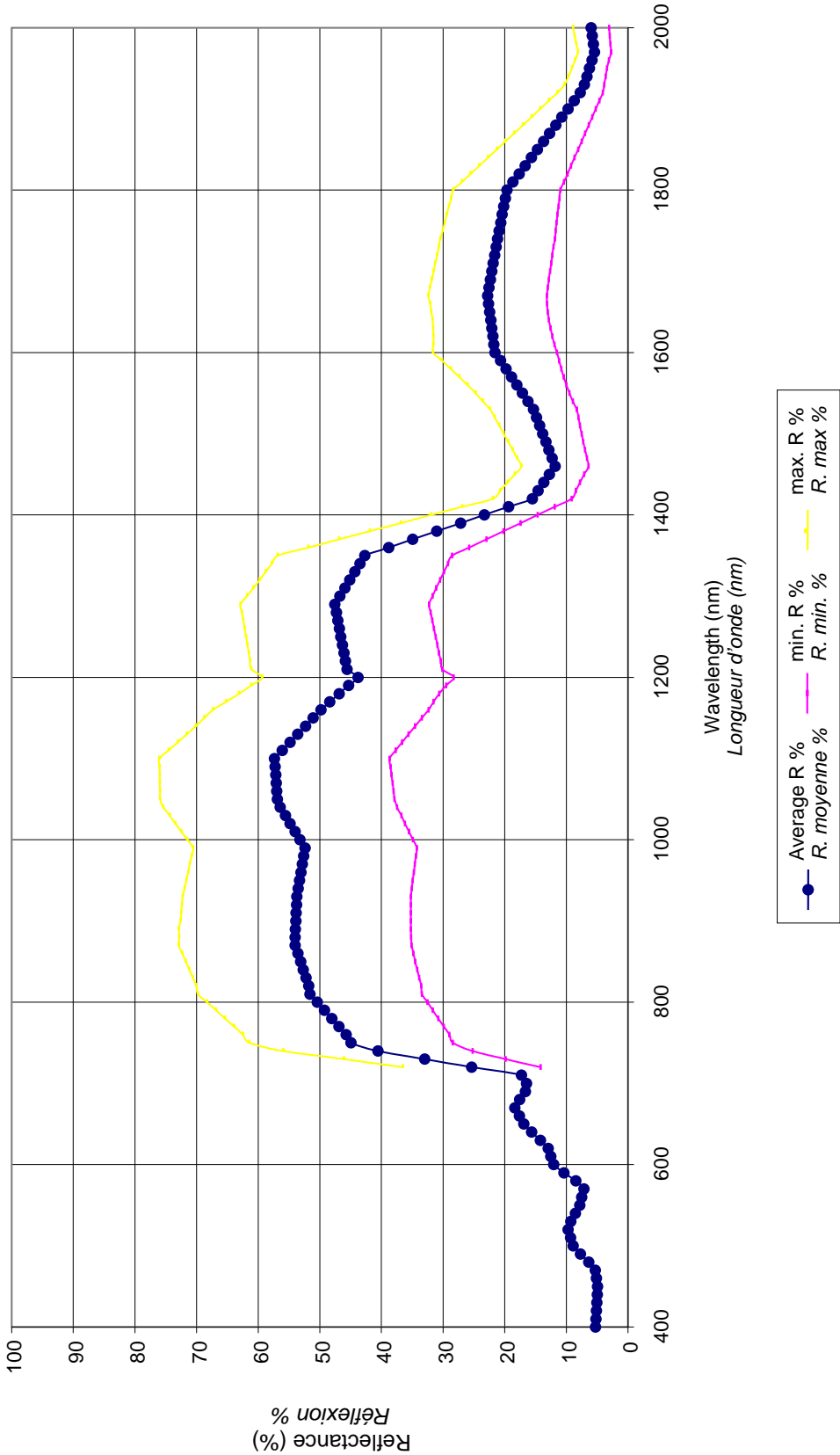
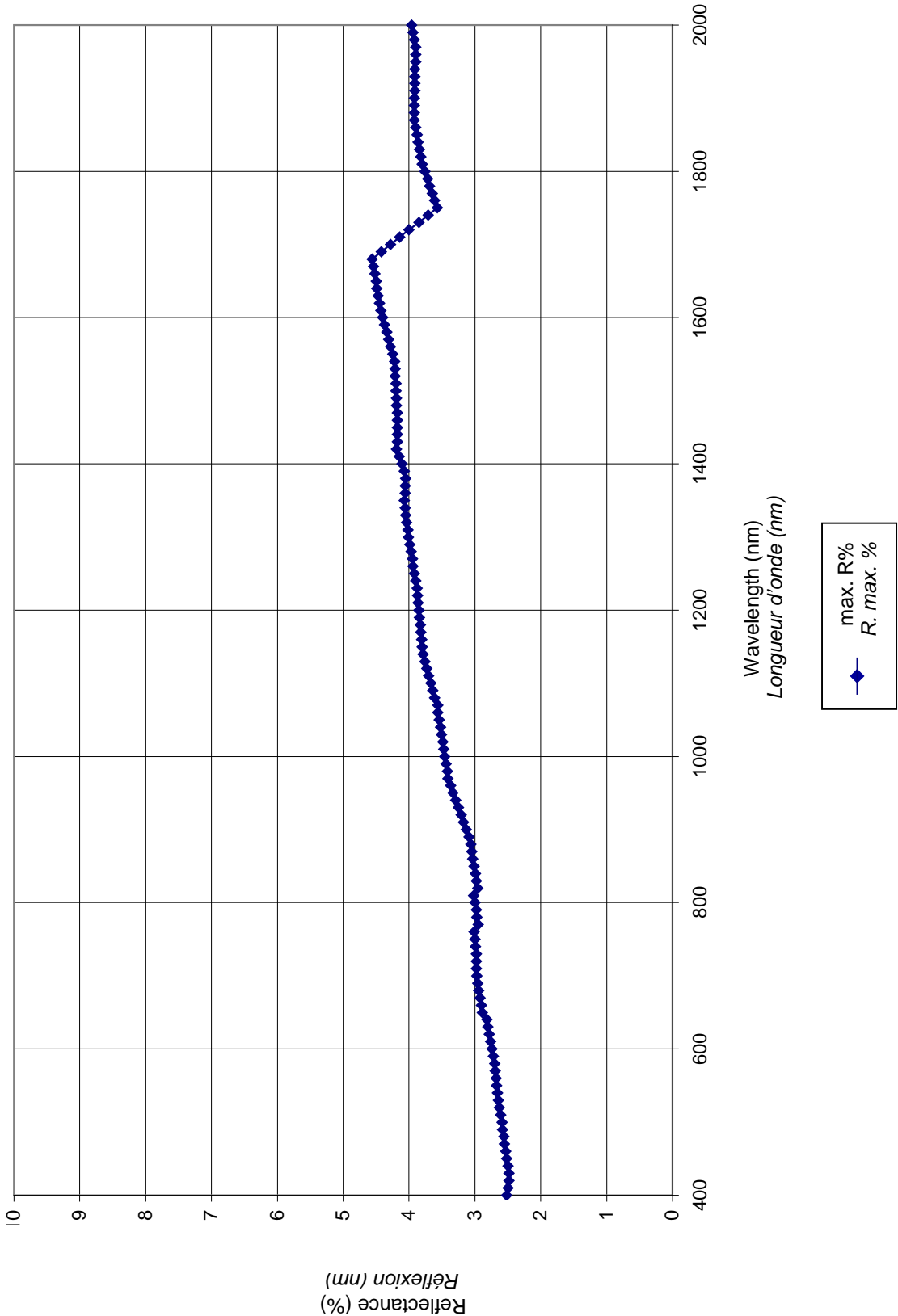


FIGURE 4 CADPAT™ (TW)

FIGURE 4 DCamC^{MC} (RBT)

COLOUR: BLACK

COULEUR: NOIR



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SPECIFICATION

FOR

**CLOTH, COATED, TAFFETA,
NYLON, POLYURETHANE**

SPÉCIFICATION

POUR

**TISSU, ENDUIT, TAFFETAS,
NYLON, POLYURÉTHANNE**

1. SCOPE

1.1 Scope. This specification covers the requirements for Cloth, Coated, Taffeta, Nylon, Polyurethane.

2. APPLICABLE DOCUMENTS

2.1 Government documents. Not applicable.

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

1. PORTÉE

1.1 Portée. La présente spécification vise les exigences pour Tissu, enduit, taffetas, nylon, polyuréthane.

2. DOCUMENTS APPLICABLES

2.1 Documents du gouvernement. Sans objet.

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.

American Association of Textile Chemists and Colorists

P.O. Box 12215
 Research Triangle Park, NC
 27709, USA
 Telephone: 919-549-3526
 Website: www.aatcc.org

CAN/CGSB-4.2 Textile Test Methods

Canadian General Standards Board
 Place du Portage III, 6B1
 11 Laurier Street
 Gatineau, Quebec K1A 1G6
 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>

2.3 Sealed patterns.

DCGEM 272-80
 Cloth, Coated, Nylon, Taffeta- Polyurethane, (Finish)
 NSN 8305-21-851-3887

DCGEM 1392-84
 Cloth, Coated, Nylon, Taffeta-Polyurethane, Black,
 NSN 8305-21-897-9058

DCGEM 1390-84
 Cloth, Coated, Nylon, Taffeta-Polyurethane, AF Blue
 NSN 8305-21-847-9057

2.4 Order of precedence.

2.4.1 In the event of any inconsistency in contract documents such as contract, specification and sealed patterns, the order of precedence must be contract, specification, and sealed pattern.

2.4.2 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.

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

3. REQUIREMENTS

3.1 Workmanship. The material covered by this specification must be free of imperfections or

American Association of Textile Chemists and Colorists

P.O. Box 12215
 Research Triangle Park, NC
 27709, ÉTATS-UNIS
 Téléphone: 919-549-3526
 Site Internet: www.aatcc.org

CAN/CGSB-4.2 Méthodes pour épreuves textiles

Office des normes générales du Canada
 Place du Portage III, 6B1
 11, rue Laurier
 Gatineau (Québec) K1A 1G6
 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-eng.html>

2.3 Modèles réglementaires.

DCGEM 272-80
 Tissu, enduit, taffetas, nylon, polyuréthane
 NSN 8305-21-851-3887

DCGEM 1392-84
 Tissu, enduit, taffetas, nylon, polyuréthane, noir,
 NSN 8305-21-897-9058

DCGEM 1390-84
 Tissu, enduit, taffetas, nylon, polyuréthane, Bleu
 Force Arianne
 NSN 8305-21-847-9057

2.4 Ordre de préséance.

2.4.1 En cas de divergence entre les documents contractuels, tels le contrat, la spécification et les modèles réglementaires, l'ordre de préséance doit être: le contrat, la spécification et les modèles réglementaires.

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

2.4.3 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. EXIGENCES

3.1 Qualité d'exécution. Le tissu visé par la

blemishes such as may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes must be considered defects when clearly visible at a normal inspection distance of approximately 1 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 must constitute the standard only in regard to any properties not 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 must be mutilated or cut.

3.3 Materials.

3.3.1 Base fabric. The base fabric must be of plain weave construction consisting of continuous filament nylon yarn in both warp and weft. When tested in accordance with the applicable test methods, the finished base fabric must comply with the requirements specified in Table I.

3.3.2 Coating. The woven textile shall be further processed by the application of a coating to the backside only of the goods. The polyurethane elastomer used shall be hydrolysis and mildew resistant. The resultant coating shall be uniform, and free from bubbles, pinholes, thin spots, delamination, or any other coating defects.

3.3.3 Finish. The coated cloth shall be given a durable water repellent finish to comply with the requirements of Table II. The finished coated cloth must comply with the requirements of Table II.

3.4 Colour. Colour must be as specified in the procurement documents. The colour required must match the applicable sealed pattern or numerical colour co-ordinates, whichever is specified. All visual colour matching to sealed patterns must be done in accordance with CAN/CGSB-4.2 No.41 Standard Light Sources for Colour Matching of Textiles. A colour match under north-sky daylight is the most important measurement. Metamerism must be no greater than that exhibited by the sealed pattern.

3.5 Length. Unless otherwise specified, the cloth must be delivered in lengths of approximately 100 metres with not more than two lengths per piece, the

présente spécification doit être exempt de défauts pouvant nuire à son aspect, sa qualité ou à sa tenue en service. À des fins d'inspection, sont considérés comme défauts ceux qui sont clairement visibles à une distance d'inspection normale d'environ un mètre sous un bon éclairage, de préférence la lumière du nord.

3.2 Modèles réglementaires. Un modèle réglementaire, lorsque disponible, sera fourni au soumissionnaire retenu. Le modèle réglementaire doit constituer la norme la norme uniquement en ce qui concerne les propriétés qui ne sont pas définies aux présentes. Nota – L'ordre de préséance (par. 2.4) doit être respecté. Les modèles réglementaires doivent être renvoyés au gouvernement et ne doivent en aucun cas être endommagés ni coupés.

3.3 Matériaux.

3.3.1 Tissu de base. Le tissu de base doit être de construction armure toile constitué de fils continus de filaments de nylon à la fois en chaîne et trame. Lors des essais conformément aux méthodes d'essai applicables, le tissu de base doit être conforme aux exigences spécifiées dans le tableau I.

3.3.2 Enduit. Le tissu de base doit être traité par l'application d'un enduit sur l'envers seulement. L'élastomère de polyuréthane utilisé doit être résistant à l'hydrolyse et à la moisissure. L'enduit qui en résulte doit être uniforme et exempt de bulles, de piqûres, d'endroits minces, de délaminage ou de tout autre défaut.

3.3.3 Fini. Le tissu enduit de polyuréthane doit recevoir un traitement hydrofuge durable conforme aux exigences du tableau II. Le tissu fini doit être conforme aux exigences prescrites au tableau II.

3.4 Couleur. La couleur doit être celle qui est précisée dans les documents d'achat. Elle doit correspondre au modèle réglementaire applicable ou aux couleurs numériques coordonnées, selon le cas. L'appariement des couleurs visibles avec les modèles réglementaires doit être conforme aux exigences de la norme CAN/CGSB-4.2 No 41, Sources normalisées de lumière pour l'appariement des couleurs des textiles. L'appariement des couleur à la lumière du nord est le principal critère. Le métamérisme ne doit pas dépasser celui du modèle réglementaire.

3.5 Longueur. Sauf indication contraire, le tissu doit être livré en longueurs d'environ 100 m avec au plus deux longueurs par pièce, dont la plus courte ne

shorter of which must be not less than 20 metres.

3.6 Piece marking. Each piece of cloth must have a label attached to the selvedge at one end. The label must be made of linen 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. QUALITY CONTROL / INSPECTION

4.1 The contractor is responsible for the performance of all inspection requirements as specified herein. Contractors may utilize their own or any other inspection facility acceptable to the Government or its designated representative. The Government reserves the right to perform any of the inspections specified herein, where such inspections are deemed necessary to ensure material and services conform to prescribed requirements. The contractor is responsible for ensuring that all material or services submitted to the Government for acceptance comply with all requirements of the contract.

5. PACKAGING

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

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- a) Title, number and date of this specification
- b) Type of cloth required

doit pas être inférieure à 20 m.

3.6 Marquage des pièces. Une étiquette doit être apposée sur la lisière à une extrémité de chaque pièce. L'étiquette doit être faite de toile de lin ou de 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. CONTRÔLE DE LA QUALITÉ / INSPECTION

4.1 Sauf indication contraire dans le contrat ou les documents d'achat, l'entrepreneur est tenu d'effectuer les inspections mentionnées dans la présente spécification. Il peut utiliser à cette fin son propre matériel d'inspection ou celui de tout autre établissement acceptable au gouvernement du Canada ou à son représentant désigné. Le gouvernement se réserve le droit d'effectuer les inspections mentionnées dans la présente spécification, lorsqu'elles sont nécessaires pour garantir que le matériel et les services sont conformes aux exigences prescrites. L'entrepreneur doit s'assurer que le matériel et les services proposés au gouvernement sont conformes aux exigences du contrat.

5. CONDITIONNEMENT

5.1 Conditionnement et emballage. Sauf indication contraire, le conditionnement, l'emballage, la livraison et le marquage des contenants d'expédition doivent être conformes aux modalités du contrat.

6. REMARQUES

6.1 Données de commande. Les documents d'achat doivent préciser:

- a) Titre, numéro et date de la présente

- c) Colour required
- d) Packaging and marking of shipping containers
- e) The Design Authority

6.2 Definition of terms.

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

6.2.2 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.

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

6.3 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.

7. ENVIRONMENT, HEALTH, and SAFETY

7.1 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.

7.1.1 Manufacturing processes with minimal environmental impact are encouraged.

7.1.2 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.

- spécification
- b) Type de tissu requis
- c) Couleur requise
- d) Conditionnement et marquage des contenants d'expédition
- e) Autorité responsable de la conception

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. Sauf indication contraire dans le contrat, il s'agit de la Direction, Administration du programme de l'équipement du soldat (DAPES).

6.2.2 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.

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

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

7.0 ENVIRONNEMENT, SANTÉ ET SÉCURITÉ

7.1 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.

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

7.1.2 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.

7.2 Bien que la certification ne est pas une

7.2 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 III products.

7.3 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.

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 III.

7.3 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: Requirements for Base Cloth

Property	Test Method	Minimum Acceptable	Maximum Acceptable
Mass (g/m ²)	CAN/CGSB-4.2 No. 5.1	54	81
Fabric Count (yarns per cm)	CAN/CGSB-4.2 No. 6	Warp: 39 Weft: 31	
Breaking Strength (N)	CAN/CGSB-4.2 No. 9.1	Warp: 625 Weft: 490	
Colourfastness to Crocking	CAN/CGSB-4.2 No. 22 (Tests 6.1 & 6.2)		Colour change: Dry: GS 4 Wet: GS 4 Staining: Dry: GS 4 Wet: GS 4
Colourfastness to Light	AATCC 16.3 (Option 3)	Sample GS 4 after 40 AATCC Fading Units	
Colourfastness to Dry Cleaning	CAN/CGSB-4.2 No. 29.1		Colour change: GS 4
Non-Fibrous Materials	CAN/CGSB-4.2 No. 15 Note 1		2%

Note 1: CAN/CGSB-4.2 Method 15 paragraph 7.4 solvent extraction one of petroleum ether, tetrachloroethylene or hexane shall be used. Also, omit para 7.7 and 7.8.

Table II: Requirements for Finished Coated Cloth

Property	Test Method	Minimum Acceptable	Maximum Acceptable
Mass (g/m ²)	CAN/CGSB-4.2 No. 5.1	71	98
Width (cm) (excluding selvedge)	CAN/CGSB-4.2 No. 4.1	147	155
Tearing Strength (N)	CAN/CGSB-4.2 No. 12.1	Warp: 9 Weft: 9	
Breaking Strength (N)	CAN/CGSB-4.2 No. 9.1	Warp: 535 Weft: 445	
Water Resistance	CAN/CGSB-4.2 No. 26.3	No leakage at 90 cm	

Tableau I : Exigences relatives au tissu de base

Propriété	Méthode d'essai	Exigences minimales	Exigences maximales
Masse (g/m ²)	CAN/CGSB-4.2 No. 5.1	54	81
Contexture (fils par cm)	CAN/CGSB-4.2 No. 6	Chaîne: 39 Trame: 31	
Résistance à la rupture (N)	CAN/CGSB-4.2 No. 9.1	Chaîne: 625 Trame: 490	
Solidité de la couleur au frottement (dégorgement)	CAN/CGSB-4.2 No. 22 (essais 6.1 & 6.2)		Changement de couleur: sec: échelle de gris 4 mouillé: échelle de gris 4 Tachage: sec: échelle de gris 4 mouillé: échelle de gris 4
Solidité de la teinture à la lumière	AATCC 16.3 (Option 3)	Échantillon - échelle de gris 4 après 40 unités de décoloration de l'AATCC	
Solidité de la couleur au solvant de nettoyage à sec	CAN/CGSB-4.2 No. 29.1		Changement de couleur: échelle de gris 4
Matières non fibreuses	CAN/CGSB-4.2 No. 15 Note 1		2%

Note 1: CAN/CGSB-4.2 Méthode 15, paragraphe 7.4, Élimination de matières non fibreuses par solvant. Un éther de pétrole, le tétrachloroéthylène ou l'hexane, doit être utilisé. Omettre les paragraphes 7.7 et 7.8.

Tableau II : Exigences relatives au tissu fini (enduit)

Propriété	Méthode d'essai	Exigences minimales	Exigences maximales
Masse (g/m ²)	CAN/CGSB-4.2 No. 5.1	71	98
Largeur (cm) (sauf lisières)	CAN/CGSB-4.2 No. 4.1	147	155
Résistance à la déchirement (N)	CAN/CGSB-4.2 No. 12.1*	Chaîne: 9 Trame: 9	
Résistance à la rupture (N)	CAN/CGSB-4.2 No. 9.1	Chaîne: 625 Trame: 490	
Résistance à l'eau	CAN/CGSB-4 No. 2.3*	Aucune fuite à 90 cm	



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 des marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originalement doivent continuer de s'appliquer.

D-80-001-028/SF-001

2005-11-17

SUPERSEDES/REPLACE

D-80-001-028/SF-001

1986-08-29

SPECIFICATION

FOR

CORD, PLAITED, SPUN

SYNTHETIC FIBRE

1. SCOPE

1.1 Scope. This specification covers the requirements for two types of cord, plaited, spun synthetic fibre.

1.2 Classification of types. The cord covered by this specification shall be of the following types:

Type I Cord, Plaited, Spun Synthetic Fibre, Lightweight

NSN 4020-21-882-9701, Canadian Average Green

NSN 4020-21-882-9680, White

NSN 4020-21-882-9715, Black

NSN 4020-20-002-3433, Light Sand

Type II Cord, Plaited, Spun Synthetic Fibre, Heavyweight

NSN 4020-21-874-2586, Canadian Average Green

NSN 4020-21-106-1391, White

SPÉCIFICATION

POUR LE

CORDAGE TRESSÉ DE FIBRES

SYNTHÉTIQUES FILÉES

1. PORTÉE

1.1 Portée. La présente spécification dresse les exigences de deux types de cordages tressés de fibres synthétiques filées.

1.2 Classification des types. La présente spécification concerne les types de cordages suivants :

Type I Cordage tressé de fibres synthétiques filées, léger

NNO 4020-21-882-9701, Vert canadien moyen

NNO 4020-21-882-9680, Blanc

NNO 4020-21-882-9715, Noir

NNO 4020-20-002-3433, Sable pâle

Type II Cordage tressé de fibres synthétiques filées, lourd

NNO 4020-21-874-2586, Vert canadien moyen

NNO 4020-21-106-1391, Blanc

OPI/BPR DSSPM/DAPES 2-11

Issued on Authority of the Chief of the Defence Staff
Publiée avec l'autorisation du Chef d'état-major de la Défense

2. APPLICABLE DOCUMENTS

2.1 Government documents

D-LM-008-002/SF-001 Specification for Marking
for Storage and Shipment

2.2 Other publications. The following publication forms part of this specification to the extent specified herein. Unless otherwise specified, the issue or amendment of the publication in effect on the date of the invitation to tender shall apply. Source is as shown.

CAN/CGSB-4.2 Textile Test Methods

**Canadian General Standards Board
Sales Unit,
11 Laurier Street
Hull, Quebec K1A 1G6**

2.3 Sealed patterns

DCGEM 266-82 Cord, Plaited, Spun Synthetic
Fibre, Lightweight

DCGEM 283-93 Cord, Plaited, Spun Synthetic
Fibre, Heavyweight

DSSPM 281-01 Cloth, Twist, Nylon/Cotton,
170 g/m². For colour Canadian
Average Green only

DSSPM 263-02 Cloth, Twist, Nylon/Cotton,
170 g/m², CADPAT™ (AR). For
colour Light Sand only (Light
Sand is the predominant, lightest
colour among the three colours)

3. REQUIREMENTS

3.1 Workmanship. The material covered by this specification shall be free of imperfections or blemishes such as may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes shall 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. Sealed patterns, when furnished, shall constitute the standard only in regard to any properties not defined in this specification.

2. DOCUMENTS PERTINENTS

2.1 Documents officiels

D-LM-008-002/SF-001 Spécification pour
marquage des articles à
entreposer ou à expédier

2.2 Autres publications. La publication suivante fait partie de la spécification dans le contexte précisé aux présentes. Sauf indication contraire, la version ou la modification de la publication en vigueur lors de l'appel d'offres s'applique. La source est tel qu'il est indiqué.

CAN/ONGC-4.2 Méthodes pour épreuves
textiles

**Office des normes générales du Canada
Division des ventes,
11, rue Laurier
Hull (Québec) K1A 1G6**

2.3 Modèles réglementaires

DFGM 266-82 Cordage tressé de fibres
synthétiques filées, léger

DFGM 283-93 Cordage tressé de fibres
synthétiques filées, lourd

DAPES 281-01 Tissu à torsion de nylon ou de
coton, 170 g/m². Applicable
seulement pour la couleur vert
moyen canadien

DAPES 263-02 Tissu à torsion de nylon ou de
coton, 170 g/m², DCamC^{MC} (RA).
Applicable seulement pour la
couleur sable pâle (le sable pâle
est la couleur la plus pâle des
trois qui domine)

3. EXIGENCES

3.1 Main-d'œuvre. Le matériel visé par la présente spécification doit être exempt d'imperfections ou de défauts qui peuvent compromettre son apparence ou sa fonctionnalité. Aux fins de l'inspection, les imperfections et les défauts seront considérés des défauts s'ils sont nettement visibles à une distance normale d'inspection d'environ un mètre sous de bonnes conditions d'éclairage, de préférence un éclairage provenant du nord.

3.2 Modèles réglementaires. Les modèles réglementaires, lorsque fournis, ne doivent servir de norme seulement pour les propriétés non définies de la présente spécification.

3.3 Preproduction. When specified in the contract, preproduction samples shall be a requirement of this specification. Preproduction samples shall be completely representative of the final product, being made from parts and materials as specified and by equipment and processes which will be used in quantity production.

3.4 Yarns. Single yarns or 2-ply yarns shall be spun from staple nylon or polyester for both sheath and core for both Type I and Type II cords.

3.5 Construction and physical requirements of finished cord. When tested in accordance with the denoted test methods of CAN/CGSB-4.2 the following shall apply:

- (a) **Type I.** Finished cord shall comply with the requirements of Table 1.
- (b) **Type II.** Finished cord shall comply with the requirements of Table 2.

3.6 Colour. Colour shall be specified in the invitation to tender. All colour matching to sealed patterns shall be done in accordance with CAN/CGSB-4.2 No. 41 - Standard Light Sources for Colour Matching of Textiles. A colour match under North-sky daylight is the most important measurement.

3.7 Finish. Finish shall be as depicted by the applicable sealed pattern.

3.8 Length. Unless otherwise specified, the cord shall be delivered on tubes or spools of approximately 250 metres with no more than two lengths per tube or spool, the shorter of which shall be not less than 10 metres. A tolerance of -5% to +10% will be allowed.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise stipulated in the contract, it shall be the contractor's responsibility to satisfy the Quality Assurance Authority that the material and services being supplied conform to this specification. This may be accomplished by performing the tests specified herein or by demonstrating to the satisfaction of the Quality Assurance Authority that manufacturing processes and techniques are controlled whereby

3.3 Préfabrication. Les échantillons de préfabrication représentent une exigence de la présente spécification, si le présent contrat le précise. Les échantillons de préfabrication doivent, en tous points, reproduire le produit final, être fabriqués de pièces et matériaux tels que précisés et avec l'équipement et les procédés qui serviront à la fabrication de série.

3.4 Fils. Les fils simples ou les fils à deux brins, qui comprennent l'écorce et le noyau des cordages de type I et de type II, doivent être filés de fibres de nylon ou de polyester.

3.5 Exigences physiques et de fabrication des cordages finis. S'ils sont testés selon les méthodes d'essai indiquées à la norme CAN/ONGC-4.2, les exigences suivantes s'appliquent :

- (a) **Type I.** Le cordage fini doit être conforme aux exigences du tableau 1.
- (b) **Type II.** Le cordage fini doit être conforme aux exigences du tableau 2.

3.6 Couleur. La couleur sera précisée dans l'appel d'offres. L'appariement des couleurs aux modèles réglementaires sera fait selon la norme CAN/ONGC-4.2 n° 41 – Sources normalisées de lumière pour l'appariement des couleurs des textiles. La mesure la plus importante est l'appariement de la couleur à la lumière du jour provenant du nord.

3.7 Finition. La finition sera telle que présentée par le modèle réglementaire pertinent.

3.8 Longueur. Sauf indication contraire, le cordage doit être livré sur des tubes ou des canettes d'environ 250 mètres avec deux longueurs ou moins par tube ou canette, la plus courte ne mesurant pas moins de 10 mètres. Une tolérance de -5 % ou +10 % sera admise.

4. DISPOSITIONS DE L'ASSURANCE DE LA QUALITÉ

4.1 Autorité responsable de l'inspection. Sauf indication contraire dans le contrat, l'entrepreneur a la responsabilité de garantir à l'autorité de l'assurance de la qualité que le matériel et les services prévus sont conformes à la présente spécification. Il s'en assure par l'exécution des épreuves précisées aux présentes ou en démontrant à la satisfaction de l'autorité de l'assurance de la qualité qu'un contrôle de la qualité visant les

conformity to this specification is assured. The contractor may utilize his own facilities or any commercial testing establishment acceptable to the Quality Assurance Authority.

4.1.1 The Quality Assurance Authority reserves the right to perform any inspections considered necessary to ensure that the material and services conform to the specified requirements.

5. PACKAGING

5.1 **Marking.** Each spool or tube shall be suitably marked with the following information:

- (a) Contractor's identification.
- (b) Length of spool.
- (c) Nomenclature.
- (d) Colour.
- (e) Specification number.
- (f) Month and year of contract.
- (g) NATO Stock Number.

5.2 **Packaging and packing.** Packaging, packing and marking of shipping containers shall be as specified in the invitation to tender or in the contract.

6. NOTES

6.1 **Ordering data.** Procurement documents should specify:

- (a) Title, number and date of this specification.
- (b) Type of cord required (refer to paragraph 1.2).
- (c) Preproduction requirements (refer to paragraph 3.3).
- (d) Colour required (refer to paragraph 3.6).
- (e) Packing and marking of shipping containers (refer to paragraph 5.2).
- (f) Design Authority.
- (g) Quality Assurance Authority.

processus et les techniques de fabrication assure la conformité à la présente spécification. L'entrepreneur peut se servir de ses propres installations ou de toute autre installation d'essai du secteur commercial acceptable à l'autorité de l'assurance de la qualité.

4.1.1 L'autorité de l'assurance de la qualité se réserve le droit d'effectuer des inspections jugées nécessaires afin de s'assurer que le matériel et les services sont conformes aux exigences précisées.

5. EMBALLAGE

5.1 **Marquage.** Chaque canette ou tube doit être bien identifié à l'aide de l'information suivante :

- (a) L'identité de l'entrepreneur.
- (b) La longueur de la canette.
- (c) La nomenclature.
- (d) La couleur.
- (e) Le numéro de la spécification.
- (f) Le mois et l'année du contrat.
- (g) Le numéro de nomenclature de l'OTAN.

5.2 **Emballage et conditionnement.** L'emballage, le conditionnement et le marquage des conteneurs d'expédition doivent être tels que précisés dans l'appel d'offres ou le contrat.

6. REMARQUES

6.1 **Renseignements sur les demandes.** Les documents d'approvisionnement doivent préciser :

- (a) Le titre, le numéro et la date de la présente spécification.
- (b) Le type de cordage requis (se reporter au paragraphe 1.2).
- (c) Les exigences sur la préfabrication (se reporter au paragraphe 3.3).
- (d) Les exigences sur les couleurs (se reporter au paragraphe 3.6).
- (e) Le conditionnement et le marquage des conteneurs d'expédition (se reporter au paragraphe 5.2).
- (f) Le responsable de la conception.
- (g) L'autorité de l'assurance de la qualité.

6.2 Order of precedence

6.2.1 In the event of any inconsistency in contract documents such as contract, specification and sealed patterns, the order of precedence shall be contract, specification, and sealed pattern.

6.2.2 In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

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

6.3 **Design Authority.** The Design Authority is the Government agency responsible for technical aspects of design and changes to design. Unless otherwise specified, the Design Authority is the Directorate of Soldier Systems Program Management (DSSPM).

6.4 **Quality Assurance Authority.** The Quality Assurance Authority is the Government appointed agency responsible for ensuring that the material and services supplied by the contractor conform to specified requirements. The Quality Assurance Authority will be as stipulated in the contract.

6.5 Definition of terms

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

6.5.2 **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.

6.6 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.

6.2 Ordre de préséance

6.2.1 Si une incompatibilité se présente dans les documents contractuels, tel que le contrat, la spécification et les modèles réglementaires, le contrat, la spécification et le modèle réglementaire auront préséance dans l'ordre cité.

6.2.2 Si un conflit existe entre le texte de la présente spécification et les références qui sont citées aux présentes, le texte de la présente spécification aura préséance.

6.2.3 Dans le cas de toute incompatibilité touchant les détails techniques d'une langue à l'autre, la langue du document d'origine, qui dans la présente est l'anglais, doit avoir préséance.

6.3 **Responsable de la conception.** Le responsable de la conception est l'organisme gouvernemental responsable des aspects techniques de la conception et des modifications à la conception. Sauf indication contraire, la Direction de l'administration du programme de l'équipement du soldat (DAPES) est le responsable de la conception.

6.4 **Autorité de l'assurance de la qualité.** L'autorité de l'assurance de la qualité est l'organisme nommé par le gouvernement qui s'assure que le matériel et les services fournis par l'entrepreneur sont conformes aux exigences précisées. Le contrat précise l'autorité de l'assurance de la qualité.

6.5 Définition des termes

6.5.1 **Modèle réglementaire type.** Le prototype autorisé de l'article de fabrication, qui n'est détenu que par le gouvernement, est un modèle réglementaire type.

6.5.2 **Modèle réglementaire.** Un modèle réglementaire est une copie parfaite du modèle réglementaire type qui peut servir de guide au fabricant durant la fabrication.

6.6 La fabrication ou l'évaluation d'un produit aux normes de la présente spécification peut nécessiter l'utilisation de matières et des équipements considérés dangereux. La présente spécification ne prétend pas porter sur toutes les questions visant la sécurité, la santé et la protection de l'environnement qui peuvent être reliées à son utilisation. L'utilisateur de la présente spécification a la responsabilité d'établir des méthodes adéquates pour assurer la sécurité, la santé et la protection de l'environnement. L'utilisateur doit donc déterminer la pertinence des limites réglementaires avant l'utilisation de ces matières.

Property	Test Method (Note)	Specified Requirements	Minimum Acceptable	Maximum Acceptable
Sheath yarns		16 carriers 4 ends per carrier	16 carriers 3 ends per carrier	
Core yarns		12 ends (3 spools with 4 ends per spool)	9 ends (3 spools with 3 ends per spool)	
Plaits per cm	7	6	5.5	6.3
Linear density of cord	5.2	3.8 kilotex (3.8 g/m)	3.5 kilotex (3.5 g/m)	4.1 kilotex (4.1 g/m)
Breaking strength (tensile)	9.4		645 N	
Colour fastness to light	18.3	L6	L5	
Colour fastness to crocking	22	Colour change and staining, wet and dry Grey Scale 5		Colour change and staining, wet and dry Grey Scale 4
Colour fastness to dry cleaning	29.1	No change in colour Grey Scale 5		No marked change in colour Grey Scale 4
Colour fastness to laundering	19.1 test 3	No change in colour and no staining Grey Scale 5		No marked change in colour and no appreciable staining Grey Scale 4
Sizing and finishing materials	15 (omit 6.6 and 6.7)			2%
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">CAN/CGSB-4.2, Textile Test Methods.</p>				

Table 1 Type I Cord

Propriété	Méthode d'essai (nota)	Exigences précisées	Minimum acceptable	Maximum acceptable
Fils de l'écorce		16 véhiculeurs 4 fils de chaîne par véhiculeur	16 véhiculeurs 3 fils de chaîne par véhiculeur	
Fils du noyau		12 fils de chaîne (3 canettes avec 4 fils de chaîne par canette)	9 fils de chaîne (3 canettes avec 3 fils de chaîne par canette)	
Tresses par cm	7	6	5.5	6.3
Masse linéique du cordage	5.2	3.8 kilotex (3.8 g/m)	3.5 kilotex (3.5 g/m)	4.1 kilotex (4.1 g/m)
Résistance à la rupture (traction)	9.4		645 N	
Solidité de la couleur à la lumière	18.3	L6	L5	
Solidité de la couleur au frottement	22	Virage de la couleur et grisage, humide et sec Échelle de gris 5		Virage de la couleur et grisage, humide et sec Échelle de gris 4
Solidité de la couleur au nettoyage à sec	29.1	Aucun virage de la couleur Échelle de gris 5		Aucun virage important de la couleur Échelle de gris 4
Solidité de la couleur au blanchissage	19.1 essai 3	Aucun virage de la couleur et aucun grisage Échelle de gris 5		Aucun virage important de la couleur et aucun grisage important Échelle de gris 4
Matériaux d'encolage et de finition	15 (omettre 6.6 et 6.7)			2 %
<p style="text-align: center;">NOTA</p> <p style="text-align: center;">CAN/ONGC-4.2, Méthodes pour épreuves textiles.</p>				

Tableau 1 Cordage de type I

Property	Test Method (Note)	Specified Requirements	Minimum Acceptable	Maximum Acceptable
Sheath yarns		16 carriers 7 ends per carrier		
Core yarns		35 ends (5 spools with 7 ends per spool)		
Plaits per cm	7	3.5	3	
Linear density of cord	5.2	11 kilotex (11 g/m)	10 kilotex (10 g/m)	12 kilotex (12 g/m)
Breaking strength (tensile)	9.4	1780 N	1558 N	
Colour fastness to light	18.3	L6	L5	
Colour fastness to crocking	22	Colour change and staining, wet and dry Grey Scale 5		Colour change and staining, wet and dry Grey Scale 4
Colour fastness to dry cleaning	29.1	No change in colour Grey Scale 5		No marked change in colour Grey Scale 4
Colour fastness to laundering	19.1 test 3	No change in colour and no staining Grey Scale 5		No marked change in colour and no appreciable staining Grey Scale 4
Sizing and finishing materials	15 (omit 6.6 and 6.7)			2%
<p style="text-align: center;">NOTE</p> <p style="text-align: center;">CAN/CGSB-4.2, Textile Test Methods.</p>				

Table 2 Type II Cord

Propriété	Méthode d'essai (nota)	Exigences précisées	Minimum acceptable	Maximum acceptable
Fils de l'écorce		16 véhiculeurs 7 fils de chaîne par véhiculeur		
Fils du noyau		35 fils de chaîne (5 canettes avec 7 fils de chaîne par canette)		
Tresses par cm	7	3.5	3	
Masse linéique du cordage	5.2	11 kilotex (11 g/m)	10 kilotex (10 g/m)	12 kilotex (12 g/m)
Résistance à la rupture (traction)	9.4	1780 N	1558 N	
Solidité de la couleur à la lumière	18.3	L6	L5	
Solidité de la couleur au frottement	22	Virage de la couleur et grisage, sec et humide Échelle de gris 5		Virage de la couleur et grisage, humide et sec Échelle de gris 4
Solidité de la couleur au nettoyage à sec	29.1	Aucun virage de la couleur Échelle de gris 5		Aucun virage apparent de la couleur Échelle de gris 4
Solidité de la couleur au blanchissage	19.1 essai 3	Aucun virage de la couleur et aucun grisage Échelle de gris 5		Aucun virage apparent de la couleur et aucun grisage important Échelle de gris 4
Matériaux d'encol- lage et de finition	15 (omettre 6.6 et 6.7)			2 %
<p style="text-align: center;">NOTA</p> <p style="text-align: center;">CAN/ONGC-4.2, Méthodes pour épreuves textiles.</p>				

Tableau 2 Cordage de type II



D-80-001-055/SF-001
2005-08-01
SUPERSEDES/REPLACE
D-80-001-055/SF-001
1989-05-16

SPECIFICATION

FOR

LABEL, CLOTHING AND EQUIPMENT

1. SCOPE

1.1 **Scope.** This specification covers a woven or non-woven label intended for use on clothing and equipment.

1.2 **Classification.** The labels shall be supplied in one of the following types, whichever is specified in the request for proposal or the contract:

Type I Label, Woven, Coated and
 Printed

Type II Label, Spun-Bonded Olefin,
 Printed

Note: Tyvek labels by Dupont have been found to be suitable for Type II labels.

SPÉCIFICATION

POUR

LES ÉTIQUETTES, VÊTEMENTS ET MATÉRIEL

1. PORTÉE

1.1 **Portée.** Cette spécification aborde les étiquettes en tissus ou de matériel non tissé qui seront utilisées sur les vêtements et l'équipement.

1.2 **Classification.** L'un des deux types suivants d'étiquettes doit être fourni selon ce qui est stipulé dans la demande de proposition ou le contrat :

Type I Étiquette tissée avec enduit et
 imprimé

Type II Étiquette de fibre d'oléfine filée-
 liée et imprimé

Nota : On a démontré que les étiquettes en Tyvek fabriquées par Dupont peuvent être utilisées pour les étiquettes de type II.



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 des marchandises contrôlées. Les avis de divulgation et les instructions de manutention reçues originellement doivent continuer de s'appliquer.

OPI/BPR DSSPM/DAPES 2-2

Issued on Authority of the Chief of the Defence Staff
Publiée avec l'autorisation du Chef d'état-major de la Défense

2. APPLICABLE DOCUMENTS

2.1 Government documents

D-LM-008-002/SF-001 Specification for Marking
for Storage and Shipment

2.2 Copies of this specification may be obtained
at the following mailing address:

NDHQ
MGen George R. Pearkes Building
101 Colonel By Drive
Ottawa, Ontario, Canada
K1A 0K2

Attention: DSSPM 2-2

2.3 **Other publications.** The following
publication forms part of this specification to the
extent specified herein. The effective dates shall be
those in effect on the date of the invitation to tender.
Source is as shown:

CAN/CGSB-4.2 Textile Test Methods

Canadian General Standards Board (CGSB)
11 Laurier Street
Place du Portage,
Phase III
Hull, Québec, K1A 1G6

2.4 Order of precedence

2.4.1 In the event of any inconsistency in contract
documents such as the contract, specification and
sealed pattern, the order of precedence shall be
contract, specification, sealed pattern.

2.4.2 In the event of a conflict between the text of
this specification and the references cited herein, the
text of this specification shall take precedence.

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

3. REQUIREMENTS

3.1 **Workmanship.** The material covered by this
specification shall be free of imperfections or
blemishes such as may adversely affect its
appearance or serviceability. For inspection

2. DOCUMENTS PERTINENTS

2.1 Documentation du Gouvernement

D-LM-008-002/SF-001 Spécification pour
marquage des articles à
entreposer ou à expédier

2.2 Des exemplaires de la présente spécification
sont disponibles à l'adresse postale suivante :

QGDN
Édifice Mgén George R. Pearkes
101, promenade Colonel By
Ottawa (Ontario) Canada
K1A 0K2

Attention : DAPES 2-2

2.3 **Autres publications.** Les publications
suivantes font partie de la présente spécification
selon les limites qui y sont prescrites. Les dates
d'entrée en vigueur doivent être celles adoptées lors
de l'appel d'offres. La source est telle qu'indiquée :

CAN/ONGC-4.2 Méthodes pour épreuves
textiles

Office des normes générales du Canada (ONGC)
11, rue Laurier
Place du Portage,
Phase III
Hull (Québec) K1A 1G6

2.4 Ordre de priorité

2.4.1 Si un manque de cohérence se retrouve
dans la documentation relative au contrat, par
exemple le contrat lui-même, les spécifications ou le
modèle approuvé, l'ordre de priorité sera le contrat,
les spécifications et ensuite le modèle approuvé.

2.4.2 Si une contradiction existe entre le texte de
cette spécification et les références citées dans le
présent document, le texte de cette spécification
prévaudra.

2.4.3 Si un manque de cohérence au niveau des
éléments techniques existe en raison de la
traduction, la version originale, qui, dans ce cas, est
l'anglais, prévaudra.

3. EXIGENCES

3.1 **Qualité du travail.** Le matériau qui fait l'objet
de la présente spécification ne doit comporter
aucune imperfection ou taches qui pourraient
détériorer son apparence ou nuire à son bon état de

purposes, imperfections and blemishes shall be considered defects when clearly visible at a normal inspection distance of approximately one metre under good, preferably North Light, lighting conditions.

3.2 Pre-production. When specified (refer to paragraph 6.1) in the contract, pre-production samples shall be a requirement of this specification. Pre-production samples shall be completely representative of the final product, being made from parts and materials specified and by equipment and processes which will be used in quantity production.

3.3 Base fabric. The base fabric shall be according to the type specified in the contract. Type I labels shall be woven. Type II labels shall be of spun-bonded olefin.

3.4 Coating compound. A suitable coating compound that conforms to the test requirements as specified in Table 1 shall be used. The coating shall be selected so that it will withstand both laundering and dry-cleaning.

3.5 Application of coating. The coating shall be applied to the back of the base fabric only, to prevent the sheared edges of the fabric from fraying.

3.6 Printing. The printing shall be applied to the face (uncoated surface) of the fabric only.

3.6.1 Unless otherwise specified, the letters shall be black. Colourfastness of the lettering shall conform to the applicable requirements of Table 1.

3.6.2 Unless otherwise specified, characters shall be not less than 1/8 in. (3.2 mm) nor more than 1/4 in. (6.4 mm) in height, with the exception of the size identification which shall be twice that height.

3.7 Construction and physical requirements. When tested in accordance with the applicable test methods, the label shall comply with the requirements specified in Table 1. All tests are not required for all end uses and Table 1 should be

fonctionnement. Aux fins d'inspection, on doit considérer les imperfections et les taches comme étant des défauts si elles sont facilement visibles à une distance standard d'inspection d'environ un mètre lorsque les conditions lumineuses sont bonnes (de préférence, une source lumineuse de type lumière du nord).

3.2 Préproduction. Lorsque le contrat le spécifie (se reporter au paragraphe 6.1), des échantillons de préproduction doivent être fournis, tel qu'exigé par la présente spécification. Ces échantillons de préproduction doivent être une copie exacte du produit final. Ils doivent être fabriqués avec les produits et les matériaux spécifiés ainsi qu'en utilisant de l'équipement et des procédés conçus pour la production en série.

3.3 Support textile. Le support textile doit être du même type que celui spécifié dans le contrat. Les étiquettes de type I doivent être tissées. Les étiquettes de type II doivent être de fibre d'oléfine filée-liée.

3.4 Enduit. Un enduit approprié et conforme aux exigences d'essai du tableau 1 doit être utilisé. L'enduit choisi devra pouvoir résister autant au blanchissage qu'au nettoyage à sec.

3.5 Application de l'enduit. Seul l'arrière du support textile doit être recouvert d'enduit. De cette manière, il n'y aura pas d'effilochage des bords cisailés.

3.6 Imprimé. L'imprimé ne doit être apposé que sur le devant du support, c'est-à-dire le côté sans enduit.

3.6.1 À moins d'indication contraire, les caractères doivent être de couleur noire. La solidité de la couleur des caractères doit être conforme aux exigences appropriées du tableau 1.

3.6.2 À moins d'indication contraire, la hauteur des caractères doit se situer entre 1/8 de po (3.2 mm) et 1/4 de po (6.4 mm). La seule exception est l'indication de la taille, qui doit être le double de cette hauteur.

3.7 Fabrication et exigences concernant l'apparence. Les étiquettes doivent répondre aux critères du tableau 1 lorsque les essais sont effectués conformément à la marche à suivre. Chaque test n'est pas nécessaire pour toutes les

consulted carefully. For items requiring laundering, all tests marked with an "A" should be done. For labels that specify dry cleaning, all tests marked with a "B" should be implemented.

3.8 Colour. The colour of the label shall be as specified in the contract. For coloured labels, the colourfastness requirements of Table 1 refer to the printing as well as the colour of the base fabric. Coloured labels shall be tested according to test methods marked with a "C", as well as other applicable tests in Table 1. If required to be Canadian Average Green, the labels shall match Sealed Pattern DSSPM 281-01. If the base fabric is to be white, it shall be given full commercial bleach.

4. QUALITY CONTROL/INSPECTION

4.1 Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Contractors may utilize their own or any other inspection facility acceptable to the Government or its designated representative. The Government reserves the right to perform any of the inspections specified herein, where such inspections are deemed necessary to ensure material and services conform to prescribed requirements. The contractor is responsible for ensuring that all material or services submitted to the Government for acceptance comply with all requirements of the contract.

5. PACKAGING

5.1 Packaging, packing and marking. Unless otherwise specified, commercial packaging and marking shall be acceptable.

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- (a) Title, number and date of this specification.
- (b) If pre-production is a requirement, refer to paragraph 3.2.

utilisations finales : lire attentivement le tableau 1. Effectuer tous les essais « A » pour les articles exigeant un blanchissage et tous les essais « B » pour les étiquettes exigeant un nettoyage à sec.

3.8 Couleur. La couleur de l'étiquette doit être telle que spécifiée dans le contrat. En ce qui concerne les étiquettes de couleur, les exigences à propos de la solidité de la couleur se rapportent autant à la couleur des caractères qu'à celle du support textile. On doit effectuer la marche à suivre de l'essai « C » pour les étiquettes de couleur, ainsi que tous les autres essais pertinents du tableau 1. Si les étiquettes doivent être de couleur verte moyenne canadienne, elles doivent être semblables au modèle approuvé DAPES 281-01. Si les supports textiles doivent être blancs, on doit les traiter avec un agent de blanchiment industriel.

4. CONTRÔLE ET SURVEILLANCE DE LA QUALITÉ

4.1 À moins d'indication contraire stipulée dans le contrat ou le bon de commande, l'entrepreneur doit se conformer à toutes les exigences relatives à l'inspection, telles que spécifiées dans la présente spécification. L'entrepreneur peut utiliser ses propres installations ou toute autre installation jugée acceptable par le Gouvernement ou par son représentant désigné. Le Gouvernement se réserve le droit d'effectuer toute inspection stipulée dans le présent document lorsqu'il estime que de telles inspections sont nécessaires afin de s'assurer que le matériau et les services sont conformes aux exigences prévues. L'entrepreneur est responsable de s'assurer que tous les matériaux ou les services fournis au Gouvernement pour réception sont conformes aux exigences stipulées dans le contrat.

5. EMBALLAGE

5.1 Emballage, emballage et inscriptions. À moins d'indication contraire, un emballage et des inscriptions de type commercial seront acceptés.

6. REMARQUES

6.1 Renseignements relatifs à la commande. Les documents d'approvisionnement doivent indiquer ce qui suit :

- (a) Titre, numéro et date de la présente spécification.
- (b) Si une préproduction est requise, se reporter au paragraphe 3.2.

(c) Colour required (refer to paragraph 3.8).

(d) Packaging and packing requirements (refer to paragraph 5.1).

(e) The Design Authority.

6.2 Design Authority. The Design Authority is the Government agency responsible for technical aspects of design and changes to design. The Design Authority is the Directorate of Soldier Systems Program Management (DSSPM).

6.3 Definition of terms

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

6.3.2 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.

6.4 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.

(c) La couleur requise (se reporter au paragraphe 3.8).

(d) Les exigences relatives à l'emballage et à l'empaquetage (se reporter au paragraphe 5.1).

(e) Le responsable de la conception.

6.2 Responsable de la conception. Le responsable de la conception est l'organisme gouvernemental responsable des aspects techniques sur le plan de la conception et des modifications apportées. Le Directeur – Administration du programme de l'équipement du soldat est le responsable de la conception.

6.3 Définition de termes employés

6.3.1 Modèle approuvé type. Un modèle approuvé type constitue le prototype autorisé de l'article à produire et est détenu par le Gouvernement seulement.

6.3.2 Modèle type. Un modèle type est une copie exacte du modèle type approuvé et est fourni au fabricant pour qu'il l'utilise comme modèle pour la production.

6.4 Lors de la production d'un produit selon la présente spécification ou l'évaluation d'un produit selon la présente spécification, certains matériaux ou équipements employés peuvent être dangereux. Cette spécification n'est pas censée faire état de toutes les préoccupations relatives à la sécurité, la santé et l'environnement, le cas échéant. La responsabilité d'avoir recours à des méthodes sécuritaires et saines pour la sécurité, la santé et l'environnement incombe à l'utilisateur de cette spécification. L'utilisateur doit aussi établir la pertinence des restrictions réglementaires avant de procéder.

*	Property	Test Method	Specified Requirement	Minimum Acceptable	Maximum Acceptable
A, B	Weight	5.1 **	142 g/m ²	122 g/m ²	186 g/m ²
B	Colour Fastness to Dry Cleaning (Note 1)	29.1 **	No change in colour Grey Scale 4		
A	Colour Fastness to Laundering (Note 1)	19.1 ** Test No. 3	No change in colour and no staining Grey Scale 4		
A, B	Resistance to Fraying (Note 1)	19.1 ** Test No. 3 for Laundering 29.1 ** for Dry Cleaning	Type I: Slight fraying is acceptable after three cycles Type II: No fraying after one cycle		
C	Colour Fastness to Perspiration	23 **	No change in colour and no staining Gray Scale 5		No marked change in colour and no appreciable staining Grey Scale 4
C	Colour Fastness to Salt Water	21 **	No colour change and no staining Grey Scale 5		No marked change in colour and no appreciable staining Grey Scale 4

* All labels indicating washability must be tested in accordance with all tests marked with the letter "A". All labels indicating dry clean only must be tested in accordance with all tests marked with the letter "B". Labels with both dry clean and wash symbols must be tested to all tests listed, both "A" and "B". Tests marked with a "C" are for coloured labels only. Labels used for this testing shall be printed in accordance with paragraphs 3.6 and 3.6.1 of this document.

** CAN/CGSB-4.2, Textile Test Methods.

Colourfastness tests and requirements refer to printing on the labels for white labels only. For coloured labels, the tests refer to both the printing and the base fabric.

Note 1: For this test, sample labels shall be sewn on pieces of cotton sheeting or other fabric, using 10 stitches/in., sewing 1/4 in. from the edge of the labels. The labels shall then be evaluated for colourfastness and resistance to fraying.

Table 1 Coated and Printed Material

*	Propriétés	Marche à suivre pour l'essai	Exigence spécifiée	Minimum admissible	Maximum admissible
A, B	Poids	5.1 **	142 g/m ²	122 g/m ²	186 g/m ²
B	Solidité de la couleur lors du nettoyage à sec (Nota 1)	29.1 **	Aucun changement de la couleur Échelle de gris 4		
A	Solidité de la couleur lors du blanchissage (Nota 1)	19.1 ** Essai n° 3	Aucun changement de la couleur et aucune tache Échelle de gris 4		
A, B	Résistance à l'effilochage (Nota 1)	19.1 ** Essai n° 3 pour le blanchissage 29.1 ** Pour le nettoyage à sec	Type I : un léger effilochage est acceptable après trois lavages Type II : aucun effilochage après un lavage		
C	Solidité de la couleur lorsque exposé à la transpiration	23 **	Aucun changement de la couleur et aucune tache Échelle de gris 5		Pas de changement majeur de la couleur et pas de taches importantes Échelle de gris 4
C	Solidité de la couleur lorsque exposé à l'eau salée	21 **	Aucun changement de la couleur et aucune tache Échelle de gris 5		Pas de changement majeur de la couleur et pas de taches importantes Échelle de gris 4




* Tous les essais « A » doivent être faits pour les étiquettes indiquant la lessivabilité. Pour les étiquettes indiquant un nettoyage à sec, il ne faut effectuer que les essais « B ». Les essais « A » et « B » doivent être effectués pour les étiquettes portant le symbole de blanchissage et de nettoyage à sec. Les essais « C » ne sont applicables qu'aux étiquettes de couleur seulement. L'imprimé des étiquettes utilisées pour cet essai doit être fait conformément à la procédure des paragraphes 3.6. et 3.6.1. de ce document.

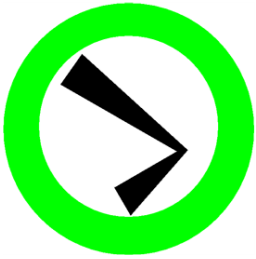
** CAN/ONGC-4.2, Méthodes pour épreuves textiles.

Les exigences et les essais de la solidité de la couleur font référence à l'imprimé seulement en ce qui concerne les étiquettes blanches. Les essais font référence à l'imprimé ainsi qu'au support textile en ce qui concerne les étiquettes de couleur.

Nota 1 : Les étiquettes utilisées pour l'essai doivent être cousues sur des pièces de coton ou d'un autre tissu, en utilisant 10 points par pouce, faits à 1/4 de po du rebord de l'étiquette. Il faut ensuite évaluer la solidité de la couleur et l'effilochage des étiquettes.

Tableau 1 Enduit et imprimé des étiquettes

<p>1. Package each hat in a polyethylene (or other transparent film) bag or envelope, made of material not less than one (1) mil thickness. The bags must be taped or stapled to effect closure and must be legibly marked (labelled) as follows:</p> <p>NATO Stock Number (NSN) * - As specified on contract Nomenclature (including size) ** - As specified on contract Quantity / Unit of Issue - 1 PR</p> <p>2. A quantity of packages, of the same NSN, must be packed into a corrugated fibreboard box conforming to Canadian General Standards Board (CGSB) specification CAN/CGSB-43.22-2001. Overall inside dimensions (length, width and depth added) must not exceed 1.5 metres (59 inches). The maximum weight of the box and contents must not exceed 18 kilograms (40 pounds). The box size and content quantity must be uniform for the duration of the contract.</p> <p>3. Closure of the corrugated fibreboard box must be in accordance with CGSB specification CAN/CGSB-43.22-2001 (Appendix B).</p> <p>4. On one end of each corrugated fibreboard box, stencilling or labelling in figures as large as practicable in relation to the space available must legibly mark the following information:</p> <p>NATO Stock Number (NSN) * - As specified on contract Nomenclature (including size) ** - As specified on contract Quantity (per box) / Unit of Issue - ____ EA Gross Weight (nearest kg) - As applicable Contract Serial Number - As specified on contract</p>	<table border="1"> <tr> <td colspan="2" rowspan="2"> <p>Canadian Forces Transportation Packaging Order</p> <p>CFTPO-HATS</p> </td> <td>Date</td> <td>15 Mar 2017</td> </tr> <tr> <td>Sheet</td> <td>1 of 2</td> </tr> <tr> <td colspan="2">Nomenclature</td> <td colspan="2">As specified on contract</td> </tr> <tr> <td colspan="2">Based on</td> <td colspan="2">As specified on contract</td> </tr> <tr> <td>Draftsman H. Fraser</td> <td>Checker H. Fraser</td> <td>Design Engineer DSCO 5-4-3</td> <td>Approval Stamp </td> </tr> </table>	<p>Canadian Forces Transportation Packaging Order</p> <p>CFTPO-HATS</p>		Date	15 Mar 2017	Sheet	1 of 2	Nomenclature		As specified on contract		Based on		As specified on contract		Draftsman H. Fraser	Checker H. Fraser	Design Engineer DSCO 5-4-3	Approval Stamp 
<p>Canadian Forces Transportation Packaging Order</p> <p>CFTPO-HATS</p>				Date	15 Mar 2017														
		Sheet	1 of 2																
Nomenclature		As specified on contract																	
Based on		As specified on contract																	
Draftsman H. Fraser	Checker H. Fraser	Design Engineer DSCO 5-4-3	Approval Stamp 																
<p>5. On one side of each corrugated fibreboard box, stencilling or labelling in figures as large as practicable in relation to the space available must legibly mark the following information:</p> <p>Consignee - As specified on contract Consignor - Supplier's name or symbol Case ____ of ____ cases - As applicable within each shipment</p> <p>6. The last shipping container of each shipment must have affixed to the side on which the shipping instructions are contained (paragraph 5), an envelope containing the Packing List, Release Note, etc. This water-resistant envelope must be prominently marked "Packing List Enclosed" and must be securely affixed to the outside wall of the container.</p> <p>7. Shipments must be palletized in uniform loads (grouped by NSN) and strapped/secured on standard 4-way entry, 48-inch by 40-inch wood or fibreboard non-returnable pallets, to be supplied by the contractor. Total height, including pallet, must not exceed 47 inches.</p> <p>*Marking must be applied using Bar Code Symbolology GS1-128 with AI 7001, including HRI (in accordance with D-LM-008-002/SF-001)</p> <p>**Bilingual format - English/French</p>																			



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.

Pre-Production and Production Technical Validation Plan for the Hat, Sun, Temperate Weather, Combat (HSTW), CADPAT™ Temperate Woodlands (TW)

NSN 8415-21-914-5176 A/A

**PRE-PRODUCTION AND PRODUCTION
TECHNICAL VALIDATION PLAN FOR HAT, SUN, TEMPERATE
WEATHER, COMBAT (HSTW), CADPAT™ TEMPERATE WOODLANDS (TW)**

1. GENERAL.

- 1.1 Purpose. The purpose of this document is to describe how The Department of National Defence (DND) will perform the pre-production technical evaluation of the Temperate Weather Combat Sun Hat.
- 1.2 General Method. The DND Technical Authority (TA) with team of DND Subject Matter Experts (SMEs) will examine the Contractor provided documentary and physical evidence to confirm compliance with the technical requirements detailed in the Contract and its annexes.

2. EVALUATION METHOD.

- 2.1 **Pre-Production.** The TA and SMEs will evaluate the Contractor provided documentation and physical samples to confirm compliance with the Technical Specifications detailed in this Contract and its Annexes.
- 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 Material Testing Information At Pre-Production

Material	Reference	Testing Requirements and Frequency
		Pre-Production
Shell Material	Annex B, paragraph 3.2.1	Test report ¹ for all of the requirements in accordance with Annex C (DSSPM 2-2-80-023) are required.

- 2.1.2 **Physical Samples.** The Contractor must submit the following samples outlined in Table II.

¹ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition and document requirements for Test Reports.

Table II – Physical Samples To Be Submitted – Pre-Production

Time Period	Requirements
Pre-Production Stage	One (1) sample of the Hat made in accordance with Annex B (DSSPM 2-3-87-5176) is required. The size required at the pre-production stage must be Size 7.
Pre-Production Stage	One (1) full meter, full width fabric sample, in colour CADPAT™ TW conforming to Annex C (DSSPM 2-2-80-023).

2.1.3 **Workmanship and Construction Validation.** Workmanship and Construction will be evaluated using the criteria outlined in Table III.

2.1.4 **Validation Criteria Definitions.** The following definitions will be applied to the sample validation.

2.1.4.1 **Deviation.** A deviation is defined as a failure to meet an essential performance or design requirement outlined in **Annex B**. 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.

2.1.4.2 **Infraction.** An infraction is defined as a workmanship or construction issue evaluated to directly affect the serviceability of the end item. 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.

2.1.4.3 **Observation.** An observation is defined as a workmanship or construction issue that does not necessarily affect serviceability of the end item 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 and Construction Evaluation

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Cutting	Para 3.3.1	Hats must be cut using Government supplied patterns. Patterns include seam allowances but do not include make-up allowance. The contractor must be responsible for any change, which may be required for make-up allowance to suit production methods, but the design, grading, or requirements specified herein must not be changed.			
Cutting	Para 3.3.2	The shell parts of each hat must be cut in the direction of the warp as indicated on the pattern drawings.	X		
Cutting	Para 3.3.3	The shell parts of each hat must be cut from the same print run of material with the exception of the sweatband, the inside crown binding, and the inside pocket pieces.	X		
Sewing	Para 3.4.1	All seams and stitching must be in accordance with CAN/CGSB-54.1-M.	X		
Sewing	Para 3.4.2	Seams must be a minimum of 3/8-inch (9.5 mm) wide unless otherwise specified	X		
Sewing	Para 3.4.3	All stitching must be lockstitch Type 301 with a minimum of 9 and maximum of 11 stitches per inch (3.5-4.3 stitches/cm). The serging may be done using any of the 500 series stitches and must have a minimum of 10 cover stitches per inch (4.0 stitches/cm).	X		
Sewing	Para 3.4.4	Bartacks must be 3/8-inch (9.5 mm) to 7/16-inch (11 mm) long with 22-24 stitches. They must not exceed a width of 3/32-inch (2.4 mm).	X		
Sewing	Para 3.4.5	The tension of the needle and bobbin threads must be adjusted to ensure correctly formed stitches.	X		

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Brim Construction	Para 3.5.1.1	The hat brim must be constructed of the following layers from top to bottom: 1 layer of shell material on the top, 1 layer of adhesive web, 1 layer of coated nylon, 1 layer of stiffener, and 1 layer of shell on the bottom.	X		
Brim Construction	Para 3.5.1.2	The top shell layer and the coated-nylon layer must be fused together with the adhesive web. All layers must be placed together so that they are flush at the outside brim edge. The brim topstitching must have lines of stitching running parallel to the circumference of the brim. The stitching must be evenly spaced at 1/4-inch (6.4 mm) +/- 1/16-inch (+/- 2 mm), and may be either separate rings or a spiral pattern.	X		
Brim Construction	Para 3.5.1.3	The outside edge of the brim must be bound with bias cut shell material to a finished width of 3/8-inch (9.5 mm). The binding must have a clean finish with no raw edges exposed. The binding must start and finish at the centre back, with the turned end of the binding lapped of a minimum of 1/2-inch (12.5 mm) on the opposite end of the binding.	X		
Hatband and Sidewall Assembly	Para 3.5.2	The hatband must be applied by folding and edge stitching 1/16-inch (2 mm), +/- 1/16-inch (+/- 2 mm) the top edge of the hatband to the outside sidewall.	X		

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Webbing Attachment	Para 3.5.3	The webbing must be placed on the center back of the hat, and hatband. The hatband has a mark indicating where the webbing must be anchored. At each mark, stitch through the webbing, the hatband and the sidewall with a straight stitch, 3 times. Stitching must not extend past webbing. Centre of the webbing must be on the centre back of the hat. Webbing must not lay flat on the band. Care must be taken to allow ease between the webbing bar tacking. There must be 1/8-inch (3.2 mm) to 1/4-inch (6.4 mm) ease allowed per loop. The phosphorescent 'Cat's-eye' assemblies must be fed onto the webbing prior to closure of the back seam.	X		
Phosphorescent Tab Loop Assemblies	Para 3.5.4.1	Each loop must be constructed by folding each long edge in 3/8-inch (9.5 mm). One raw end of the loop must be folded up to within 1/4-inch (6.4 mm) of the other raw end, wrong sides together. The longer end must be folded down over the other raw edge, 1/4-inch (6.4 mm). The long edges must be topstitched 1/16-inch (1.5 mm) gauge.	X		
Phosphorescent Tab Loop Assemblies	Para 3.5.4.2	The phosphorescent strips must have finished dimensions of 1-inch (2.5 cm) wide by 1/2-inch (1.3 cm) long. The strips must be placed on top of the raw edges of the loops 1/8-inch (3.2 mm) from the folded edge. The phosphorescent strips must be edge stitched to the shell loops in a box formation. Thread must be tone to tone with the phosphorescent strips.	X		
Phosphorescent Tab Loop Assemblies	Para 3.5.4.3	The loop must be closed by folding it in half and securely edge stitching the short ends together. The loops must finish in accordance with the dimensions shown at figure 2. Loops must be fed onto the webbing. The loops must function such that they can be turned by hand into the desired position and not roll around the webbing freely.	X		

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Phosphorescent Tab Loop Assemblies	Para 3.5.4.4	The centre back seams of the inside and outside sidewalls must be stitched 3/8-inch (9.5 mm) gauge and finished with the seam allowances facing each other. The webbing ends must be secured into the centre back seam.	X		
Screened Vents Attachment	Para 3.5.5	Two screened vents must be applied to each side of the hat. Care must be taken to affix them in accordance with the manufacturer's instructions and leaving no raw edges exposed. The vents must remain secure for the life of the hat.	X		
Inside Crown Pocket.	Para 3.5.6	The raw edges of the inside pocket pieces must be turned under twice and topstitched at 1/4-inch (6.4 mm) gauge. The pocket pieces must be lapped over each other to form the inside crown.	X		
Inside Crown Pocket.	Para 3.5.6.1	The outer pocket edges, crown edge and top sidewall edges must be stitched together and the raw edges must be bias bound so that no raw edges are exposed.	X		
Inside Crown Pocket.	Para 3.5.6.2	The crown must be edge stitched through all layers from the top.	X		
Sweatband.	Para 3.5.7	The sweatband must consist of three layers. The outer layer must be shell material, the middle layer must be a sweat absorption interlining, and the next layer must be a cover interlining.	X		
Sweatband.	Para 3.5.7.1	When finished, the right side back edge must be folded under and lapped over the left back edge and topstitched. Care must be taken to overlap the right side back approximately 3/4-inch (19 mm) from the centre back to reduce bulk.	X		
Sweatband.	Para 3.5.7.2	The bottom edges of the sidewall assembly must be stitched to the inside edge brim assembly at 3/8-inch (9.5 mm) gauge.	X		

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Sweatband.	Para 3.5.7.3	The bottom long edge of the sweatband must be edge stitched to the sidewall and brim assembly seam allowance, ensuring that the ends of the chinstrap are secured in the stitching. The finished length of cording for the chinstrap must be 30-inches (76 cm) for all sizes.	X		
Sweatband.	Para 3.5.7.4	The bottom edge of the outside hatband must be edge stitched through all layers ensuring that the sweatband is facing in and up.	X		
Sweatband.	Para 3.5.7.5	To secure the sweatband, single bar tacks must be placed at intervals for a total of seven bar tacks around the sweatband. The stitching must be done through all layers of the hat band and sweatband. Care must be taken to ensure that the sweatband is in the appropriate position while stitching through all layers.	X		
Sweatband.	Para 3.5.7.6	The toggle must be placed on the chinstrap ensuring that it is secured by knotting the end of the cording.	X		
Marking	3.6	Marking and Label Information. The following information and care symbols must be incorporated on the label (see paragraph 3.2.10). The label must be nominally 2-inches (5.0 cm) long by 1-1/4 inches (3.2 cm) wide.		X	
Marking	3.6.1	Hang Tags. No brand or product names must be permanently attached to the garment in any way. However, brand hang tags that are easily removed without causing damage to the product may be acceptable at no cost to the Crown, provided that approval for text and use has been granted by the Contracting Authority.		X	
Finishing.	Para 3.7	Following assembly, the hat must be steamed to remove wrinkles and to provide a uniform finish on the hat.	X		

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Scale of Measurements.	Table I	The finished hat must meet the dimensional requirements stated in the Scale of Measurements in Table I. Following finishing, and prior to attaching the identification label, it must be verified that the size of the hat is within tolerance, according to the method defined in Table I	X		

2.2 **Production.**

2.2.1 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.

2.2.2 **For shell fabrics only.** For every 10,000 meters of production or upon supplier changes, the selected Contractor must produce the documentation identified in Table IV and the physical samples identified in Table V and the Contract. When a fabric sample is required, the sample must be clearly identified and traceable to production lots and part or reference numbers.

Table IV – Mandatory Material Testing Information of the Shell Fabrics During Production

Material	Reference	Production Verification Requirements
Shell Material in accordance with Annex B, paragraph 3.2.1	Annex C (DSSPM 2-2-80-023)	For every 10,000 meters of production or upon supplier changes: Test report ² must be submitted showing full testing in accordance with Annex C (DSSPM 2-2-80-023).

² See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition and document requirements of Test Reports.

Table V - Physical Samples of the Shell Fabrics To Be Submitted During Production

Material	Reference	Pre-Production Verification Requirements
Shell Material in accordance with Annex B, paragraph 3.2.1	Annex C (DSSPM 2-2-80-023)	For every 10,000 meters of production or upon supplier changes: One (1) meter full width fabric sample in accordance with Annex C (DSSPM 2-2-80-023).

2.2.3 **For components.** Upon supplier changes, the selected Contractor must submit the physical samples and documentation for evaluation as detailed in Table VI and the Contract.

Table VI - Mandatory Material Testing Information of the Components During Production

Material	Reference	Production Verification Requirements
Chin Strap	Annex B, paragraph 3.2.4	Certificate of Compliance (C of C) ³ for the properties listed in Annex F (D-80-001-028/SF-001).
Webbing	Annex B, paragraph 3.2.5	Certificate of Compliance (C of C) ⁴ for the properties listed in Annex B paragraph 3.2.5.
Screened Vent and Retention Washers	Annex B, paragraph 3.2.6	Certificate of Compliance (C of C) ⁵ for the properties listed in Annex B paragraph 3.2.6.
Toggle	Annex B, paragraph 3.2.7	Certificate of Compliance (C of C) ⁶ for the properties listed in Annex B paragraph 3.2.7.

³ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁴ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁵ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁶ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

Material	Reference	Production Verification Requirements
Thread	Annex B, paragraph 3.2.8	Certificate of Compliance (C of C) ⁷ for the properties listed in Annex B paragraph 3.2.8
Luminescent Material	Annex B, paragraph 3.2.9	Certificate of Compliance (C of C) ⁸ for the properties listed in Annex B paragraph 3.2.9.

⁷ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁸ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.



NOTICE

This document has been examined by the Technical Authority for content and confirmed that it has no references to controlled goods.

AVIS

La présente documentation a été examinée par le responsable technique et ne contient aucune disposition visant des marchandises contrôlées.

SIZE ROLL

DISTRIBUTION DE TAILLE

SIZE ROLL DISTRIBUTION /
DISTRIBUTION DE TAILLE

W8486-1XXXXX
ANNEX J / ANNEXE J
24 JULY 2017

NSN / NNO	Nomenclature	Size / Grandeur	Unit of Issue	Total	Delivery Address / Destination	
			Unité de dotation		25 CFSD	7 CFSD
8415-21-914-5176	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	A/A				
8415-21-914-5177	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 1/2	EA	150	90	60
8415-21-914-5178	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 5/8	EA	0	0	0
8415-21-914-5179	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 3/4	EA	0	0	0
8415-21-914-5180	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	6 7/8	EA	0	0	0
8415-21-914-5181	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7	EA	2900	1740	1160
8415-21-914-5182	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/8	EA	1850	1110	740
8415-21-914-5183	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/4	EA	1060	636	424
8415-21-914-5184	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 3/8	EA	2000	1200	800
8415-21-914-5185	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 1/2	EA	2025	1215	810
8415-21-914-5186	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 5/8	EA	1000	600	400
8415-21-914-5187	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 3/4	EA	775	465	310
8415-21-914-5188	HAT, SUN, TEMPERATE WEATHER, COMBAT, CADPAT TW	7 7/8	EA	125	75	50
TOTAL:				11885	7131	4754



NOTICE

This document has been examined by the Technical Authority for content and confirmed that it has no references to controlled goods.

Guidance To Bidders Technical Evaluation Plan for the Hat, Sun, Temperate Weather, Combat (HSTW), CADPAT™ Temperate Woodlands (TW)

NSN 8415-21-914-5176 A/A

Dated 14 March, 2018

Bid Technical Evaluation Plan For The Hat, Sun, Temperate Weather, Combat (HSTW), CADPAT Temperate Woodlands (TW)

1.0 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 Temperate Weather Combat Sun Hat.

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.

2.0 TECHNICAL EVALUATION METHOD.

2.1 Context. This contract is to be awarded to the lowest priced compliant bid. 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. Bidders must provide the documentary evidence identified in Table I. The evaluators will examine the provided documentary evidence 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.

Table I – Bid Mandatory Material Testing Information

Material	Reference	Bid Testing Requirements
Shell Material	Annex B, paragraph 3.2.1	Test Report ¹ for the following properties listed in Annex C (DSSPM 2-2-80-023) and Annex D (DSSPM 2-2-80-500): 1. Colourfastness to Light; 2. Colour (as received); and 3. IRR (as received)

¹ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

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Material	Reference	Bid Testing Requirements
Chin Strap	Annex B, paragraph 3.2.4	Certificate of Compliance (C of C) ² for the properties listed in Annex F (D-80-001-028/SF-001).
Webbing	Annex B, paragraph 3.2.5	Certificate of Compliance (C of C) ³ for the properties listed in Annex B paragraph 3.2.5.
Screened Vent and Retention Washers	Annex B, paragraph 3.2.6	Certificate of Compliance (C of C) ⁴ for the properties listed in Annex B paragraph 3.2.6.
Toggle	Annex B, paragraph 3.2.7	Certificate of Compliance (C of C) ⁵ for the properties listed in Annex B paragraph 3.2.7.
Thread	Annex B, paragraph 3.2.8	Certificate of Compliance (C of C) ⁶ for the properties listed in Annex B paragraph 3.2.8.
Luminescent Material	Annex B, paragraph 3.2.9	Certificate of Compliance (C of C) ⁷ for the properties listed in Annex B paragraph 3.2.9.

2.2.2 Phase 2. The evaluators will examine the provided physical samples for the quality of workmanship and for conformance to specified materials and measurements outlined in Annex B. Non-compliant bids will not be considered further.

² See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

³ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁴ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁵ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁶ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

⁷ See Annex A (Statement of Work for Hat, Sun, Temperate Weather, Combat) for definition.

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2.2.3 Bid Samples. Bidders must submit the items identified in Table II as part of their bid.

2.2.3.1 Unless authorized by the Contracting Authority, bid physical samples must not bear any permanent markings that could identify the Bidder, their brand, or their product model.

2.2.3.2 By submitting Bid Physical Samples, a Bidder certifies that they originate from the same product lots and material lots for which Bid Certificates of Compliance and Bid Test Results were submitted. The Bidder also certifies that the Bid Physical Samples are equivalent (materials and manufacturing processes) to the specimens featured in the Bid Test Reports, such that if the Bid Physical Samples (or specimens taken from them) were subjected to the same testing, the results would be consistent with those in the Bid Test Reports.

2.2.3.3 When submitting Bid Physical Samples, Bidders must affix a tag to each one or secure them in a container (such as a box, bag or envelope). If no tags are used, identical Physical Samples may be placed in the same internal container. Each tag or container must include the following to identify the respective Sample(s):

- a. The solicitation number;
- b. An area at least 2-inches (5.0 cm) by 1-inch (2.5 cm) that is free of any markings or obstructions to allow the Contracting Authority to apply and alias for the parent bid; and
- c. Identifying information such as, but not limited to, abbreviated nomenclature or production lot number.

Table II – Physical Samples To Be Submitted With The Bid

Time Period	Requirement
By bid closing	One (1) Hat, Sun, Temperate Weather, Combat, CADPAT™ TW in size 7 made in accordance with Annex B.
By bid closing	One (1) meter, full width fabric sample in accordance with Annex B, paragraph 3.2.1.

2.2.4 Workmanship and Construction Evaluation. The quality of workmanship and construction will be evaluated using the criteria outlined in **Table III**.

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Table III – Workmanship and Construction Evaluation

Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Cutting	Para 3.3.1	Hats must be cut using Government supplied patterns. Patterns include seam allowances but do not include make-up allowance. The contractor must be responsible for any change, which may be required for make-up allowance to suit production methods, but the design, grading, or requirements specified herein must not be changed.	X		
Cutting	Para 3.3.2	The shell parts of each hat must be cut in the direction of the warp as indicated on the pattern drawings.		X	
Cutting	Para 3.3.3	The shell parts of each hat must be cut from the same print run of material with the exception of the sweatband, the inside crown binding, and the inside pocket pieces.		X	
Sewing	Para 3.4.1	All seams and stitching must be in accordance with CAN/CGSB-54.1-M.		X	
Sewing	Para 3.4.2	Seams must be a minimum of 3/8-inch (9.5 mm) wide unless otherwise specified		X	
Sewing	Para 3.4.3	All stitching must be lockstitch Type 301 with a minimum of 9 and maximum of 11 stitches per inch (3.5-4.3 stitches/cm). The serging may be done using any of the 500 series stitches and must have a minimum of 10 cover stitches per inch (4.0 stitches/cm).		X	
Sewing	Para 3.4.4	Bartacks must be 3/8-inch (9.5 mm) to 7/16-inch (11 mm) long with 22-24 stitches. They must not exceed a width of 3/32-inch (2.4 mm).		X	
Sewing	Para 3.4.5	The tension of the needle and bobbin threads must be adjusted to ensure correctly formed stitches.		X	

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Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Brim Construction	Para 3.5.1.1	The hat brim must be constructed of the following layers from top to bottom: 1 layer of shell material on the top, 1 layer of adhesive web, 1 layer of coated nylon, 1 layer of stiffener, and 1 layer of shell on the bottom.	X		
Brim Construction	Para 3.5.1.2	The top shell layer and the coated-nylon layer must be fused together with the adhesive web. All layers must be placed together so that they are flush at the outside brim edge. The brim topstitching must have lines of stitching running parallel to the circumference of the brim. The stitching must be evenly spaced at 1/4-inch (6.4 mm) +/- 1/16-inch (+/- 2 mm), and may be either separate rings or a spiral pattern.	X		
Brim Construction	Para 3.5.1.3	The outside edge of the brim must be bound with bias cut shell material to a finished width of 3/8-inch (9.5 mm). The binding must have a clean finish with no raw edges exposed. The binding must start and finish at the centre back, with the turned end of the binding lapped of a minimum of 1/2-inch (12.5 mm) on the opposite end of the binding.		X	
Hatband and Sidewall Assembly	Para 3.5.2	The hatband must be applied by folding and edge stitching 1/16-inch (2 mm), +/- 1/16-inch (+/- 2 mm) the top edge of the hatband to the outside sidewall.		X	

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Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Webbing Attachment	Para 3.5.3	The webbing must be placed on the center back of the hat, and hatband. The hatband has a mark indicating where the webbing must be anchored. At each mark, stitch through the webbing, the hatband and the sidewall with a straight stitch, 3 times. Stitching must not extend past webbing. Centre of the webbing must be on the centre back of the hat. Webbing must not lay flat on the band. Care must be taken to allow ease between the webbing bar tacking. There must be 1/8-inch (3.2 mm) to 1/4-inch (6.4 mm) ease allowed per loop. The phosphorescent 'Cat's-eye' assemblies must be fed onto the webbing prior to closure of the back seam.		X	
Phosphorescent Tab Loop Assemblies	Para 3.5.4.1	Each loop must be constructed by folding each long edge in 3/8-inch (9.5 mm). One raw end of the loop must be folded up to within 1/4-inch (6.4 mm) of the other raw end, wrong sides together. The longer end must be folded down over the other raw edge, 1/4-inch (6.4 mm). The long edges must be topstitched 1/16-inch (1.5 mm) gauge.	X		
Phosphorescent Tab Loop Assemblies	Para 3.5.4.2	The phosphorescent strips must have finished dimensions of 1-inch (2.5 cm) wide by 1/2-inch (1.3 cm) long. The strips must be placed on top of the raw edges of the loops 1/8-inch (3.2 mm) from the folded edge. The phosphorescent strips must be edge stitched to the shell loops in a box formation. Thread must be tone to tone with the phosphorescent strips.		X	
Phosphorescent Tab Loop Assemblies	Para 3.5.4.3	The loop must be closed by folding it in half and securely edge stitching the short ends together. The loops must finish in accordance with the dimensions shown at figure 2. Loops must be fed onto the webbing. The loops must function such that they can be turned by hand into the desired position and not roll around the webbing freely.		X	

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Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Phosphorescent Tab Loop Assemblies	Para 3.5.4.4	The centre back seams of the inside and outside sidewalls must be stitched 3/8-inch (9.5 mm) gauge and finished with the seam allowances facing each other. The webbing ends must be secured into the centre back seam.		X	
Screened Vents Attachment	Para 3.5.5	Two screened vents must be applied to each side of the hat. Care must be taken to affix them in accordance with the manufacturer's instructions and leaving no raw edges exposed. The vents must remain secure for the life of the hat.		X	
Inside Crown Pocket.	Para 3.5.6	The raw edges of the inside pocket pieces must be turned under twice and topstitched at 1/4-inch (6.4 mm) gauge. The pocket pieces must be lapped over each other to form the inside crown.		X	
Inside Crown Pocket.	Para 3.5.6.1	The outer pocket edges, crown edge and top sidewall edges must be stitched together and the raw edges must be bias bound so that no raw edges are exposed.		X	
Inside Crown Pocket.	Para 3.5.6.2	The crown must be edge stitched through all layers from the top.		X	
Sweatband.	Para 3.5.7	The sweatband must consist of three layers. The outer layer must be shell material, the middle layer must be a sweat absorption interlining, and the next layer must be a cover interlining.		X	
Sweatband.	Para 3.5.7.1	When finished, the right side back edge must be folded under and lapped over the left back edge and topstitched. Care must be taken to overlap the right side back approximately 3/4-inch (19 mm) from the centre back to reduce bulk.		X	
Sweatband.	Para 3.5.7.2	The bottom edges of the sidewall assembly must be stitched to the inside edge brim assembly at 3/8-inch (9.5 mm) gauge.		X	

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Detail	Reference in Annex B	Criteria	Classification of Validation Criteria		
			Deviation	Infraction	Observation
Sweatband.	Para 3.5.7.3	The bottom long edge of the sweatband must be edge stitched to the sidewall and brim assembly seam allowance, ensuring that the ends of the chinstrap are secured in the stitching. The finished length of cording for the chinstrap must be 30-inches (76 cm) for all sizes.		X	
Sweatband.	Para 3.5.7.4	The bottom edge of the outside hatband must be edge stitched through all layers ensuring that the sweatband is facing in and up.		X	
Sweatband.	Para 3.5.7.5	To secure the sweatband, single bar tacks must be placed at intervals for a total of seven bar tacks around the sweatband. The stitching must be done through all layers of the hat band and sweatband. Care must be taken to ensure that the sweatband is in the appropriate position while stitching through all layers.		X	
Sweatband.	Para 3.5.7.6	The toggle must be placed on the chinstrap ensuring that it is secured by knotting the end of the cording.		X	
Marking	3.6	Marking and Label Information. The following information and care symbols must be incorporated on the label (see paragraph 3.2.10). The label must be nominally 2-inches (5.0 cm) long by 1-1/4 inches (3.2 cm) wide.			X
Marking	3.6.1	Hang Tags. No brand or product names must be permanently attached to the garment in any way. However, brand hang tags that are easily removed without causing damage to the product may be acceptable at no cost to the Crown, provided that approval for text and use has been granted by the Contracting Authority.			X
Finishing.	Para 3.7	Following assembly, the hat must be steamed to remove wrinkles and to provide a uniform finish on the hat.		X	

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Detail	Reference in Annex B	Criteria	Classification of Validation Criteria	
			Deviation	Observation
Scale of Measurements.	Table I	The finished hat must meet the dimensional requirements stated in the Scale of Measurements in Table I. Following finishing, and prior to attaching the identification label, it must be verified that the size of the hat is within tolerance, according to the method defined in Table I	X	

3.0 Definitions.

3.1 Deviation. A deviation is defined a failure to meet an essential performance or design requirement outlined in **Annex B**.

3.2 Infraction. An infraction is defined as a workmanship or construction issue evaluated to directly affect the serviceability of the end item.

3.3 Observation. An observation is defined as a workmanship or construction issue evaluated to be non-compliant that does not necessarily affect serviceability of the end item but affects overall quality assurance.

4.0 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 III will be deemed as an observation.**