



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

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

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

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

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

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

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

**Comments - Commentaires**

**Vendor/Firm Name and Address**

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

**Issuing Office - Bureau de distribution**

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

|   |  |
|---|--|
| <b>Title - Sujet</b><br>GLOVES, COLD WET WEATHER (STK REPL)   |  |
| <b>Solicitation No. - N° de l'invitation</b><br>W8486-163147/A  | <b>Date</b><br>2016-06-09  |
| <b>Client Reference No. - N° de référence du client</b><br>W8486-163147   |  |
| <b>GETS Reference No. - N° de référence de SEAG</b><br>PW-\$\$PR-707-71065  |  |
| <b>File No. - N° de dossier</b><br>pr707.W8486-163147   | <b>CCC No./N° CCC - FMS No./N° VME</b>   |
| <b>Solicitation Closes - L'invitation prend fin</b><br><b>at - à 02:00 PM</b><br><b>on - le 2016-07-11</b>  | <b>Time Zone</b><br><b>Fuseau horaire</b><br>Eastern Daylight Saving<br>Time EDT |
| <b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes<br><b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/> |  |
| <b>Address Enquiries to: - Adresser toutes questions à:</b><br>Elder, Sylvie  | <b>Buyer Id - Id de l'acheteur</b><br>pr707                                      |
| <b>Telephone No. - N° de téléphone</b><br>(873) 469-3172 ( )  | <b>FAX No. - N° de FAX</b><br>(819) 956-5454                                     |
| <b>Destination - of Goods, Services, and Construction:</b><br><b>Destination - des biens, services et construction:</b><br><br>Specified Herein<br>Précisé dans les présentes   |  |

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirement**

There is no security requirement associated with this bid solicitation.

### **1.2 Requirement**

The "Requirement" is detailed under Annex A 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 Agreement on Internal Trade (AIT).

### **1.6 Canadian Content**

The requirement is limited to Canadian goods.

## **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 (2016/04/04) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: 60 days  
Insert: 120 days

### **2.2 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 sample (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](mailto: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: Viviane Rouhault ([viviane.rouhault@tpsgc-pwgsc.gc.ca](mailto:viviane.rouhault@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](mailto: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](mailto: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) 497-3564  
FAX: (780) 497-3510

Attention: Nicole Boucher (wst-pa-edm@tpsgc-pwgsc.gc.ca)

## 2.6 Technical Data

In order to receive Technical Data Packages against this solicitation, bidders must provide the following details with their request:

- 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

and send their request (by facsimile message or e-mail) to the following:

E-mail : sylvie.elder@tpsgc-pwgsc.gc.ca

**OR**

Facsimile Number: 819-956-5454

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 United States Military Specifications and Standards

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

### 2.7.2 Canadian General Standards Board (CGSB) - Standards

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

Canadian General Standards Board  
Place du Portage III, 6B1  
11 Laurier Street  
Gatineau, Québec  
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)  
Fax: (819) 956-5740  
E-mail: [ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca](mailto: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 ( 3 hard copies)  
Section II: Financial Bid ( 1 hard copy)  
Section III: Certifications (1 hard copy)  
Section IV: Additional Information (1 hard copy)

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

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

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

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

1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and

2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

3) Green Initiatives (for PWGSC information only)

Bidders are requested to provide details of their policies and practices in relation to the following initiatives:

- environmentally responsible manufacturing;
- environmentally responsible waste disposal;
- waste reduction;
- packaging;
- re-use strategies;
- recycling.

#### **Section I: Technical Bid**

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work (reference pre-award sample, 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. The total amount of Applicable Taxes must be shown separately.

##### **3.1.1 Electronic Payment of Invoices – Bid**

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex "X" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "D" 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, two (2) pre-award samples of the item in size L and certificates of compliance must be included with the bid.

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

The Bidder must deliver the required pre-award sample **and** certificates of compliance at no charge to Canada and must ensure that it is received with the bid at time and place of bid closing.



Failure to submit the required pre-award sample **and** certificates of compliance within the specified time frame will result in the bid being declared non-responsive. The sample submitted by the Bidder will remain the property of Canada.

In addition, Certificates of Compliance specified in Annex E are required as defined herein.

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

Minor Infractions (up to a maximum of 3) will not be a reason to reject the samples unless, in the opinion of the technical evaluators, they are considered to render the item unserviceable. However, No Critical Infractions will be accepted in any pre-award samples

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

In the event that a component, is not available to the Bidder in a time frame to manufacture the pre-award sample, the Bidder may use a similar substitute component. Also, the Bidder must include a letter explaining the substitution submitted with the pre-award sample, together with a statement that, should the Bidder be awarded the contract, all materials will be strictly in accordance with the technical requirement.

Gloves and packaging must not have any markings that identify company name, including stamps, hang tags, or markings inside and outside of the gloves. Non-compliance of this requirement can result in the bid being disqualified.

## **CERTIFICATE OF COMPLIANCE-DEFINITION**

A Certificate of Compliance (C of C) is a written statement from the supplier guaranteeing the full compliance of the product to the specification, or portion thereof, referenced. This document must be on official company stationery, it must be current, it must make reference to the applicable specification, and it must have the original signature of the company's designated representative. DND reserves the right to verify the statements made in the C of C. Full test results, demonstrating the product's compliance, will be accepted in lieu of a C of C.

### **4.1.2 Financial Evaluation**

#### **4.1.2.1 Mandatory Financial Criteria**

- a. The Bidder must submit firm unit price(s) 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 option 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 quantity.

## 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, at 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 *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, 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 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](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969) ([http://www.esdc.gc.ca/en/jobs/workplace/human\\_rights/employment\\_equity/federal\\_contractor\\_program.page?&\\_ga=1.229006812.1158694905.1413548969](http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969)).

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

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

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

#### 5.2.2 Additional Certifications Precedent to Contract Award

##### 5.2.2.1 Canadian Content Certification

###### 5.2.2.1.1 SACC Manual clause [A3050T](#) (2014/11/27) Canadian Content Definition

###### 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 offered are Canadian goods as defined in paragraph 1 of clause A3050T.

###### Plant Location

Items will be manufactured at: \_\_\_\_\_

##### 5.2.2.2 Sample and Production Certification

The Bidder certifies that:

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

#### 6.2.1 Technical Requirement

### 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 Date

All the deliverables must be received on or before 31 July 2017.

#### 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 \_\_\_\_\_ pairs. The balance must be delivered at the rate of \_\_\_\_\_ pairs 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 \_\_\_\_\_ pairs. The balance must be shipped at a rate of \_\_\_\_\_ pairs 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](mailto:25dfactrafficrdv@forces.gc.ca)

#### **6.4.1.2 Preparation for Delivery**

The Contractor must prepare item number 1 for delivery in accordance with the latest issue of the Canadian Forces Packaging Specification D-LM-008-036/SF-000, DND Minimum Requirements for Manufacturer's Standard Pack.

#### **6.4.1.3 Bulk Shipments**

For bulk shipments, all cartons must be shipped on 40" x 48" pallets shrink-wrapped or equivalent with overall height not to exceed 42".

#### **6.4.1.4 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, Alb incoterms 2000 for shipments from commercial contractor.

#### **6.4.1.5 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.

#### **6.4.1.6 SACC Manual Clauses**

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:

Sylvie Elder  
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 : 873-469-3172 Facsimile: 819-956-5454  
E-mail address: sylvie.elder@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 Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit price, as specified in 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: DLP \_\_\_\_\_  
Email: \_\_\_\_\_ (to be inserted at contract award)

- (b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

- (c) The original and one (1) copy must be forwarded to the consignee for certification and payment.

### 6.8 Certifications and Additional Information

#### 6.8.1 Compliance

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

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

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

#### 6.8.3 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 (use with DND Spec D-80-001-055/SF-001)  
C2611C 2007/11/30 Customs Duties - Contractor Importer  
C2801C 2014/11/27 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 Specified. The delivery stated for the item allows the necessary time to obtain such materials.

## 6.14 Procedures for Design Change/Deviations

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

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

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

## 6.15 Plant Closing

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

### 2016-2017

|                   |            |          |
|-------------------|------------|----------|
| Christmas Holiday | FROM _____ | TO _____ |
| Summer Holiday    | FROM _____ | TO _____ |

### 2017-2018

|                   |            |          |
|-------------------|------------|----------|
| Christmas Holiday | FROM _____ | TO _____ |
| Summer 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 samples of quantity (1) one pair of glove in each sizes (XS, S, M, L, XL), for a total of (5) pairs accompanied by the sealed sample if applicable, to the Technical Authority for acceptance within \_\_\_\_ 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 \_\_\_\_ calendar days of notification of rejection from the Technical Authority.
3. If the pre-production sample(s) is/are accepted by either full acceptance or conditional acceptance, the Contractor must proceed with production as per the Contract requirements.

4. Rejection by the Technical Authority of the second pre-production 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 samples, the Contractor must provide laboratory test reports **and** Certificates of compliance, 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(s) is/are fully acceptable or conditionally acceptable. Any production of items before pre-production sample acceptance will be at the sole risk of the Contractor.
10. The pre-production 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.

#### **CERTIFICATE OF COMPLIANCE-DEFINITION**

A Certificate of Compliance (C of C) is a written statement from the supplier guaranteeing the full compliance of the product to the specification, or portion thereof, referenced. This document must be on official company stationery, it must be current, it must make reference to the applicable specification, and it must have the original signature of the company's designated representative. DND reserves the right to verify the statements made in the C of C. Full test results, demonstrating the product's compliance, will be accepted in lieu of a C of C.

#### **Laboratory Analysis - Definition**

Laboratory analysis of the product offered showing test results for specific tests listed in Annex C must be provided with the pre-production sample. Testing must be performed by an independent accredited laboratory establishment and must be in accordance with the test methods detailed in the technical requirement. The laboratory report and test results must be dated within six months of the request for proposal posting date

#### **Production samples as required in Annex C**

##### **6.21.1 Sealed Sample - 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.

##### **6.21.2 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 United States Military Specifications and Standards**

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

### **6.22.2 Canadian General Standards Board (CGSB) - Standards**

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

Canadian General Standards Board  
Place du Portage III, 6B1  
11 Laurier Street  
Gatineau, Québec  
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)  
Fax: (819) 956-5740  
E-mail: [ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca](mailto: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.

## ANNEX «A» REQUIREMENT

### 1. TECHNICAL REQUIREMENT

The Contractor is required to provide Canada for the Department of National Defence (*DND*) with cold wet weather gloves in accordance with the specification DSSPM 2-3-87-9019 dated 31 August 2015, patterns, drawings, sealed sample.

### 2. ADDRESSES

| Destination Address  | Invoicing Address  |
|--|--|
| <b>WB941</b><br>Department of National Defence<br>25 CFSD Montreal<br>6363 Notre Dame St. E.<br>Montreal, Quebec<br>H1N 1V9          | <b>W1941</b><br>Department of National Defence<br>CFSD Montreal<br>P.O. Box 4000 Stn K<br>Montreal, Quebec<br>H1N 3R9<br>Attention: Accounts payable             |
| <b>W248A</b><br>Department of National Defence<br>7 CF Supply Depot<br>195 Ave & 82nd St., Bldg. 236<br>Edmonton, Alberta<br>T5J 4J5 | <b>W2481</b><br>Department of National Defence<br>7 CF Supply Depot<br>Stn Forces, P.O. Box 10500<br>Edmonton, Alberta<br>T5J 4J5<br>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    | Cold Wet Weather Gloves | Pair          | Edmonton    | 6927          | \$ _____  |
|      |                         |               | Montreal    | 4618          | \$ _____  |

**See size-roll**

| NSN            | Montreal | Edmonton | size | total quantity |
|----------------|----------|----------|------|----------------|
| 8415-219208953 | 96       | 64       | A    | 160            |
| 8415-219208954 | 96       | 64       | B    | 160            |
| 8415-219208955 | 105      | 70       | C    | 175            |
| 8415-219208957 | 165      | 110      | D    | 275            |
| 8415-219208960 | 1905     | 1270     | G    | 3175           |
| 8415-219208963 | 1020     | 680      | J    | 1700           |
| 8415-219208964 | 1560     | 1040     | K    | 2600           |
| 8415-219208965 | 1080     | 720      | L    | 1800           |
| 8415-200037809 | 900      | 600      | N    | 1500           |
|                | 6927     | 4618     |      | 11545          |

**OPTION 1**

| Item | Description             | Estimated Quantity | Unit of Issue | Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra |
|------|-------------------------|--------------------|---------------|---|
| 2    | Cold Wet Weather Gloves | 11,545             | Pair          | \$ _____  |

**5. OPTION QUANTITY - Identified as Item 2**

The Contractor grants to Canada the irrevocable option to acquire the goods described under item #2 and under the same terms and conditions and at the prices stated in the Contract. The option may only be exercised by the Contracting Authority for a minimum of 5772 pairs up to a maximum of 11,545 pairs, distributed amongst the items and destinations and will be evidenced through a contract amendment.

The Contracting Authority may exercise the option within 24 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.

Solicitation No. - N° de l'invitation  
W8486-163147/A  
Client Ref. No. - N° de réf. du client  
W8486-163147

Amd. No. - N° de la modif.  
File No. - N° du dossier  
pr707. W8486-163147

Buyer ID - Id de l'acheteur  
pr707  
CCC No./N° CCC - FMS No./N° VME

---

## **ANNEX “D” 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)

---

**ANNEX E" to PART 5 OF THE BID SOLICITATION  
FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION**

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

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

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

Complete both A and B.

A. Check only one of the following:

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

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

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

**OR**

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

B. Check only one of the following:

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

**OR**

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





NOTICE

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

AVIS

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

Annex B

To: W8486-163147  
DSSPM 2-3-87-9019  
31 August 2015

**SPECIFICATION**

**FOR**

**GLOVES, COLD/WET WEATHER (CWWG)**

**NSN 8415-21-920-9019 A/A**

**1 SCOPE**

**1.1 Scope.** This specification covers the material, design, construction and inspection requirements for Cold Wet Weather Glove (CWWG).

**2 APPLICABLE DOCUMENTS**

**2.1 Government documents.** The following documents form part of this Specification to the extent specified herein. Unless otherwise specified, the issue or amendment of documents effective for a particular contract must be that in effect on the publication date of this specification.

|                     |  |
|---------------------|--|
| D-80-001-055/SF-001 | Label, Clothing and Equipment  |
| D-LM-008-002/SF-001 | Specification for Marking and Storage and Shipment                             |
| D-LM-008-036/SF-000 | DND Minimum Requirements for Manufacture's Standard Pack                       |
| D-80-001-121/SF-001 | Specification for Cloth, Twill, Nylon/Cotton (Oil and Water Repellant Treated) |

**Appendices to Annex B**

|                         |  |
|-------------------------|--|
| DSSPM 2-3-87-GOATSKIN   | Leather, Goatskin, Aniline, Chrome Tanned, Gloving, Appendix 1                               |
| DSSPM 2-3-87-INSERT     | Waterproof Moisture Vapour Permeable (WMPV) Glove Insert, Appendix 2                         |
| DSSPM 2-3-80-INSULATION | Cloth, Insulation, Synthetic, Appendix 3   |
| DSSPM 2-3-80-LINING     | Cloth, Knit, Lining, Appendix 4  |
| DSSPM 2-2-80-500        | Specification for CADPAT™ (TW) Canadian Disruptive Pattern (Temperate Woodlands), Appendix 5 |

**2.2 Other Publications.** The following documents form part of the specification to the extent specified herein. Effective date must be that in effect on the publication date of this specification.

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OPI/BPR: DSSPM 2-13



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Canadian Standards Board, Sales Unit  
11 Rue Laurier  
Place Portage Phase III  
Gatineau, Quebec K1A 1G6  
Telephone : 819-956-0425 ou 1-800-665-2472 (Canada only)  
Fax: 819-956-5644  
Email: [ncr.cgsb-ongc@pwgsc.gc.ca](mailto:ncr.cgsb-ongc@pwgsc.gc.ca)

|                    |  |
|--------------------|--|
| CAN/CGSB 4.2-M     | Textile Test Methods                       |
| CAN/CGSB-86.1-2003 | Care Labelling of Textiles                 |
| CAN/CGSB-54.1-M    | Stitches and Seams                         |
| CAN/CGSB-4.131     | Cotton-Covered or Polyester-Covered Thread |
| 4-GP-85Ma          | Nylon Thread                               |

### 2.3 Sealed Samples.

|              |   |
|--------------|---|
| DSSPM 326-01 | Glove, Cold/Wet Weather (for glove design)  |
| DSSPM 255-04 | Cloth, Twill, Nylon/Cotton, CADPAT™ (TW) (for construction, finish and hand)                        |
| DSSPM 259-01 | Cloth, Twist, Nylon/Cotton, CADPAT™ (TW) (for colour, Canadian Average Green)                       |
| DSSPM 281-01 | Cloth, Twist, Cotton/Nylon, 170g/m <sup>2</sup> , CADPAT™ (TW) (for colour, Canadian Average Green) |

2.4 **Paper Patterns.** The following paper pattern will be provided by the Department of National Defence, DSSPM 2-5:

GCWCF14      Gloves, Cold/Wet Weather

2.5 **Figures.** The following figures form part of this Specification. Figures are not to scale.

|            |  |
|------------|--|
| Figure I   | Dimensional Drawing for Scale of Measurements        |
| Figure II  | Palm View  |
| Figure III | Back View  |
| Figure IV  | Cord Lock – Front and Left Side Views                |
| Figure V   | Glove Coupling Device – Glove Clip and Triangle Hook |
| Figure VI  | Buckle   |

2.6 **Order of Precedence.** In the event of any inconsistency between the contract and technical data, the contract must take precedence. In the event of any inconsistency within the technical data (ie. within or between the Specification, sealed pattern, drawings, figures, and pattern drawings), the contractor must contact the Technical Authority or the Government agency in charge of contract documents.

## 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 **Design.** The CWWG must incorporate the following design features:

- a) Goatskin leather glove body with two-part trunk and half pique construction;
- b) Reinforced palm and curved fingers;
- c) Adjustable textile gauntlet cuff;
- d) Adjustable wrist suppression strap;
- e) Waterproof moisture vapour permeable barrier layer;
- f) Fully lined and insulated; and
- g) Glove coupling devices.

3.3 **Sizing.** The CWWG includes 13 sizes; A to N. The sizes and corresponding NSN as per Table IV and scale of measurements as per Table V and Figure I.

3.4 **Dies and Blocking Forms.** Dies used for cutting any components must be supplied by the contractor and must be in strict accordance with the paper pattern provided. The blocking forms must be provided by the contractor.

### 3.5 **Materials**

3.5.1 **Glove, body, palm reinforcement and fourchettes.** The glove body, palm reinforcement and fourchettes must be a drum dyed analine, 0.8-0.9 mm thick goatskin leather. Leather must meet testing requirements outlined in Appendix 1.

3.5.2 **Barrier Layer.** The barrier layer must consist of a waterproof moisture vapour permeable glove insert composed of a three layer laminate with a film sandwiched between two layers of non-woven nylon in accordance with Appendix 2.

3.5.3 **Insulation.** The glove must be insulated with synthetic fibre batting which meets requirements of Appendix 3.

3.5.4 **Lining.** Lining for the CWWG must be black and as specified in Appendix 4

3.5.5 **Gauntlet.** The gauntlet material must be made in accordance with D-80-001-121/SF-001 weighing 161 to 178 grams/square metre.

3.5.6 The gauntlet material must be printed in accordance with DSSPM 2-3-80-500, including Infra-Red (IRR). See sealed Pattern DSSPM 259-01 (for pattern, motif size, print quality and visual guide) and Sealed Pattern DSSPM 255-04 (for construction, finish, and hand) apply.

### 3.5.7 **Thread.**

3.5.7.1 **For closing leather shell, fourchettes, palm patch, elastication.** The thread must be nylon, (continuous filament), Type 2, with a breaking strength of 28N. When tested in accordance with the applicable test methods, the thread must meet requirements specified in 4-GP-85Ma for breaking strength, shrinkage and colourfastness. The colour must be black.

3.5.7.2 **For seaming and serging of lining, insulation and gauntlet.** The thread must be polyester core, polyester covered thread, with a minimum breaking strength of 18.0 N. When tested in accordance with the applicable test methods, the thread must meet the requirements specified in CAN/CGSB-4.131 for breaking strength, shrinkage and colourfastness to washing. The colour must match the materials being sewn. Black is acceptable for sewing the CADPAT™ (TW) gauntlet.

**3.5.8 Elastic Tape.** The wrist suppression must be two pieces of elastic, each 5/16-inch (8 mm) wide, braided construction, in accordance with Table I.

Table I: Technical Requirements of Elastic Tape

| Properties | Requirements                            | Tolerances |
|------------|---|------------|
| Mass       | 225 metres / kilogram                   | +/- 5%     |
| Cover Yarn | 300 denier textured natural polyester   |            |
| Core       | 12 ends of #42 rubber,<br>Colour: White |            |
| Picks/cm   | 30.3                                    | +/- 5%     |
| Stretch    | 125 percent White                       | +/- 5%     |
| Colour     | Undyed or White                         |            |

**Note:** Product EPB C10MM, from Cansew Inc. has been known to meet the specified requirements. Cansew Inc. is located at 111 Chabanel , Montreal (Quebec), telephone 1-800-361-7722, fax 514-385-5530, e-mail [info@cansew.ca](mailto:info@cansew.ca). Other commercial equivalents may be acceptable subject to approval from the Design Authority.

**3.5.9 Webbing.** The webbing for the wrist suppression strap must be 3/4-inch (19mm) 100% Nylon in accordance with Table II.

Table II: Technical Requirements of Suppression Strap Webbing

| Properties     | Requirements                     |
|----------------|----------------------------------|
| Type of Weave  | Plain, double weave              |
| Ground Ends    | 73-840/1 Nylon                   |
| Binder Ends    | 16-840/1 Nylon                   |
| Lockstitch     | 1-210 Denier Nylon               |
| Picks per Inch | 48-420 Denier Nylon              |
| Weight         | 14.3 kg/ 1000m (+/- 1.00 mm)     |
| Width          | 19.05 mm (tolerance +/- 1.00 mm) |

|                   |                                 |
|-------------------|---------------------------------|
| Thickness         | 1.35 mm (tolerance +/- 0.25 mm) |
| Breaking Strength | 4000 N. (tolerance +/- 450 N)   |
| Colour            | Black                           |

3.5.10 **Buckle.** The buckle for the wrist suppression strap must be 3/4-inch (19 mm) 100% nylon in accordance with Figure VI. Colour must be black.

3.5.11 **Elastic Cord.** The elastic cord for the bottom of the gauntlet must be 2.5 mm in diameter, 42% textured polyester, 58% rubber in accordance with Table III. The colour must be black.

Table III: Technical Requirements for Elastic Cord

| Properties | Requirements                   |
|------------|--------------------------------|
| Mass       | 230 metres/kilogram (tol +/-5) |
| Cover Yarn | 300 denier textured polyester  |
| Core       | 3 ends # 18 rubber             |
| Picks/cm   | 32.3 (tol +/-1.00mm)           |
| Stretch    | 145% (tolerance +/- 5%)        |

3.5.12 **Cord Lock.** The cord lock for the elastic cord for the bottom of the gauntlet must be black acetal with a non-corrosive metal spring and attachment slot. Cord lock on sealed sample 326-01 and Figure IV is an acceptable commercial style. Other styles are subject to approval of the Design Authority.

3.5.13 **Cord end cover.** The knot at the end of the elastic cord must be covered with black high quality plastic cylindrical bell, suitable to the thickness of the elastic cord.

3.5.14 **Glove Coupling System.** The glove coupling system, consisting of one glove clip and two triangular hooks must be acetal. The colour must be black. The glove coupling system illustrated and dimensioned in Figure V is a typical commercially available style that is acceptable. Other styles are subject to the approval of the Design Authority.

3.5.15 **Eyelet with Washer.** The eyelet is located on the drawstring tunnel and gauntlet. The eyelet must be brass with a gunmetal permanent oxide finish with an outer diameter of 10.0 mm and inner diameter of 4.8 mm. The eyelet must have a corresponding washer of nickel plated brass.

3.5.16 **Adhesive.** The contractor is responsible for selecting an adhesive or alternate method for bonding the lining layers to the leather glove body. The adhesive (and the quantity of adhesive used) must not adversely affect the materials, the manufacturing processes and the performance criteria specified. Use of the adhesive system must be in accordance with the adhesive supplier's instructions. The adhesive must not be hazardous to health when used as intended. The pull strength must be a minimum of 5 lbs. per finger. This pull test must be performed throughout the contract at a rate of once for every 100 pairs of gloves. If an adhesive is used at the

fingertips to ensure that the pull strength can be met, the pull strength tests must be conducted after the adhesive has been sufficiently cured.

### 3.6 **Cutting.**

3.6.1 Gloves must be cut the characteristics and tone of the leather match in each pair of gloves. Matching colors and features leather (cell size) must be in accordance with best market practice .

3.6.2 Gloves must be cut from leather that has been prepared in accordance with the highest commercial practice.

### 3.7 **Sewing.**

3.7.1 All seams and stitches must be in accordance with CAN/CGSB-54.1-M90: Part 1 for Stitch Types and Part 2 for Seam Types.

3.7.2 The needle size must be the minimum size compatible with sewing thread.

3.7.3 Thread tension must be adjusted to ensure balanced and correctly formed stitches. Skips, puckers or stitching malfunctions are not acceptable.

3.7.4 Beginning and end of lock stitched seams and stitching must be securely backstitched with 3-4 stitches if there is no other method used to secure end of seam.

3.7.5 Seams formed must be smooth and regular with even seam allowances. Stitching must be accurately and evenly placed from seam edges as specified.

3.7.6 Thread ends must be trimmed and removed.

3.7.7 **Lock stitching.** Must be seam type 1.01.01 Stitch type 301 with 11-15 stitches per 1-inch (2.54 cm) unless specified otherwise.

3.7.8 **Serging.** When specified, must be done with a three thread serger with a minimum of 13 stitches per inch (2.54 cm)

3.7.9 **Overlocking.** When specified, must be done using a single thread with 11-15 stitches per 1-inch (2.54 cm) The bight of the overlock must not exceed 2.5 mm and must be sufficient to ensure that all edges of the materials being sewn have securely enclosed by the stitching and the resultant seam is as thin as possible.

3.7.10 **Zig-zag stitching.** When specified, must be done using Stitch Type 321 using 10-13 stitches per inch (2.54 cm)

### 3.8 **Construction.**

#### 3.8.1 **Lining, insulation and barrier layer insert joining.**

3.8.1.1 The lining, insulation and barrier layer must extend fully throughout the entire glove.

3.8.1.2 The lining and insulation must be overlapped together. Tabs on the fingertips of the barrier must be included in the stitching of the corresponding fingertips of the lining/insulation.

3.8.2 The label must be positioned on the lining in the gauntlet portion of the back of the hand and stitched around the top and side edges. The bottom edge must be caught in the closing operation.

3.8.3 Layers of the lining/insulation and the insert must be turned right side out. After turning, lining must be inside the insert with the insulation sandwiched in between the layers. If the insert has a right and wrong side, the contractor must ensure the insert has been joined to the lining and insulation with the correct side facing the inside of the glove to maximize the transmission of moisture vapour. The lower edge of the lining, insulation and barrier layer must be serged together.

3.8.4 **Adhesive.** To ensure lining insert will not be pulled away when removing the glove from the hand, adhesive must be used on the finger tips to prevent membrane insert and glove lining from pulling apart. If membrane inserts with extended fingertips are utilized, the membrane must be sewn or tacked instead of adhesive.

### 3.8.5 **Glove Shell.**

3.8.5.1 **Fourchettes.** Fourchettes must be lock stitched at the finger tips of the third and fourth digits. The fourchettes must be pique seamed with Seam Type 2.01.01 using 301 on the fingers of the back of the glove. The hand back must overlap the fourchettes 5mm +/- 0.5 mm.

3.8.5.2 **Thumb.** Palm thumb must be lock stitched to the palm hand.

3.8.5.3 **Thumb and palm reinforcement.** The patch must be stitched to the palm and thumb with a double row of Stitch Type 301 set 1.5 mm to 2 mm apart using Seam Type 1.02.01. The first row of stitching must be 1.5 to 2 mm from the edge.

3.8.5.4 **Thumb Closing.** Thumb must be closed with a lock chain stitch.

3.8.5.5 **Wrist Elastic.** Two pieces of wrist elastic must be secured under tension on the flesh side of the leather to the wrist portion of the palm using a Stitch Type 321 and Seam Type 5.04.10.

3.8.5.6 **Wrist Suppression strap.** The wrist suppression strap must consist of two pieces of webbing. The webbing pieces must be threaded through the buckle as indicated on the sealed pattern. One end of the webbing must be turned under 3/16-inch (20 mm) and box stitched to form a buckle stop.

3.8.5.7 **Closing Seams.** Remaining finger seams and the closing seams must be lock stitched. Ends of the suppression strap must be sewn in place in the lateral seam and thumb seam of the glove body in line with the wrist elastic before closing. Suppression strap must be secured to the palm piece of the glove with a single row of stitching.

3.8.5.8 **Gauntlet.** Top and bottom edges of the gauntlet must be turned under and stitched 1 mm from the edge. The gauntlet seam may be joined in one or two operations.

3.8.5.9 **Eyelet.** An eyelet must be set into the lower edge of the gauntlet in line with the front closing seam. One end of the elastic cord must be securely stitched to the eyelet reinforcement patch, next to the eyelet, through the cord lock and through the cord end cover. The elastic cord must be knotted and the knot pulled into the cord end cover.

3.8.5.10 Gauntlet side seam must be lock stitched and serged together. Glove hooks must be attached with a leather loop, positioned 45mm from the top edge.

**3.8.5.11 Joining.** The barrier layer/insulation/lining must be inserted into the leather glove body and properly bonded with adhesive to ensure that the components do not separate during the life of the glove. The bottom edge of the gauntlet must be turned over the serged edge of the lining to form a casing. The casing edge must be turned under and topstitched 2 mm gauge. The casing must finish 15 to 17 mm wide. The elastic cord must be included in the casing.

**3.8.5.12 Cord Lock Attachment.** The leather loop must be threaded through the cord lock attachment slot. The ends of the leather loop must be glued with suitable adhesive. The leather loop must be positioned below the eyelet on the casing and securely stitched to the glove in the manner exhibited by the sealed pattern.

**3.8.6 Finishing.** The gloves must be turned and properly worked out at fingertips.

**3.8.7 Marking Label.**

**3.8.8 Marking and care label.** The following marking and care information must be printed indelibly and legibly on the label in accordance with specification D-80-001-055/SF-001, Label Clothing and Equipment. Label, Type II. The label colour must be Canadian Average Green in accordance with Sealed Pattern DSSPM 281-01. A label must be positioned on the fleece lining and stitched around all sides 1/16-inch (2 mm) from edge. A label must be in both right and left gloves.

- a) Nomenclature in English and French;
- b) Care instructions in English and French;
- c) NATO Stock Number (NSN) as required for each size. NSN's will be designated in the contract by item and size (See Table IV);
- d) Size;
- e) Contractor's CA number;
- f) Month and year of production;
- g) A two-letter code to identify the origin of the leather. For example: Canada = CA, Britain = BR, American = US; and
- h) Personal Identification –, include a line suitable for the user to write his name or CF number.

Example as follows:

GLOVES, COLD/WET WEATHER  
GANTS, TEMPS FROID ET PLUVIEUX  
DO NOT MACHINE WASH OR DRY  
NE PAS LAVER OU SECHER A LA MACHINE  
NSN/NNO: 8415-XX-XXX-XXXX  
SIZE/GRANDEUR: G  
CA ##### 09/2010 BR  
ID: \_\_\_\_\_

Table IV: Size range with NATO Stock Number

| SIZE | NSN              |
|------|------------------|
| A/A  | 8415-21-920-9019 |
| A    | 8415-21-920-8953 |
| B    | 8415-21-920-8954 |



|              |                  |
|--------------|------------------|
| C            | 8415-21-920-8955 |
| D            | 8415-21-920-8957 |
| E            | 8415-21-920-8958 |
| F            | 8415-21-920-8959 |
| G            | 8415-21-920-8960 |
| H            | 8415-21-920-8961 |
| I            | 8415-21-920-8951 |
| J            | 8415-21-920-8963 |
| K            | 8415-21-920-8964 |
| L            | 8415-21-920-8965 |
| M            | 8415-20-000-3560 |
| N            | 8415-20-003-7809 |
| Special Size | 8415-20-000-3561 |

**3.8.9 Care Instructions.** The following information must be legibly and indelibly printed in English and French on a hang tag that must be inserted in each package of gloves. The quality and appearance of the hang tag is subject to review and approval by design authority.

**3.8.10** No brand or product names can be permanently attached to the gloves in any way. Hang tags that are easily removable without damage to the product, with brand or product names/information/care instructions may be acceptable at no cost to the Crown, provided approval for text and use has been granted by the Design Authority.

#### **DESIGN**

These gloves were designed to provide environmental protection to the hands and wrists within the temperature range of +10°C to -15°C while maintaining the dexterity to fire weapons and/or operate complex and compact equipment. A breathable membrane makes the gloves waterproof.

Use CF issue work gloves or other specialty gloves as required for specialist tasks.

Minimize exposure of inside and outside of glove to deet (insect repellent).

#### **CARE INSTRUCTIONS**

DO NOT MACHINE WASH OR DRY. Wipe with damp cloth for light soil.

Hand wash with warm water and mild detergent or soap. Squeeze gently, Hang to dry.

If gloves become wet, dry at room temperature. Store dry, as damp conditions will cause mould, directly affecting the integrity of the materials.

#### **CONCEPTION**

Les gants ont été conçus pour protéger les mains et les poignets contre les intempéries à des températures variant entre +10°C et -15°C tout en conservant la dextérité nécessaire pour utiliser une arme et faire

fonctionner des équipements complexes ou compacts. Une membrane perméable à l'air rend les gants imperméables à l'eau.

Utilisez des gants distribués par les FC ou d'autres gants de spécialité au besoin, pour des tâches spécialisées.

Minimisez l'exposition de l'intérieur et de l'extérieur des gants au DEET (insecticide).

#### **INSTRUCTIONS D'ENTRETIEN**

NE PAS LAVER OU SÉCHER À LA MACHINE. Essuyer les gants avec un chiffon humide pour enlever la saleté non incrustée. Les laver à la main avec de l'eau tiède et un détergent doux. Serrer doucement pour égoutter. Suspendre les gants pour les faire sécher.

Si les gants deviennent humides, les faire sécher à la température ambiante. Entreposer au sec, car l'humidité produit de la moisissure qui réduit l'intégrité des matériaux.

## **4 QUALITY CONTROL AND INSPECTION**

4.1 Unless specified in the contract, the contractor is responsible for ensuring that the performance of all inspections and materials conform to the requirements of this Specification.

4.2 The Government reserves the right to perform any verification or testing deemed necessary to confirm that the 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.

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

## **5 NOTES**

5.1 **Intellectual Property.** 1 The information contained herein is Copyright to Her Majesty the Queen of Canada, as is its associated pattern. The term CADPAT<sup>TM</sup>, with and without extensions, is a registered Trademark belonging to the Department of National Defence. Any of the data contained in this specification, and its associated pattern, may be used only for goods for Canada. The printed textile and any items made therefrom must be for the sole end use of DND. There must be no selling or offering for sale of goods incorporating the CADPAT<sup>TM</sup> pattern and colours to any person or entity other than Canada without the Minister's prior written authorization. Explicit in this is that any goods of not first quality produced must not be released, sold, or offered for sale, directly or indirectly, to any person or corporation other than Canada without the Minister's prior written authorization.

5.2 **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.

## **6 DEFINITION OF TERMS**

6.1 **Technical Authority.** The Technical 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 Design Authority is the Director, Soldier System Program Management (DSSPM) 2-13, Department of National Defence.

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

6.2 **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.

6.3 **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.

6.4 **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 V: Scale of Measurements for Gloves, Cold/Wet Weather  
(All measurements are in millimeters)

|                      | <b>2<sup>nd</sup> Digit<br/>Length</b> | <b>Length from<br/>Wrist to 3<sup>rd</sup><br/>Digit Crotch</b> | <b>Palm Width</b> | <b>Gauntlet<br/>Diameter</b> |
|----------------------|--|---|-------------------|------------------------------|
| <b>Figure 1</b>      | <b>1</b>                               | <b>2</b>  | <b>3</b>          | <b>4</b>                     |
| <b>SIZE</b>          |  |   |                   |                              |
| <b>A</b>             | 62                                     | 132   | 106               | 175                          |
| <b>B</b>             | 65                                     | 132   | 106               | 175                          |
| <b>C</b>             | 65                                     | 136   | 111               | 180                          |
| <b>D</b>             | 70                                     | 136   | 111               | 180                          |
| <b>E</b>             | 65                                     | 141   | 116               | 185                          |
| <b>F</b>             | 70                                     | 141   | 116               | 185                          |
| <b>G</b>             | 77                                     | 141   | 116               | 185                          |
| <b>H</b>             | 70                                     | 145   | 121               | 190                          |
| <b>I</b>             | 77                                     | 145   | 121               | 190                          |
| <b>J</b>             | 70                                     | 149   | 126               | 195                          |
| <b>K</b>             | 77                                     | 149   | 126               | 195                          |
| <b>L</b>             | 81                                     | 153   | 131               | 200                          |
| <b>M</b>             | 83                                     | 157   | 136               | 200                          |
| <b>N</b>             | 88                                     | 161   | 141               | 205                          |
| <b>Tolerance +/-</b> | 3                                      | 4   | 4                 | 4                            |

Figure I Dimensional Drawing for Scale of Measurements

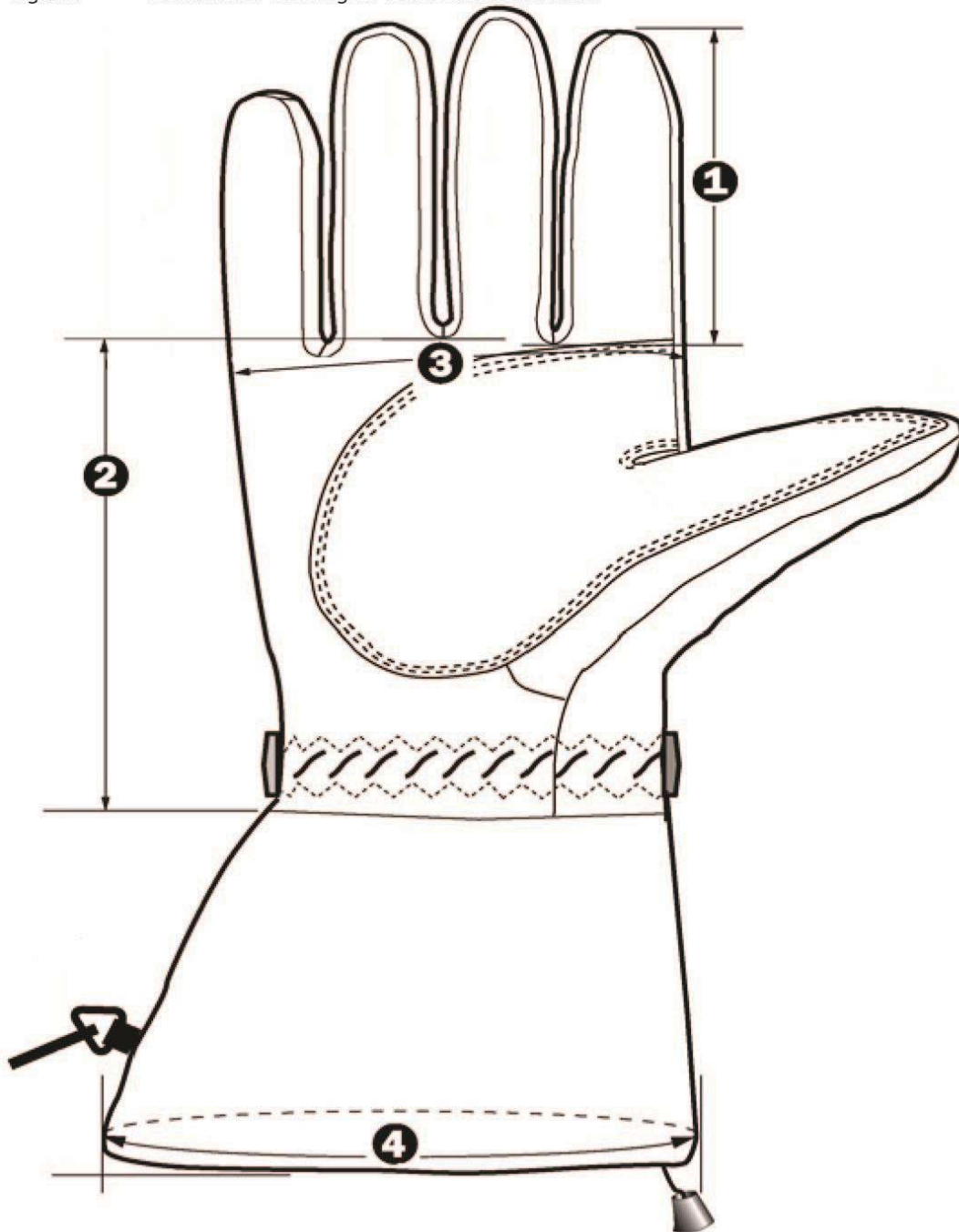
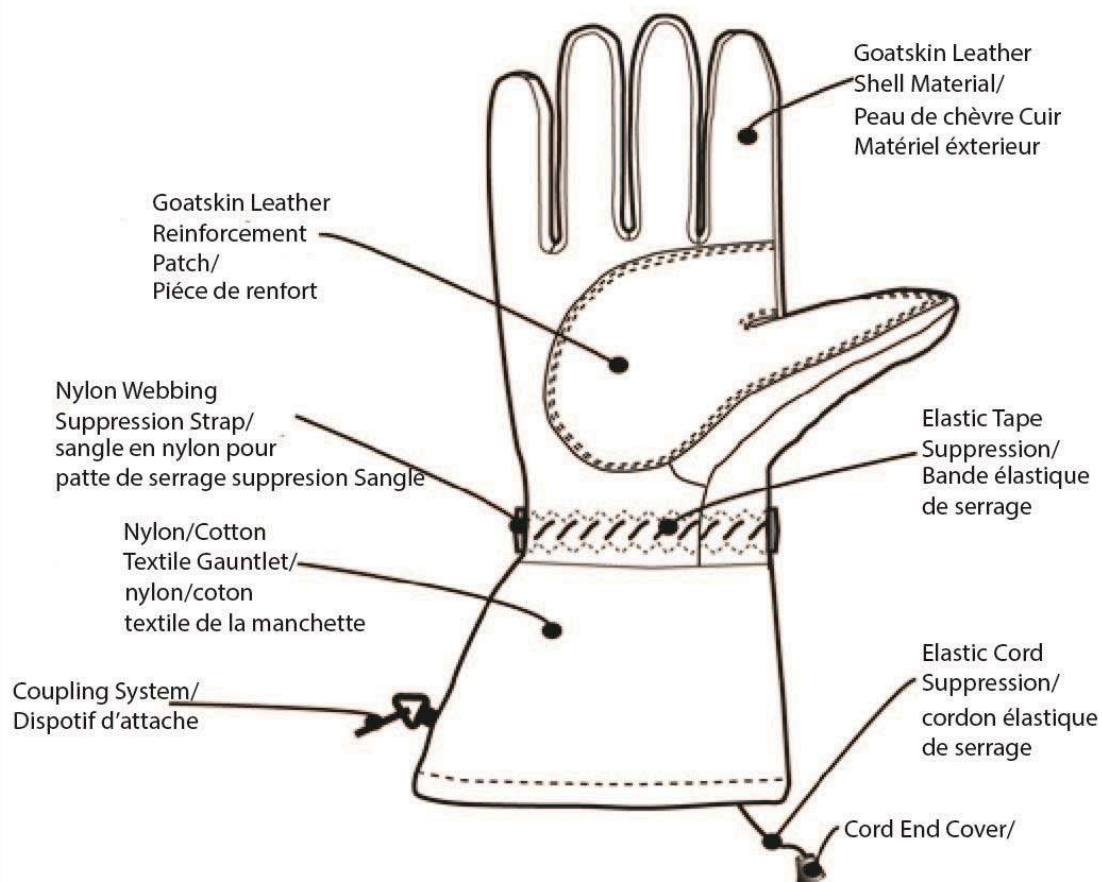


Figure II: PalmView  
Figure II: Vue de la paume



Notes/Remarques:

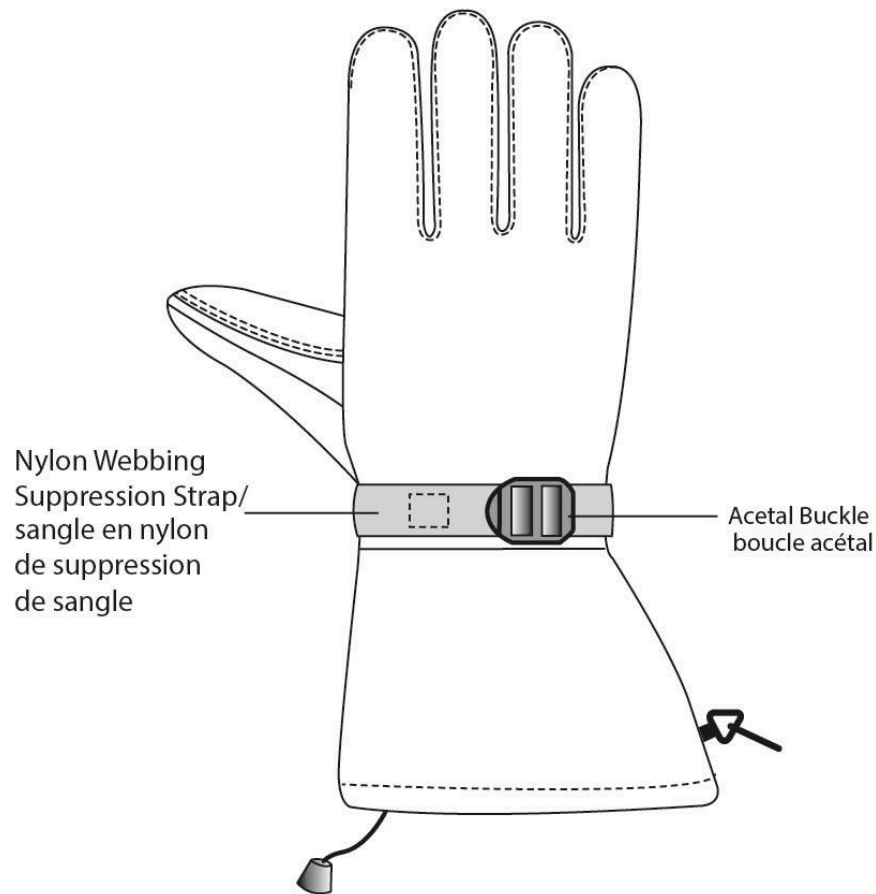
Drawings are not to scale

Dessins ne sont pas à l'échelle

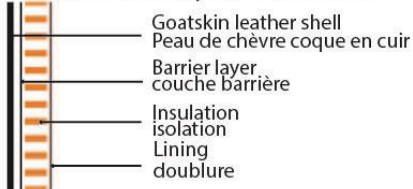
Drawings are to be used for guidance only

Les dessins sont à utiliser à titre indicatif seulement

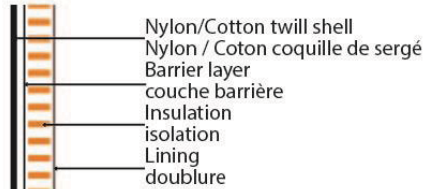
Figure III: Gloves, Cold/Wet Weather - Back Palm View  
Figure III: Gants, froid / humide Météo - Vue arrière de palme



Cross Section Couches - au poignet  
Cross Section: Layers - to the wrist



Cross Section: Layers - gauntlet/  
Couches de la section de la Croix-

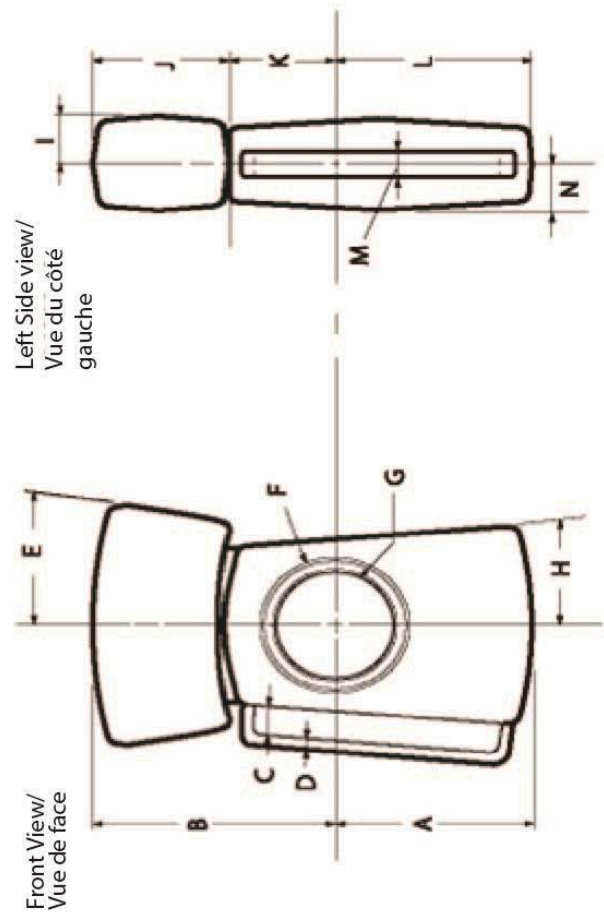


Notes/Remarques:

Drawings are not to scale  
Dessins ne sont pas à l'échelle  
Drawings are to be used for guidance only  
Les dessins sont à utiliser à titre indicatif seulement

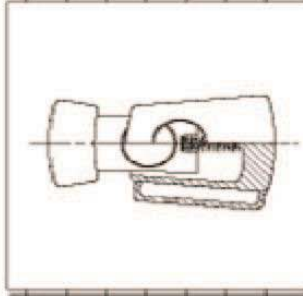


Figure IV: Cord Lock - Front and Left Side View  
Figure IV: Cord Lock - avant et Vue du côté gauche



Dimensions

| key | in   | mm        | key | in   | mm    |
|-----|------|-----------|-----|------|-------|
| A   | 0.43 | 11.00     | H   | 0.23 | 5.90  |
| B   | 0.55 | 14.00     | I   | 0.10 | 2.45  |
| C   | 0.07 | 1.70      | J   | 0.28 | 7.00  |
| D   | 0.05 | 1.20      | K   | 0.28 | 7.00  |
| E   | 0.22 | 5.55      | L   | 0.43 | 11.00 |
| F   | 0.23 | 5.80 dia. | M   | 0.10 | 2.50  |
| G   | 0.22 | 5.55 dia. | N   | 0.11 | 2.70  |



Cord Lock (Relaxed) - Assembled-Cut Away  
Dispositif de blocage (relâché) - assemblé - détail de coupe



Figure V: Glove Coupling Device - Glove Clip and Triangle Hook  
Figure V: Gant dispositif d'attelage - clip gants et Triangle Crochet

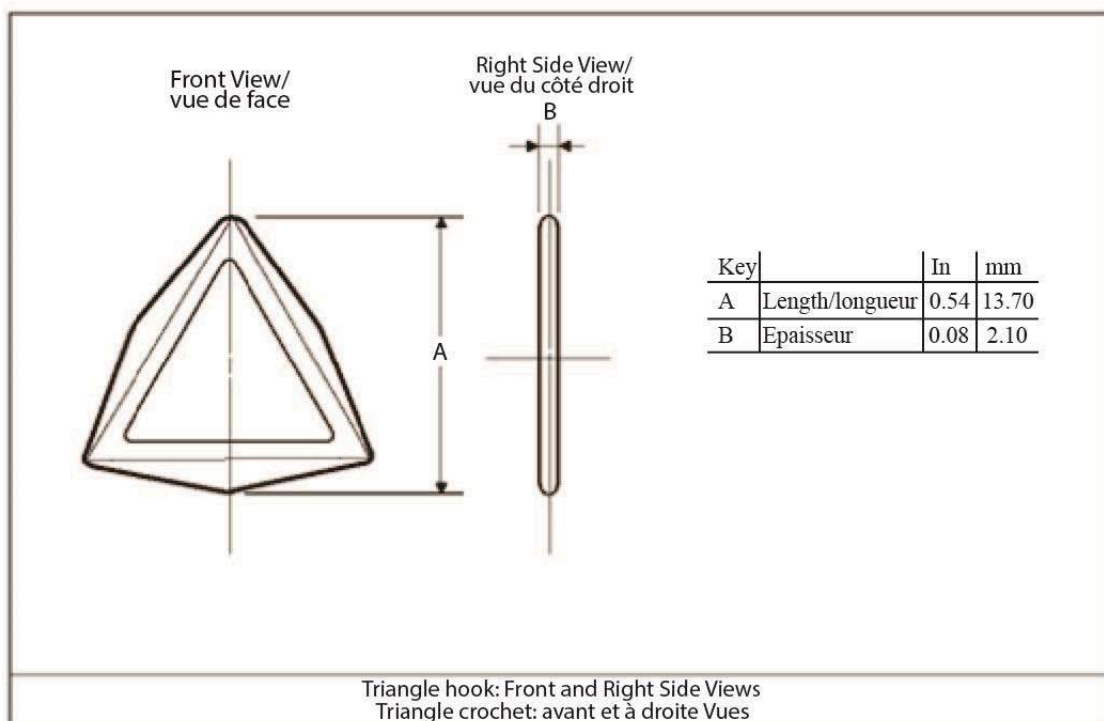
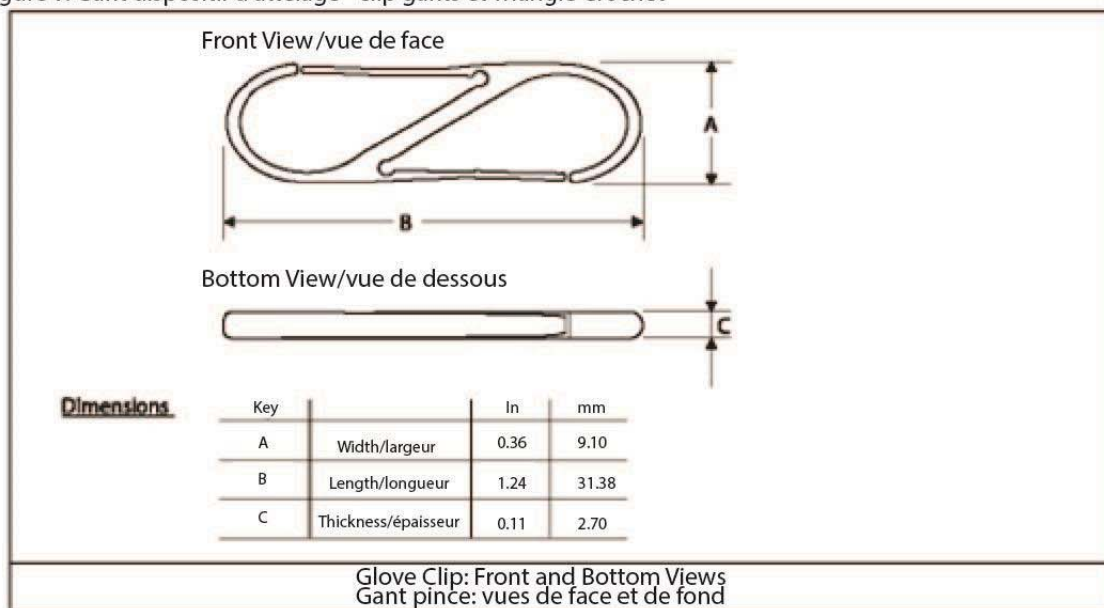
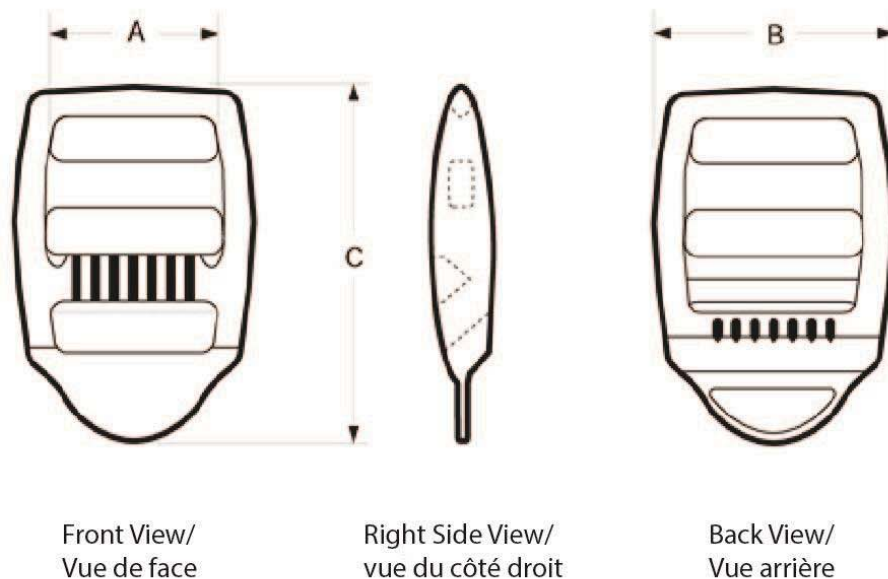


Figure VI: Buckle  
Figure VI: Boucle



| Dimensions |   | Measurement/<br>mesures | Tolerance/<br>tolérance |    |
|------------|---|-------------------------|-------------------------|----|
| A          | Inside Width/<br>Largeur intérieure     | 0.750                   | +/-0.017                | in |
|            |   | 19.050                  | +/-0.432                | mm |
| B          | Outside Width/<br>Largeur à l'extérieur | 1.022                   | +/-0.029                | in |
|            |   | 25.959                  | +/-7.366                | mm |
| C          | length/<br>longueur                     | 1.536                   | +/-0.025                | in |
|            |   | 39.014                  | +/-6.350                | mm |

Notes/Remarques:  
Drawings are not to scale  
Dessins ne sont pas à l'échelle  
Drawings are to be used for guidance only  
Les dessins sont à utiliser à titre indicatif  
seulement



NOTICE

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AVIS

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Annex B Appendix 1  
To : W8486-163147  
DSSPM 2-3-87-GOATSKIN  
20 February 2011

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

1 **SCOPE.** This specification defines the technical requirements for chrome tanned, aniline goatskin leather used for gloving end-item applications.

2 **APPLICABLE DOCUMENTS**

2.1 The following documents or portions thereof are referenced within this specification and shall be considered part of the requirement. Documents referenced within the documents cited herein shall not be applicable unless the extent is specifically delineated in this specification. The edition in effect on the date of the Request for Proposal is the applicable edition unless otherwise specified.

2.2 **Government Documents.** Not applicable

2.3 **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.

*American Society for Testing and Materials (ASTM)*  
100 Barr Harbor Drive  
West Conshohocken, PA  
19428-2959  
Phone: (610)-832-9585  
Fax: (610)-832-9555

|               |  |
|---------------|--|
| ASTM D1813    | Standard Test Method for Measuring Thickness of Leather Test Specimens           |
| ASTM D1814    | Standard Test Method for Measuring Thickness of Leather Units                    |
| ASTM D1815    | Standard Test Method for Water Absorption (Static) of Vegetable Tanned Leather   |
| ASTM D2212    | Standard Test Method for Slit Tear Resistance of Leather                         |
| ASTM D2807-93 | Standard Test Method for Chromic Oxide in Leather<br>(Perchloric Acid Oxidation) |
| ASTM D2810-93 | Standard Test Method for pH of Leather   |
| ASTM D4966    | Standard Test Method for Abrasion Resistance of Textile                          |

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OPI/BPR: DSSPM 2-3

  
**Canada**

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Fabrics (Martindale Abrasion Tester Method)  
ASTM E 96      Standard Test Methods for Water Vapour Transmission of Materials

*American Association of Textile Chemists and Colorists*  
*P.O. Box 12215*  
*Research Triangle Park, North Carolina,*  
*27709 U.S.A*

AATCC Test Method 118-92      Oil Repellency: Hydrocarbon Resistance Test

*British Standards Organization*  
*389 Chiswick High Road*  
*London, United Kingdom W4 4AL*  
*Phone: 44 181996 7000*  
*Fax: 44 181996 7001*

BS 3144 -1987      Methods of Sampling and Testing of Leather, Part 28: Method for Measurements  
and Thickness of Surface Coatings on Leather

*KES Kato Tech Co., LTD.*  
*26 Karato-cho Nishikujo Minami-ku*  
*Kyoto 601 Japan*  
*Telephone: 075-681-5244*  
*Fax: 075-681-5243*

KES Kato Tech Co. Ltd.      Manual for Pure Bending Tester KES-FB-2: The Standardisation and  
Analysis of Hand Evaluation, Chapter IV. Measurement of the Mechanical  
Properties of Fabrics - (para 2.2) Bending Properties

*Canadian General Standards Board Sales Unit*  
*11 Laurier Street*  
*Place du Portage, Phase III*  
*Gatineau, Quebec, K1A 1G6*  
*ncr.cgsb-ongc@pwgsc.gc.ca*

CAN/CGSB-4.2M Method 22      Colourfastness to Rubbing (Crocking)

CAN/CGSB-4.2M Method 26.3 Water      Resistance

*General Services Administration*  
*General Services Administration Business Center*  
*Chicago, Illinois. U.S.A*

FED-STD-311      Leather Methods of Sampling      and Testing

*Standards Council of Canada*  
*350 Sparks Street, Suite 1200*  
*Ottawa, Ontario, K1P 6N7*

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

### 3 REQUIREMENTS

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

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

3.3 **Trim.** The edges of the belly and the forepart shall be trimmed in accordance with standard tannery practice and shall be free from ragged edges.

3.4 **Colour.** Colour shall be as specified in the contract.

3.5 **Thickness.** The thickness shall be as specified in the related specification.

3.6 **Testing.** Required properties and performance levels are described in the Table I. Independent accredited laboratories very experienced in the testing of leather shall carry out these tests. Test results shall be provided to the Department of National Defence on the basis specified in the contract.

### 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.

#### 4.2 PACKAGING

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

### 5 NOTES

5.1 Procurement documents should specify the title, number and date of this specification.  
Specification Copies. Copies of this specification may be obtained from the *Department of National Defence, Ottawa, Ontario K1A 0K2, Attention: DSSPM 2-3-1.*

5.2 **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.

### 6 Definition of terms

6.1 **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 Clothing, General Engineering and Maintenance.

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

**6.4 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.

**6.5 Technical Authority.** The Technical Authority is the Government agency responsible for the technical aspects of this specification. The Technical Authority for this requirement is the Directorate of Soldier Systems Program Management (DSSPM 2), *Department of National Defence, 101 Colonel By Drive, Ottawa, Ontario, K1A 0K2.*

Table I: Chemical and Physical Properties of the Goatskin Leather

| TEST NO. | PROPERTY   | TEST METHOD  | REQUIREMENT  |
|----------|--|--|--|
| 1.       | Chromium Oxide in Leather (per cent)   | ASTM D 2807 - 93   | Minimum: 2%  |
| 2.       | pH of Leather  | ASTM D 2810 - 93   | Minimum: 3.5   |
| 3.       | Thickness (ounces or millimetres)  | ASTM D 1813<br>OR<br>ASTM D 1814 - 70 (Woburn Gauge)   | As specified in Annex C  |
| 4.       | Oil and Stain Release<br><br>NOTE: Liquids will lose contact angle on leather and droplets will spread out. This is not to be considered a failure. However, liquids soaking into the leather constitutes a failure. | AATCC Method 118 – 92  | Minimum: Rating 4  |
| 5.       | Colourfastness to Rubbing (Crocking)   | CAN/CGSB-4.2-M Method 22   | Required:<br>Dry & Wet: Gray Scale 4<br><br>Maximum:<br>Dry & Wet: Gray Scale 3  |
| 6.       | Water Resistance (kilo Pascals)  | CAN/CGSB-4.2-M Method 26.3<br>or<br>ISO 811<br>60 cm water/min<br>10cm <sup>2</sup> test area<br>See note for modification to the test method <sup>1</sup> | Minimum: 30 kPa  |
| 7.       | Static Water Absorption (grams / cm <sup>3</sup> )   | ASTM D1815   | Maximum: 0.20 grams / cm <sup>3</sup>  |
| 8.       | Water Vapour Diffusion (grams per m <sup>2</sup> /hour)  | ASTM E 96<br>(Desiccant Method)  | No specimen can be less than 50 g/m <sup>2</sup> /h  |
| 9.       | Tear Strength (Newtons)<br><br>Initial<br><br><br><br>After Abrasion   | British Standard (BS) 3144<br>OR<br>ASTM D 2212<br>5 specimens / direction<br><br>ASTM D 4966<br>1600 cycles<br>5 specimens per direction                  | 44 N Minimum (average of all 10 specimens)<br>Note: No more than one specimen per direction may be less than 44 N.<br><br>44 N Minimum (average of all 10 specimens)<br>Note: No more than one specimen per direction may be less than 44 N. |
| 10.      | Shrinkage Temperature (degrees Celcius)  | FED STD 311, Method 7011.1   | Minimum: 90o C   |

| TEST NO. | PROPERTY                              | TEST METHOD   | REQUIREMENT  |
|----------|---------------------------------------|---|--|
| 11.      | Stiffness<br>(gf•cm <sup>2</sup> /cm) | Kawabata Evaluation System*:<br>Sensitivity: 5x1<br>Specimen Width: 15 cm | Maximum B Mean:<br>Length: 0.9 gf•cm <sup>2</sup> /cm<br>Width: 0.6 gf•cm <sup>2</sup> /cm |

\* References for Kawabata Evaluation System:

- a. Manual for Pure Bending Tester KES-FB-2
- b. The Standardisation and Analysis of Hand Evaluation, Chapter IV. Measurement of the Mechanical Properties of Fabrics - (para 2.2) Bending Properties

<sup>1</sup>For Water Resistance CGSB 26.3/ISO 811, a stiff wire mesh (8 holes/inch) shall be placed in contact with the leather (on the leather face side which is not in contact with the water) to prevent distension of the leather while under pressure.





NOTICE

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AVIS

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Annexe B Appendix 2  
To: W8486-163147  
DAPES 2-3-87-INSERT  
20 Septembre 2004

**DONNÉES DE FABRICATION**  
**POUR**  
**VAPEUR ÉTANCHE À L'EAU, PERMÉABLE À L'HUMIDITÉ INSÉRER (WMVP)**

1 **Portée.** Cette spécification définit les exigences techniques pour une vapeur étanche à l'eau, perméable à l'humidité (WMVP) insérer pour une utilisation dans le port de gants applications de point de fin.

2 **DOCUMENTS APPLICABLES**

2.1 Les documents suivants font partie de la présente spécification dans la mesure précisée ci-après. Les références citées dans ces documents ne sont pas applicables, à moins que le présent devis ne le précise expressément. Sauf indication contraire, l'édition en vigueur à la date de la demande de propositions s'applique.

2.2 **Documents du gouvernement.** Sans Objet

2.3 **Autres publications.** Le gouvernement ne fournira pas les documents indiqués ci-dessous qui peuvent être obtenus auprès de la source mentionnée ci-après.

*Office des normes générales du Canada*  
*Gatineau (Québec) Canada K1A 1G6*  
*Téléphone : 819-956-0425 ou 1 800-665-CGSB (Canada seulement)*  
*Télécopieur : 819-956-5644*  
*Internet : [ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca](mailto:ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca)*

CAN/CGSB-4.2M Méthodes pour épreuves textiles

CAN/CGSB 15.19 Insectifuge Diethyltoluamide

*American Society for Testing Material (ASTM)*  
*P.O. Box C700*  
*West Conshohocken, PA*  
*19428-2959, É.-U.*  
*Téléphone : 610-832-9585*  
*Courriel : [service@astm.org](mailto:service@astm.org)*

ASTM D4966 Standard Test Method for Abrasion Resistance of Textile Fabrics (Martindale Abrasion Tester Method)

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OPI/BPR: DSSPM 2-13

ASTM F392                      Standard Test Method for Flex Durability of Flexible Barrier Materials

*General Services Administration  
General Services Administration Business Center  
Chicago, Illinois. U.S.A*

FED-STD-191 Federal Standard Textile Test Methods

MIL-PRF-63460D            Lubricant, Cleaner and Preservative for Weapons and Weapons Systems

*International Standards Organization (ISO)  
Case Postale 56  
Geneva, Switzerland. CH- 1211  
Phone: 41 22 749 01 11  
Fax: 4122 733 34 30*

ISO 6330                      Textiles - Domestic Washing and Drying Procedures for Textile Testing

*Transport Canada  
Tower C. 330 Sparks Street  
Ottawa, Ontario K1A 0N8  
Attn: Ms. P. Doris*

TP 1324                      Material Specification For Coated Fabrics Used in the Manufacture of Inflatable Life Rafts

### 3                      **EXIGENCES**

#### 3.1                      **Matériaux**

3.1.1    Le étanche vapeur d'eau gant perméable insert doit être construit à partir d'une couche imperméable à l'eau de trois stratifié. Les couches sont constituées de textile, le film et une autre couche de textile. Le textile est un nylon filé-lié 6,6, non-tissé. La colle utilisée pour coller les couches ensemble aura pas de risques néfastes pour la santé lorsqu'ils sont utilisés comme prévu. Tous les composants de l'insert de gant doivent répondre aux caractéristiques de performance du tableau I.

3.1.2    Le fabricant de la vapeur d'eau étanche insert perméable doit fournir au fabricant de gants avec des informations suffisantes pour permettre le gant à faire pour profiter au maximum de l'utilisation de cette couche. Des données telles que le côté face (vers l'extérieur) et les méthodes d'insertion appropriées, etc sont à la charge du fabricant étanche perméable à la vapeur d'insertion en collaboration avec le fabricant de gants. Toutes les données doivent être à la disposition du ministère de la Défense nationale sur demande.

3.1.3    Domaines assemblés, lorsqu'ils sont exposés à des produits chimiques, ne doivent pas se décoller ou montrer des signes visibles de perte ou de dommage, et doivent conserver les propriétés hydrostatiques et résistance à l'eau (voir le tableau II).

3.1.4    La vapeur d'humidité imperméable à l'eau perméable à gant insert est apte à être inséré au cours du processus de fabrication sans perte d'intégrité. Les bouts des doigts et du pouce doivent pouvoir être maintenus en place dans le gant sans affecter la tactilité, la dextérité ou l'intégrité globale du gant.

3.1.5 Le délaminage est définie comme la séparation, bulles, des fissures ou des trous entre le film (imperméable à l'eau la vapeur d'eau de matériau perméable) et le non tissé. Délaminage n'est autorisé que si la forme de bulles discrètes, espacées de mesure inférieure à 5 mm dans n'importe quelle direction. Tous les échantillons d'essai doivent être examinés visuellement pour délaminage avant, pendant et après les procédures d'essai, avec les résultats rapportés. Séparation de substrat de film au moment de la rafale (rafale précédente ou immédiatement) pendant le test hydrostatique n'est pas considérée comme une délamination. L'insert doit pas présenter de signes visibles de délaminage ou de perte de revêtement ou d'un film pendant la vie utile de la boîte à gants.

3.1.6 Les inserts, qui sont normalement utilisés dans les gants commerciales, doivent assurer un niveau élevé de l'étanchéité et évaporation de la sueur. Les joints doivent être scellés pour résister à la pénétration de l'eau et ne doivent pas séparer l'usure et l'entretien normal.

3.1.7 Test. Propriétés requises et les niveaux de performance sont décrits dans les tableaux ci-dessous. Les deux côtés de la toile d'insertion WMVP doivent satisfaire aux résultats d'essai spécifiées. Des laboratoires indépendants accrédités doivent effectuer ces tests. Les résultats des tests doivent être prévus pour le ministère de la Défense nationale sur la base indiquée dans le contrat.

#### 4 **QUALITY CONTROL/INSPECTION**

4.1 Sauf indication contraire dans le présent contrat, il incombe à l'entrepreneur principal de satisfaire aux exigences de l'autorité responsable de l'inspection visant les matériaux et les services fournis conformément à la présente spécification. L'entrepreneur peut y parvenir en effectuant les essais prescrits dans la présente spécification ou en démontrant à la satisfaction de l'autorité responsable de l'inspection que le procédé et les techniques de fabrication sont maîtrisés de manière à assurer la conformité à la présente spécification. L'entrepreneur peut utiliser ses propres installations ou tout établissement commercial spécialisé dans les essais que l'autorité responsable de l'inspection juge acceptables.

#### 4.2 **CONDITIONNEMENT**

4.2.1 **Conditionnement et emballage.** Sauf indication contraire, le conditionnement et l'emballage de même que l'expédition doivent s'effectuer conformément aux modalités du présent contrat.

#### 5 **NOTES**

5.1 **Exigences relatives à la santé, à la sécurité et à l'environnement.** La fabrication ou l'évaluation d'un produit conformément au présent devis pourrait nécessiter l'utilisation de matériaux ou d'équipement susceptibles d'être 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 qui pourraient être associées à son utilisation. Il incombe à l'utilisateur du devis 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 applicable.

#### 6 **Définition des termes**

6.1 **Autorité responsable de la conception.** Autorité responsable des aspects techniques de la conception et des modifications connexes. Sauf indication contraire dans le contrat, l'autorité responsable de la conception est la Direction – Administration du programme de l'équipement du soldat (DAPES) du ministère de la Défense nationale.

6.2 **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 sera précisée dans le contrat.

6.3 **Ordre de priorité.** En cas de divergence entre les documents mentionnés aux présentes comme le contrat, la spécification et les échantillons réglementaires, l'ordre de préséance doit être le contrat, la spécification, drawings et les échantillons réglementaires.

TABLE I – WMVP Glove Insert

| TEST NO. | PROPRIÉTÉ                                   | MÉTHODE D'ESSAI  | EXIGENCE                                  |
|----------|---|--|---|
| 1.       | De masse (grammes)                          | Prendre un carré de 4 "par 4" de matériel (sans coutures) et le peser.   | Maximum: 1 g                              |
| 2.       | Stabilité dimensionnelle (%)                | Mesure - FED-STD-191 Méthode 675 par 6 et 7.4<br><br>Laver les procédures / sec - ISO-6330 (2A) ou (2B) et par 6.5 - Procédure E # | maximum<br>Longueur: 7,5%<br>Largeur: 5%  |
| 3        | Résistance au déchirement (Newton) initiale | CAN/CGSB-4.2-M Method 12.2   | Minimum: Longueur: 65 N Largeur: 38 N     |
| 4.       | Rigidité - Drapé (cm)                       | FED-STD-191 Method 5204  | Maximum: Longueur: 6,3 cm Largeur: 6,3 cm |
| 5.       | Résistance à la perforation (Newton)        | Transports Canada TP 1324 par 4,5  | Minimum: 43 N                             |

| TEST NO. | PROPRIÉTÉ   | MÉTHODE D'ESSAI  | EXIGENCE  |
|----------|---|--|---|
| 6.       | <p>Résistance hydrostatique (kPa)</p> <p>NB: côté tourné vers l'extérieur dans la main (tel que défini par les instructions du fabricant) à être contre l'eau pour l'essai</p> <p>initiale</p> <p>Après flex froid à -20 ° C (NB: l'échantillon est placé dans la chambre froide et permis de conditionner pendant une heure avant de commencer le test de flexion)</p> <p>Après vieillissement (70 ° C et 95% d'humidité relative pendant 168 heures)</p> <p>Après l'abrasion (tournée vers l'extérieur côté contre le cuir)</p> | <p>CAN / CGSB-4.2-M<br/>Méthode 26,5</p> <p>ASTM F 392 (NB: Flexion est à effectuer pendant une heure, ou 2700 cycles)</p> <p>ASTM D 4966</p> <p>9 kPa - 4000 cycles</p> | <p>Minimum: 145 kPa</p> <p>Minimum: 145 kPa</p> <p>Minimum: 145 kPa</p> <p>Minimum: 145 kPa</p> |

| TEST NO. | PROPRIÉTÉ   | MÉTHODE D'ESSAI   | EXIGENCE  |
|----------|---|---|---|
| 7.       | <p>Résistance à l'eau:</p> <p>NB: tourné vers l'extérieur côté dans la main (tel que défini par les instructions du fabricant, soit à l'eau pour le test</p> <p>initiale</p> <p>Après flex froid à -20 ° C (NB: l'échantillon est placé dans la chambre froide et permis de conditionner pendant une heure avant de commencer le test de flexion)</p> <p>Après vieillissement (70 ° C et 95% d'humidité relative pendant 168 heures)</p> <p>Après l'abrasion (côté face contre le cuir)</p> | <p>(NB: Conditions pour être de 10 psi (68,95 kPa) maintenue constante pendant 10 minutes avec l'équipement nécessaire pour 26,5)</p> <p>CAN / CGSB-4.2-M<br/>Méthode 26,5</p> <p>ASTM F392 (NB: flexion doit être effectué pendant une heure, ou 2700 cycles)</p> <p>ASTM D 4966<br/>9 poids kPa - 4000 cycles</p> | <p>aucune fuite</p> <p>aucune fuite</p> <p>aucune fuite</p> <p>aucune fuite</p> |
| 8.       | <p>Transmission de la vapeur d'humidité</p> <p>initiale</p> <p>Résistance (mm équivalent encore de l'air)</p> <p>initiale</p> <p>Après vieillissement (70 ° C et 95% d'humidité relative pendant 168 heures)</p>  | <p>CAN / CGSB-4.2-M<br/>Méthode 49<br/>Option 1 - Version 1999</p>  | <p>Maximum: 11</p> <p>Maximum: 11</p> <p>Maximum: 11</p> <p>Maximum: 11</p>     |

| TEST NO. | PROPRIÉTÉ  | MÉTHODE D'ESSAI   | EXIGENCE                                       |
|----------|--|---|--|
| 9.       | <p>Résistance aux produits chimiques</p> <p>Insectifuge (DEET) liquide conformément à la norme CAN / ONGC 15.19 (75%)</p> <p>- naphte</p> <p>- Solvant conformément à MIL-PRF-63460D</p> <p>- La transpiration synthétique</p> | <p>Voir «Procédure d'essai de résistance chimique" après le tableau II, pour la méthode d'essai d'exposition chimique. Après l'exposition de chaque:</p> <p>Résistance hydrostatique CAN / CGSB-4.2-M<br/>Méthode 26,5</p> <p>Résistance à l'eau<br/>CAN / CGSB-4.2-M<br/>Méthode 26,5</p> <p>10 min / 10 psi (68 kPa 95)</p> | <p>Minimum 120 kPa</p> <p>aucune fuite</p>     |
| 10.      | <p>Delamination</p> <p>délaminage</p>  | <p>Visual - during and after each procedure indicated in entire table</p> <p>Visuel - pendant et après chaque procédure indiquée dans le tableau au complet</p>   | <p>No delamination</p> <p>Aucun délaminage</p> |

TOUS LES TESTS DE LA LAVAGE POUR SE FAIRE CONFORMÉMENT À LA NORME ISO 6330 (2A) OU (2B) AT 60 ° C

NOTE: Les nouveaux échantillons doivent être utilisés pour l'essai n ° 6 et n ° 7.



TABLE II – WMVP Glove Insert Seams

| TEST NO. | PROPERTY   | TEST METHOD   | REQUIREMENT                                   |
|----------|--|---|---|
| 1.       | <p>Résistance hydrostatique (kilo Pascal)</p> <p>NB: côté tourné vers l'extérieur dans la main (tel que défini par les instructions du fabricant) à être contre l'eau pour l'essai</p> <p>initiale</p> <p>Après exposition à:</p> <ul style="list-style-type: none"> <li>• Insectifuge (DEET) liquide conformément à la norme CAN / ONGC 15.19 (75%)</li> <li>• naphte</li> <li>• Solvant conformément à MIL-PRF-63460D</li> <li>• La transpiration synthétique</li> </ul> | <p>CAN / CGSB-4.2-M<br/>Méthode 26,5</p> <p>Voir "Procédure de test pour la résistance chimique", à la suite de cette table, pour la méthode d'essai d'exposition chimique.</p> | <p>Minimum 145 kPa</p> <p>Minimum 120 kPa</p> |
| 2.       | <p>Seam Strength Test (Newtons)</p> <p>Force couture Test (Newton)</p>   | <p>CAN/CGSB-4.2-M<br/>Method 32.2</p> <p>CAN/CGSB-4.2-M<br/>Method 32.2</p>   | <p>Minimum 75 N</p> <p>Minimum 75 N</p>       |

### **PROCÉDURE D'ESSAI POUR LA RÉSISTANCE CHIMIQUE**

1 Un échantillon de taille suffisante pour réaliser les tests suivants seront préparés. L'essai doit être effectué sur la vapeur d'eau matériau perméable étanche. Les produits chimiques doivent être placés sur le côté de la WMVP que son fabricant a réalisé pour être du côté de la face extérieure.

2 Pour les produits chimiques liquides, une quantité de 100 ml / m<sup>2</sup> du liquide d'essai doit être placé sur le dessus du tissu de test et réparti aussi uniformément que possible sur toute la surface à l'aide d'une raclette en plastique. Autant que possible du tissu d'essai devraient être couverts avec des produits chimiques, mais en laissant une bordure d'un (1) cm de largeur doit être laissée intacte. Cela devrait veiller à ce qu'aucun produit chimique s'infilte en dehors du poids, après il est appliqué.

3 Pour la crème non-liquide, une quantité de 50 g / m<sup>2</sup> de la substance chimique doit être placé sur le dessus du tissu d'essai et répartis aussi uniformément que possible sur toute la surface à l'aide d'une raclette en plastique. Une bordure d'un (1) cm de largeur doit être laissée intacte.

4 L'ensemble de la zone de test est ensuite recouvert d'une plaque de verre et pondéré pour un poids total de 6,9 kPa (1 psi).

5 Cette couverture pondérée est laissée en place pendant deux (2) heures.

6 Il est ensuite soumis à des tests de résistance hydrostatique, CAN / CGSB-4.2-M (26,5), et doit se conformer à des propriétés 9 et 10 dans le tableau I (résistance aux produits chimiques et délaminage). Les cinq (5) échantillons doivent passer. Notez que le côté de la face externe de la WMVP est face à l'eau pour les tests hydrostatiques.



NOTICE

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AVIS

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ANNEX B Appendix 3  
To: W8486-163147  
DSSPM 2-3-80-Insulation  
18 February 2002

## SPECIFICATION

### CLOTH, INSULATION, SYNTHETIC

#### 1 SCOPE

1.1 **Scope.** This specification defines the technical requirements for synthetic cloth insulation for use in gloving end item applications.

#### 2 APPLICABLE DOCUMENTS

2.1 The following documents or portions thereof are referenced within this specification and shall be considered part of the requirement. Documents referenced within the documents cited herein shall not be applicable unless the extent is specifically delineated in this specification. The edition in effect on the date of the Request for Proposal is the applicable edition unless otherwise specified.

##### 2.2 Government Documents

Not applicable

2.3 **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.

*Canadian General Standards Board Sales Unit*  
11 Laurier Street  
Place du Portage, Phase III  
Gatineau, Quebec, K1A 1G6

CAN/CGSB-4.2-M Textile Test Methods

*American Society for Testing and Materials (ASTM)*  
1916 Race Street  
Philadelphia, PA. 19104 U.S.A.

ASTM D4770 Standard Test Method for Evaluation of Man-Made Fiber  
Batting Used as Filling in Outer Wear Apparel

ASTM D4970 Standard Test Method for Pilling Resistance and Other Related Surface Changes of  
Textile Fabrics (Martindale Pressure Tester Method)

*General Services Administration*

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Annex B Appendix 3 –Page 1 of 4

*General Services Administration Business Center  
Chicago, Illinois. U.S.A*

FED-STD-191 Federal Standard Textile Test Methods

*International Standards Organization (ISO)  
Case Postale 56  
Geneva, Switzerland. CH- 1211  
Phone: 41 22 749 01 11  
Fax: 4122 733 34 30*

ISO 11092 Textiles - Physiological Effects - Measurement of Thermal and Water Vapour Resistance  
Under Steady-State Conditions (Sweating Guarded Hot-Plate Test)

### 3 REQUIREMENTS

#### 3.1 Materials

3.2 The insulation to be used for Cold Wet Weather Glove shall be batting made from synthetic fibres. The batting shall be a commercially available product, manufactured for use in handwear meant to provide a high degree of cold weather protection. The integrity of the batting shall be maintained through the normal service life of the gloves, through wear and tear of motion and abrasion between layers of cloth. No thin spots, lumping, clumping, curling, slipping, or changes in dimensional stability over time are allowed.

3.3 The fibre and batt manufacturer's recommendations for end use application and glove construction shall be provided to and followed by the garment manufacturer. This information shall be made available to the Department of National Defence upon request.

3.4 Any scrim, quilting, etc. required for the necessary performance of the batting when in the gloves shall be approved by the batting supplier and shall be incorporated by the glove manufacturer. Any scrim, quilting, surface treatment or other addition to the actual insulation batt shall not degrade the performance of the batt, and shall be compatible with it. This information shall be made available to the Department of National Defence upon request.

3.5 **Testing.** Required properties and performance levels are described in Table I. Independent accredited laboratories shall carry out these tests. Test results shall be provided to the Department of National Defence on the basis specified in the contract.

3.6 Unless otherwise stated, all testing is to be carried out in accordance with the latest published method, valid at the publication date of this document, 31 January 2002.

### 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 materiel or services submitted to the Government for acceptance comply with all requirements of the contract.

#### 4.2 PACKAGING

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

## **5 NOTES**

### **5.1 Definition of terms**

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

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

**5.4 Order of precedence** In the event of any inconsistency in the contract documents such as contract, specification, drawings and sealed patterns, the order of precedence shall be contract, specification, drawings and sealed patterns.

**5.5 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: Insulation

| TEST NO. | PROPERTY   | TEST METHOD   | REQUIREMENT  |
|----------|--|---|--|
| 1.       | Mass (g/m2) with scrim, if applicable (indicate batt and scrim separately)                                       | CAN/CGSB-4.2-M Method 5.1                                   | Maximum 85 g/m2 (total batt plus all layers of scrim required) |
| 2.       | Thickness (mm) – total of batt plus scrim, if applicable   | ISO 11092   | Maximum: 5.0 mm  |
| 3.       | Fibre Content (%)  | CAN/CGSB-4.2-M Method 14                                    | 100% polyester   |
| 4.       | Resistance to Pilling – Face of the insulation to be abraded against the inner surface of the WMVP glove insert. | ASTM D 4970<br>1000 cycles                                  | Maximum Change:<br>Rating 3                                    |
| 5.       | Clo<br>-With scrim, if applicable  | ISO 11092   | Minimum 1.00   |
| 6.       | Standard Evaluation of Filling/Batting - with scrim, if applicable   | ASTM D 4770   | Maximum Change:<br>Rating 3                                    |
| 7.       | Compression recovery (%)<br>-With scrim, if applicable   | Test Procedure for Compression Recovery (see below Table I) | 92%  |
| 8.       | Stiffness - Drape (cm)<br>-With scrim, if applicable   | FED-STD-191 Method 5206                                     | Maximum:<br>Length: 8.2 cm<br>Width: 9.4 cm                    |

#### TEST PROCEDURE FOR COMPRESSION RECOVERY

1. The compression recovery of the insulation shall be determined as stated below.
2. A cloth specimen shall be measured for thickness using a 64 cm<sup>2</sup> sure foot at a pressure of 0.07 kPa.
3. The specimen shall be compressed under a suitable template (not less than 127 mm by 127 mm) for a period of 60 minutes at a pressure of 7.0 kPa. The specimen shall be at least 50 mm larger in length and width than the template.
4. The template and the weight shall be removed and the specimen allowed to relax for 3 minutes. Immediately after the 3-minute relaxation period, the thickness shall be measured again at the pressure of 0.07 kPa.
5. The compression recovery shall be calculated as follows:

$$\text{Per cent compression recovery} = \frac{\text{Thickness of specimen after compression}}{\text{Thickness of specimen before compression}} \times 100$$



NOTICE

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

AVIS

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

ANNEX B Appendix 4  
To W8486-163147  
DAPES 2-3-80-LINING  
10 Décembre 2010

## SPECIFICATION FOR TISSU TRICOT, DOUBLURE

### 1 SCOPE

1.1 Cette spécification définit les exigences techniques pour le revêtement tel qu'il est utilisé dans le temps froid et humide Gant. La doublure doit fournir une barrière à la migration des fibres de l'isolation et de permettre le gant de glisser sur et hors de la main facilement.

### 2 DOCUMENTS APPLICABLES

2.1 Les documents suivants font partie de la présente spécification dans la mesure précisée ci-après. Les références citées dans ces documents ne sont pas applicables, à moins que le présent devis ne le précise expressément. Sauf indication contraire, l'édition en vigueur à la date de la demande de propositions s'applique.

2.2 **Documents du gouvernement** Sans objet

2.3 **Autres publications.** Les documents suivants font partie intégrante du présent document dans la mesure prescrite dans ce dernier. La version en vigueur doit être celle en vigueur à la date de publication de la présente spécification. La source de diffusion est celle qui est indiquée.

*Canadian General Standards Board Sales Unit*  
11 Laurier Street  
Place du Portage, Phase III  
Gatineau, Quebec, K1A 1G6  
Téléphone : 819-956-0425 ou 1 800-665-CGSB (Canada seulement)  
Télécopieur : 819-956-5644  
Internet : [ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca](mailto:ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca)

CAN/CGSB-4.2M Méthodes pour épreuves textiles

*American Society for Testing Material (ASTM)*  
P.O. Box C700  
West Conshohocken, PA  
19428-2959, É.-U.  
Téléphone : 610-832-9585

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OPI/BPR: DSSPM 2-13



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Courriel : [service@astm.org](mailto:service@astm.org)

ASTM D 2594 Standard Test Methods for Stretch Properties of Knitted Fabrics Having Low Power

ASTM D4966 Standard Test Method for Abrasion Resistance of Textile Fabrics (Martindale Abrasion Tester Method)

*International Standards Organization (ISO)*

*Case Postale 56*

*Geneva, Switzerland. CH- 1211*

*Phone: 41 22 749 01 11*

*Fax: 4122 733 34 30*

ISO 675 Textiles - Woven Fabrics - Determination of Dimensional Change on Commercial Laundering Near the Boiling Point

*INDA Association of The Non-Woven Fabrics Industry*

*1001 Winstead Drive, Suite 460*

*Cary, North Carolina*

*U S A. 27513*

*Phone: (919)677-0060*

*Fax: 919-677-0211*

INDA IST 10.1-92 Absorption - Liquid Absorbency Time, Capacity and Wicking Rate

### 3 **EXIGENCES**

3.1 Le tissu de la doublure doit être tricoté de fibres synthétiques qui sont léger, chaud et sec rapidement. De bonnes propriétés d'imbibition par capillarité sont également essentiels. La doublure doit être disponible dans le commerce.

3.2 **Couleur.** Le tissu de la doublure doit être celui spécifié dans le contrat ou la demande de propositions.

3.3 **Essais.** La doublure doit être conforme aux propriétés requises et les niveaux de performance décrits dans le Tableau I. Des laboratoires indépendants accrédités doivent effectuer ces essais. Les résultats des essais doivent être soumis au ministère de la Défense nationale comme il est spécifié dans le contrat.

3.4 Modification à INDA IST 10,1 à 92 Taux d'imbibition par capillarité. Il est requis que les 5 spécimens soient testés pour chaque échantillon, et non pas 3 comme il est indiqué dans la méthode.

3.4.1 En raison du fait que le taux d'imbibition par capillarité dans le centre du tissu est plus rapide que sur sa surface, des modifications à la méthode d'essai normalisée sont requises.

3.4.2 Immédiatement après l'essai d'imbibition par capillarité est complet, selon la méthode, les spécimens de tissus doivent être placés entre les deux papiers buvard, sans pression, pour éliminer l'eau en excès sur la surface.

3.4.3 Les spécimens de tissu doivent être transférées au papier filtre n ° 4 et enroulées avec un rouleau de 2 kg pour faire sortir l'eau de l'intérieur du centre de la toile.



3.4.4 La longueur de la trace de l'eau pressée hors du tissu doit être mesurée et enregistrée.

#### 4 **CONTRÔLE DE LA QUALITÉ OU INSPECTION**

4.1 Sauf indication contraire dans le contrat ou le bon de commande, il incombe à l'entrepreneur d'effectuer toutes les inspections nécessaires prescrites dans le présent document. Les entrepreneurs peuvent utiliser leurs propres installations d'inspection ou toute autre installation acceptable au gouvernement ou à son représentant désigné. Le gouvernement se réserve le droit d'effectuer n'importe quelle des inspections mentionnées dans le présent document s'il juge ces inspections nécessaires pour s'assurer de la conformité des matériaux et des services aux exigences prescrites. Il incombe à l'entrepreneur de s'assurer que les matériaux et les services soumis à l'approbation du gouvernement satisfont à toutes les exigences du contrat.

#### 5 **CONDITIONNEMENT**

5.1 **Conditionnement et emballage.** Sauf indication contraire, le conditionnement et l'emballage de même que l'expédition doivent s'effectuer conformément aux modalités du présent contrat.

#### 6 **REMARQUES**

##### 6.1 **Définition des termes**

6.1.1 **Autorité responsable de la conception.** Autorité responsable des aspects techniques de la conception et des modifications connexes. Sauf indication contraire dans le contrat, l'autorité responsable de la conception est la Direction – Administration du programme de l'équipement du soldat (DAPES) du ministère de la Défense nationale.

6.1.2 **Échantillon réglementaire.** Copie exacte de l'échantillon réglementaire principal qui est le prototype autorisé du ministère de la Défense nationale de l'article qui doit être fabriqué. Les échantillons réglementaires sont à la disposition du fabricant qui doit les utiliser comme guides. Les entrepreneurs doivent prendre note que les échantillons réglementaires peuvent ne pas incorporer les détails prescrits dans la présente spécification et que l'ordre de préséance indiqué aux présentes doit être respecté.

6.1.3 **Exigences relatives à la santé, à la sécurité et à l'environnement.** La fabrication ou l'évaluation d'un produit conformément au présent devis pourrait nécessiter l'utilisation de matériaux ou d'équipement susceptibles d'être 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 qui pourraient être associées à son utilisation. Il incombe à l'utilisateur du devis 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: Lining

| N° DE L'ESSAI | PROPRIÉTÉ   | MÉTHODE D'ESSAI  | EXIGENCES   |
|---------------|---|--|---|
| 1.            | Masse (g/m <sup>2</sup> )   | CAN/CGSB-4.2 No. 5.1   | Maximum :<br>110 g/m <sup>2</sup> +/- 10%   |
| 2.            | Épaisseur (mm)  | CAN/CGSB-4.2 No. 37  | Maximum : 1.0 mm  |
| 3.            | <b>Stabilité dimensionnelle au blanchissage</b>   | ISO 6330<br>Wash to (2A) or (2B) and Dry to Procedure E<br><br>ISO 675 for measurements. | Largeur : +/- 5%<br>Longueur: +/-5%   |
| 4.            | <b>Solidité de la couleur à la sueur</b>  | CAN/CGSB-4.2 No. 23  | Maximum Changement de couleur :<br>Échelle de gris 4<br>Maximum Tachage : Échelle de gris 4   |
| 5.            | <b>Solidité de la couleur au frottement</b> (dégorgement)<br>Sec et humide  | CAN/CGSB-4.2 No. 22  | Sec et humide : 4 à l'échelle de gris<br>Minimum :<br>Sec et humide : 3 à l'échelle de gris   |
| 6.            | Propriétés d'étirement (une heure)  | ASTM D 2594<br>(Loose fitting conditions)  | Maximum:<br>Longueur : 10 %<br>Largeur : 10 %   |
| 7.            | <b>Résistance à l'abrasion</b><br>après 4000 cycles - 9 pression kPa<br>(Ne pas enlever les pilules entre les cycles) | ASTM D 4966  | Le velours de surface peut présenter une faible distorsion.<br>Une usure négligeable du tissu de fond ou la perte de velours est autorisée. |
| 8.            | <b>Wicking Rate</b> (length in 5 minutes)   | INDA IST 10.1<br><b>See modifications at Para 3.3.1</b>                                  | Minimum<br>Longueur: 75 mm<br>Largeur: 68 mm  |
| 9.            | <b>Résistance à l'éclatement</b>  | CAN/CGSB-4.2 No.11.2   | 375 N   |

NOTICE



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SPECIFICATION

FOR

CADPAT™ (TW)

[CANADIAN DISRUPTIVE PATTERN  
(TEMPERATE WOODLAND)]

SPÉCIFICATION

DCamC<sup>MC</sup> (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 colours to any person or entity other than Canada without the Minister's prior written authorization.

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<sup>MC</sup> (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<sup>MC</sup>, 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<sup>MC</sup> ne peut être vendu ni offert à toute personne ou entité

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Canada

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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.

**1.2.1** The information, data, know-how, formulas, algorithms, software, processes, systems, methods, designs, text, works, figures, tables, sketches, photographs, plans, drawings, specifications, samples, reports, names, inventions and/or ideas contained herein (hereinafter "Intellectual Property") is the exclusive property of Her Majesty the Queen in Right of Canada as represented by the Minister of National Defence (hereinafter referred to as "DND"). No one has the right to reproduce, disclose, disseminate, or utilize, in any manner or in any form, this Intellectual Property, or any part thereof, without the prior written consent of DND. For further information on the restrictions applicable to this Intellectual Property, or to request consent from DND, please contact the Design Authority, Director Soldier Systems Programme Management, or the Director of Intellectual Property, Department of National Defence, 101 Colonel By Dr., Ottawa, K1A 0K2, Canada.

**1.2.1** Les informations, données, formules, algorithmes, logiciels, processus, systèmes, méthodes, dessins, ouvrages, figures, tableaux, croquis, photos, plans, dessins, spécifications, échantillons, rapports, noms, inventions ou idées, de même que le libellé ou le savoir-faire figurant aux présentes (ci-après désignés sous le nom collectif « propriété intellectuelle ») sont la propriété exclusive de Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale (ci-après le « MDN »). Nul n'a le droit de reproduire, divulguer, diffuser ou utiliser, de quelque manière ou sous quelque forme que ce soit, cette propriété intellectuelle, en tout ou en partie, sans le consentement écrit préalable du MDN. Pour de plus amples informations sur les restrictions applicables à cette propriété intellectuelle, ou pour demander le consentement du MDN, veuillez contacter l'autorité responsable de la conception, Directeur – Administration du programme de l'équipement du soldat, ou le Directeur – Propriété intellectuelle, ministère de la Défense nationale, 101, promenade Colonel By, Ottawa, K1A 0K2, Canada.

## **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  
West Conshohocken, PA  
19428-2959, USA

## **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  
19428-2959, ÉTATS-UNIS

Telephone: 610-832-9585  
Email: [service@astm.org](mailto:service@astm.org)

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

Téléphone : 610-832-9585  
Courriel: [service@astm.org](mailto:service@astm.org)

**AATCC**  
P.O. Box 12215  
Research Triangle Park, NC  
27709, ÉTATS-UNIS  
Téléphone : 919-549-3526  
Courriel: [jonesb@aatcc.org](mailto: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<sup>MC</sup>, 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<sup>MC</sup> (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.**

**2.4.1** 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.

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

## **2.4 Ordre de préséance.**

**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** 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, 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.

**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. REQUIREMENTS**

### **3. EXIGENCES**

**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.

**3.1 Spécification du DCamC<sup>MC</sup> (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 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.

**3.2 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 Colour.**

### **3.3 Couleur.**

**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.

**3.3.1** 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** 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.

**3.3.2** Pour le DCamC<sup>MC</sup> (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

**3.3.3 Qualité d'impression.** La pénétration

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.**

**3.3.8.1** All measurements for both colour and infra-red reflection are to be made in accordance

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 réflectance dans l'infrarouge doivent être effectuées



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 BaSO<sub>4</sub>
- 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

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 BaSO<sub>4</sub>
- 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:

|  | <b>L*</b> | <b>a*</b> | <b>b*</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 the Tables for each colour after 15 laundering

**3.3.11.2** Sauf indication contraire, les mesures de la réflectance dans l'infrarouge prescrites aux présentes doivent respecter les tolérances d'origine indiquées aux tableaux pour chaque couleur après

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.

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 DCamC<sup>MC</sup> 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 specification)

## **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 articles requis

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

- 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 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 specification, may require the use of materials and/or equipment that could be hazardous. This

## 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 nécessiter l'utilisation de matériel ou d'équipement dangereux. La présente spécification n'a pas pour

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.

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<sup>MC</sup>  
VERT CANADIEN MOYEN

| SPECIFICATIONS / SPÉCIFICATIONS |                         |                       |                         |                         |                               |                         |                       |                         |                         |
|---------------------------------|-------------------------|-----------------------|-------------------------|-------------------------|-------------------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| Wavelength<br>Longueur d'onde   | Reflection<br>Réflexion | ST.DEV.<br>Écart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. | Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Écart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. |
| nm                              | %                       | %                     | %                       | %                       | 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 DCamC<sup>MC</sup>  
VERT CANADIEN MOYEN (suite)

| Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Écart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. | Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Écart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. |
|-------------------------------|-------------------------|-----------------------|-------------------------|-------------------------|-------------------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| nm                            | %                       | %                     | %                       | %                       | nm                            | %                       | %                     | %                       | %                       |
| 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                          | 9,85                    | 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                   |                               |                         |                       |                         |                         |

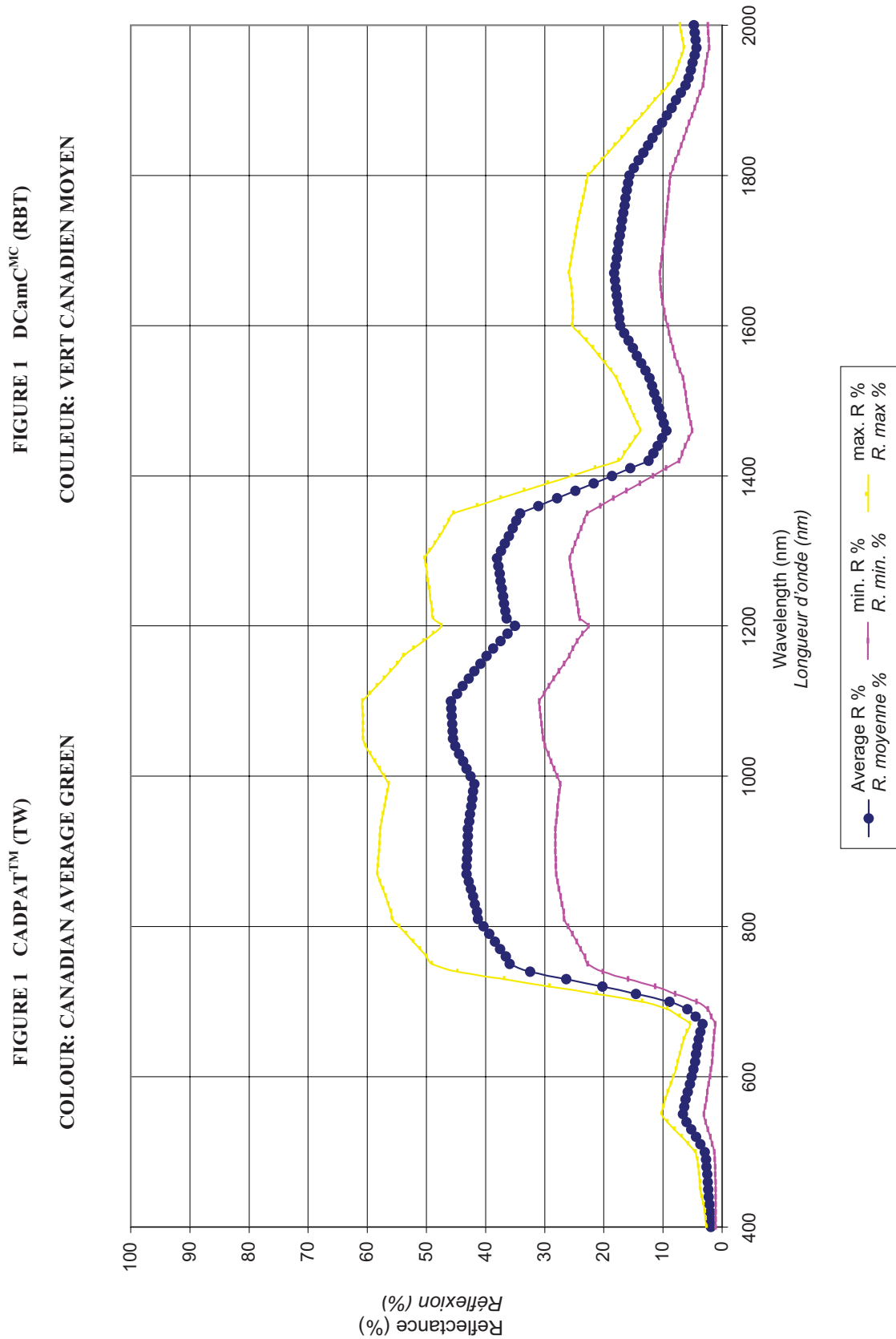




TABLE II CADPAT™ REQUIREMENTS  
LIGHT GREEN

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

TABLEAU II EXIGENCES RELATIVES AU DCamC<sup>MC</sup>  
VERT PÂLE

| Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Ecart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. | Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Ecart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. 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                           | 53,63                   | 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<sup>MC</sup>  
VERT PÂLE (suite)

| Wavelength<br>Longueur d'onde<br>nm | Reflection<br>Réflexion<br>% | ST.DEV.<br>Écart type<br>% | Refl. Min<br>Réfl. min.<br>% | Refl. Max<br>Réfl. max.<br>% | Wavelength<br>Longueur d'onde<br>nm | Reflection<br>Réflexion<br>% | ST.DEV.<br>Écart type<br>% | Refl. Min<br>Réfl. min.<br>% | Refl. Max<br>Réfl. max.<br>% |
|-------------------------------------|------------------------------|----------------------------|------------------------------|------------------------------|-------------------------------------|------------------------------|----------------------------|------------------------------|------------------------------|
| 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<sup>MC</sup> (RBT)

COULEUR: VERT PÂLE

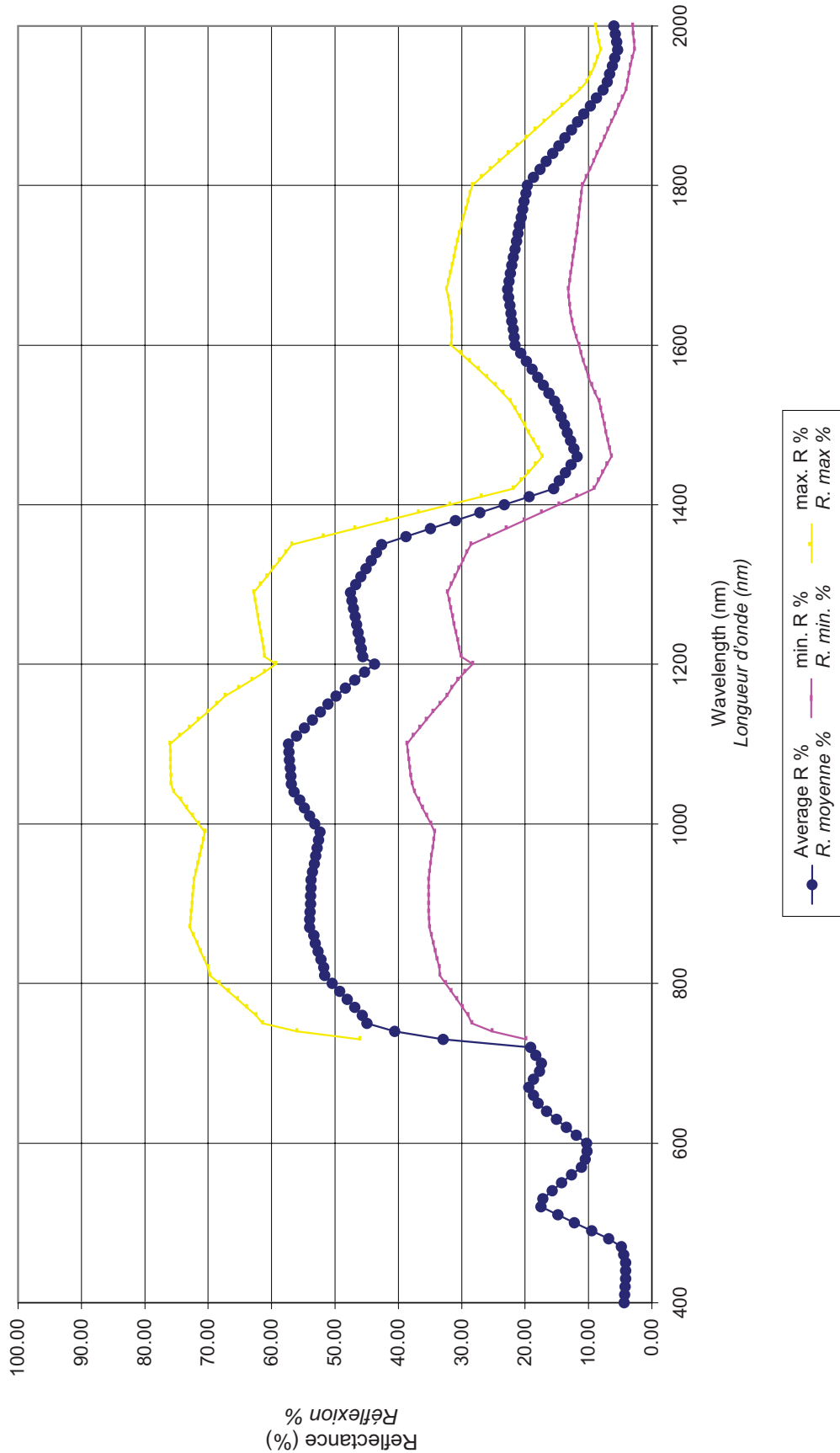


TABLE III CADPAT™ REQUIREMENTS  
BROWN

TABLEAU III EXIGENCES RELATIVES AU DCamC<sup>MC</sup>  
BRUN

| SPECIFICATIONS / SPÉCIFICATIONS: |                         |                       |                         |                         |                               |                         |
|----------------------------------|-------------------------|-----------------------|-------------------------|-------------------------|-------------------------------|-------------------------|
| CIE 1931/CIE LAB 1936            |                         |                       | x                       |                         | y                             |                         |
| ILLUMINANT C. 2 deg.             |                         |                       | Y%                      |                         | 9.30                          |                         |
| specular component included      |                         |                       | DW, nm                  |                         | 583.00                        |                         |
| composante spéculaire incluse    |                         |                       | S%                      |                         | 31.60                         |                         |
|                                  |                         |                       | L*                      |                         | 36.50                         |                         |
|                                  |                         |                       | a*                      |                         | 4.60                          |                         |
|                                  |                         |                       | b*                      |                         | 14.50                         |                         |
| Wavelength<br>Longueur d'onde    | Reflection<br>Réflexion | ST.DEV.<br>Écart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. | Wavelength<br>Longueur d'onde | Reflection<br>Réflexion |
| nm                               | %                       | %                     | %                       | %                       | nm                            | %                       |
| 400                              | 5.26                    |                       |                         |                         | 840                           | 52.68                   |
| 410                              | 5.19                    |                       |                         |                         | 850                           | 53.12                   |
| 420                              | 5.11                    |                       |                         |                         | 860                           | 53.57                   |
| 430                              | 5.04                    |                       |                         |                         | 870                           | 54.00                   |
| 440                              | 4.97                    |                       |                         |                         | 880                           | 54.00                   |
| 450                              | 4.94                    |                       |                         |                         | 890                           | 53.95                   |
| 460                              | 5.13                    |                       |                         |                         | 900                           | 53.69                   |
| 470                              | 5.31                    |                       |                         |                         | 910                           | 53.84                   |
| 480                              | 6.34                    |                       |                         |                         | 920                           | 53.79                   |
| 490                              | 7.72                    |                       |                         |                         | 930                           | 53.75                   |
| 500                              | 8.90                    |                       |                         |                         | 940                           | 53.53                   |
| 510                              | 9.30                    |                       |                         |                         | 950                           | 53.30                   |
| 520                              | 9.71                    |                       |                         |                         | 960                           | 53.06                   |
| 530                              | 9.29                    |                       |                         |                         | 970                           | 52.84                   |
| 540                              | 8.51                    |                       |                         |                         | 980                           | 52.61                   |
| 550                              | 7.83                    |                       |                         |                         | 990                           | 52.39                   |
| 560                              | 7.50                    |                       |                         |                         | 1000                          | 53.20                   |
| 570                              | 7.16                    |                       |                         |                         | 1010                          | 54.01                   |
| 580                              | 8.44                    |                       |                         |                         | 1020                          | 54.82                   |
| 590                              | 10.40                   |                       |                         |                         | 1030                          | 55.56                   |
| 600                              | 12.06                   |                       |                         |                         | 1040                          | 56.43                   |
| 610                              | 12.51                   |                       |                         |                         | 1050                          | 56.89                   |
| 620                              | 12.95                   |                       |                         |                         | 1060                          | 56.98                   |
| 630                              | 14.20                   |                       |                         |                         | 1070                          | 57.07                   |
| 640                              | 15.65                   |                       |                         |                         | 1080                          | 57.16                   |
| 650                              | 16.89                   |                       |                         |                         | 1090                          | 57.26                   |
| 660                              | 17.62                   |                       |                         |                         | 1100                          | 57.35                   |
| 670                              | 18.36                   |                       |                         |                         | 1110                          | 56.10                   |
| 680                              | 17.59                   |                       |                         |                         | 1120                          | 54.84                   |
| 690                              | 16.65                   |                       |                         |                         | 1130                          | 53.59                   |
| 700                              | 16.44                   |                       |                         |                         | 1140                          | 52.33                   |
| 710                              | 17.29                   |                       |                         |                         | 1150                          | 51.08                   |
| 720                              | 25.34                   | 11.17                 | 14.18                   | 36.51                   | 1160                          | 49.83                   |
| 730                              | 32.97                   | 13.10                 | 19.86                   | 46.07                   | 1170                          | 48.40                   |
| 740                              | 40.59                   | 15.38                 | 25.21                   | 55.96                   | 1180                          | 46.87                   |
| 750                              | 44.94                   | 16.50                 | 28.43                   | 61.44                   | 1190                          | 45.33                   |
| 760                              | 45.73                   | 16.76                 | 28.98                   | 62.49                   | 1200                          | 43.80                   |
| 770                              | 46.90                   | 17.02                 | 29.88                   | 63.92                   | 1210                          | 45.60                   |
| 780                              | 48.07                   | 17.29                 | 30.78                   | 65.36                   | 1220                          | 45.85                   |
| 790                              | 49.25                   | 17.58                 | 31.67                   | 66.82                   | 1230                          | 46.09                   |
| 800                              | 50.41                   | 17.87                 | 32.55                   | 68.28                   | 1240                          | 46.34                   |
| 810                              | 51.60                   | 18.17                 | 33.43                   | 69.77                   | 1250                          | 46.58                   |
| 820                              | 51.80                   | 18.25                 | 33.54                   | 70.05                   | 1260                          | 46.83                   |
| 830                              | 52.24                   | 18.37                 | 33.87                   | 70.61                   | 1270                          | 47.07                   |

TABLE III CADPAT™ REQUIREMENTS  
BROWN (cont.)

TABLEAU III EXIGENCES RELATIVES AU DCamC<sup>MC</sup>  
BRUN (suite)

| Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Ecart type | Refl. Min<br>Réfl. min. | Refl. Max<br>Réfl. max. | Wavelength<br>Longueur d'onde | Reflection<br>Réflexion | ST.DEV.<br>Ecart type | Refl. Min<br>Réfl. min. | Refl. Max<br>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                   | 62.66                   | 1730                          | 21.39                   | 9.32                  | 12.07                   | 30.70                   |
| 1300                          | 46.76                   | 15.06                 | 31.70                   | 61.62                   | 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                          | 5.00                    | 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                  | 11.16                   | 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)

COLOUR: BROWN

FIGURE 3 DCamC<sup>MC</sup> (RBT)

COULEUR: BRUN

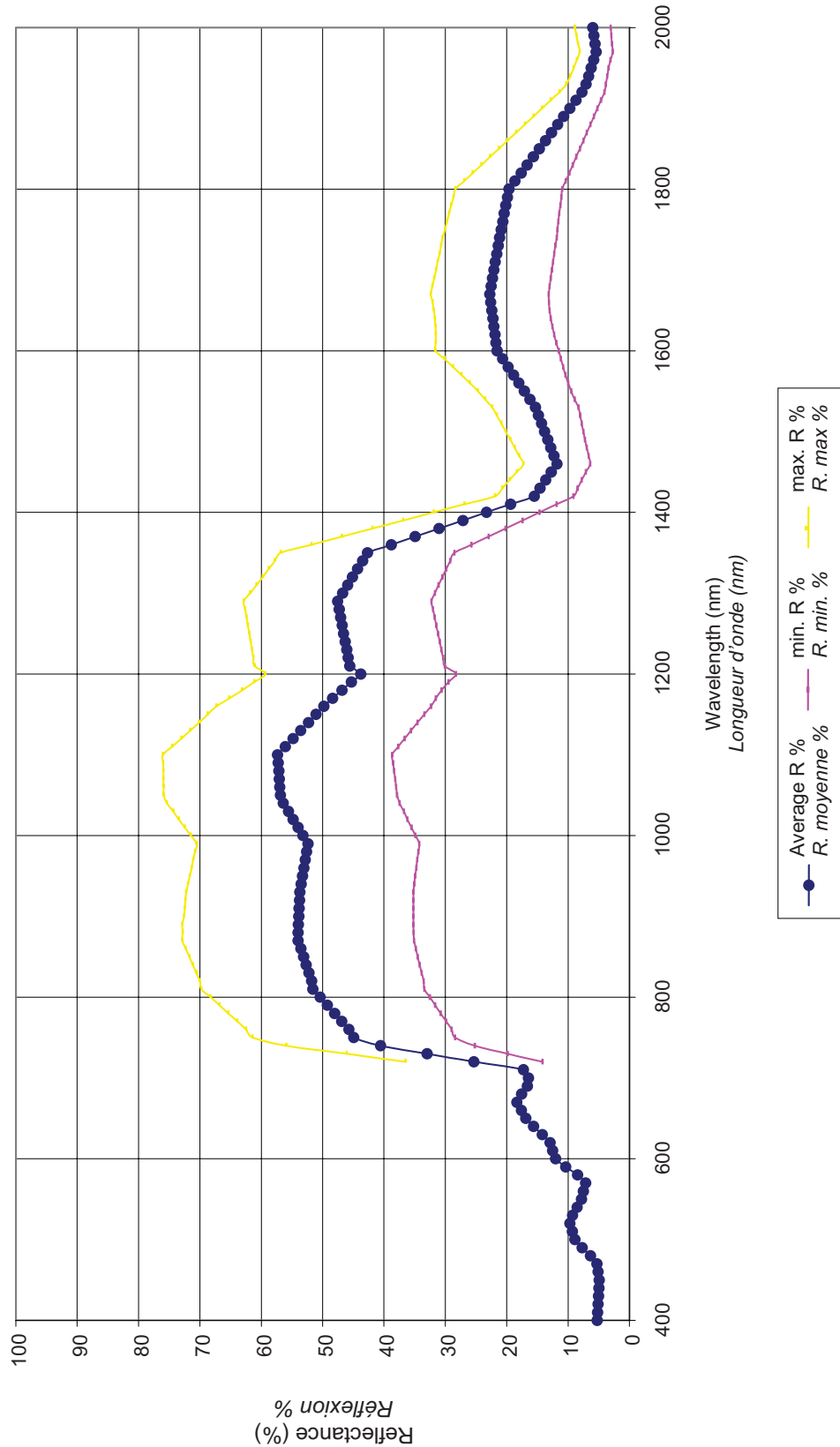


TABLE IV CADPAT™ REQUIREMENTS  
BLACK

TABLEAU IV EXIGENCES RELATIVES AU DCamC<sup>MC</sup>  
NOIR

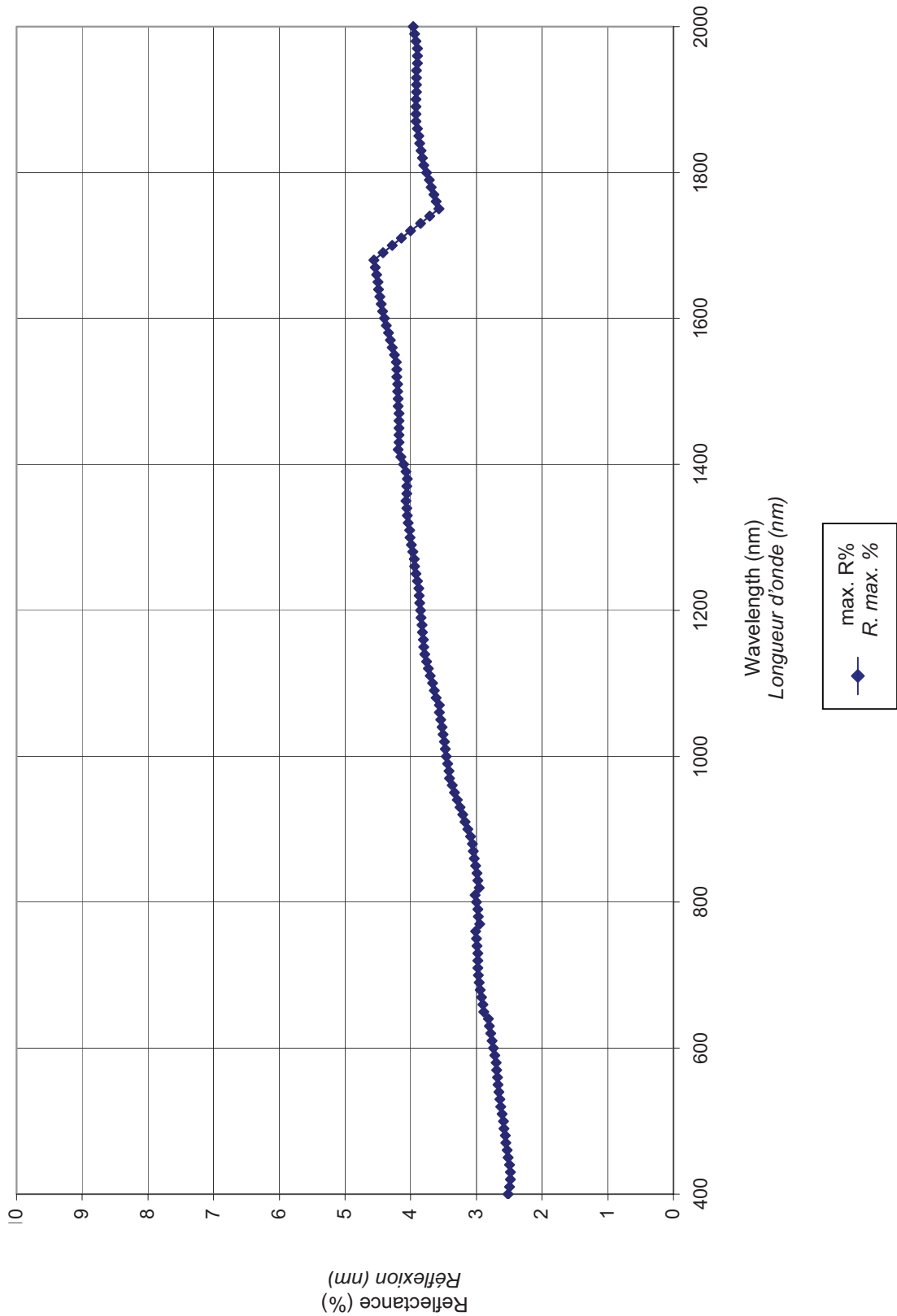
| SPECIFICATIONS / SPÉCIFICATIONS:        |                             |   |                             |   |                             |
|---|-----------------------------|---|-----------------------------|---|-----------------------------|
| CIE 1931/CIE LAB 1971                   |                             |   |                             |   |                             |
| ILLUMINANT C, 2 deg.                    |                             |   |                             |   |                             |
| specular component included             |                             |   |                             |   |                             |
| composante spéculaire incluse           |                             |   |                             |   |                             |
| Wavelength (nm)<br>Longueur d'onde (nm) | Reflection %<br>Réflexion % | Wavelength (nm)<br>Longueur d'onde (nm) | Reflection %<br>Réflexion % | Wavelength (nm)<br>Longueur d'onde (nm) | Reflection %<br>Réflexion % |
| 400                                     | 2,52                        | 830                                     | 2,98                        | 1260                                    | 3,94                        |
| 410                                     | 2,50                        | 840                                     | 2,99                        | 1270                                    | 3,95                        |
| 420                                     | 2,48                        | 850                                     | 3,01                        | 1280                                    | 3,97                        |
| 430                                     | 2,48                        | 860                                     | 3,03                        | 1290                                    | 3,99                        |
| 440                                     | 2,50                        | 870                                     | 3,05                        | 1300                                    | 4,01                        |
| 450                                     | 2,52                        | 880                                     | 3,06                        | 1310                                    | 4,02                        |
| 460                                     | 2,53                        | 890                                     | 3,09                        | 1320                                    | 4,04                        |
| 470                                     | 2,55                        | 900                                     | 3,13                        | 1330                                    | 4,05                        |
| 480                                     | 2,56                        | 910                                     | 3,17                        | 1340                                    | 4,06                        |
| 490                                     | 2,58                        | 920                                     | 3,21                        | 1350                                    | 4,07                        |
| 500                                     | 2,59                        | 930                                     | 3,25                        | 1360                                    | 4,06                        |
| 510                                     | 2,61                        | 940                                     | 3,29                        | 1370                                    | 4,06                        |
| 520                                     | 2,63                        | 950                                     | 3,33                        | 1380                                    | 4,05                        |
| 530                                     | 2,64                        | 960                                     | 3,37                        | 1390                                    | 4,07                        |
| 540                                     | 2,66                        | 970                                     | 3,41                        | 1400                                    | 4,11                        |
| 550                                     | 2,67                        | 980                                     | 3,42                        | 1410                                    | 4,15                        |
| 560                                     | 2,68                        | 990                                     | 3,44                        | 1420                                    | 4,19                        |
| 570                                     | 2,69                        | 1000                                    | 3,46                        | 1430                                    | 4,18                        |
| 580                                     | 2,70                        | 1010                                    | 3,47                        | 1440                                    | 4,18                        |
| 590                                     | 2,72                        | 1020                                    | 3,49                        | 1450                                    | 4,18                        |
| 600                                     | 2,74                        | 1030                                    | 3,51                        | 1460                                    | 4,18                        |
| 610                                     | 2,76                        | 1040                                    | 3,52                        | 1470                                    | 4,18                        |
| 620                                     | 2,78                        | 1050                                    | 3,54                        | 1480                                    | 4,19                        |
| 630                                     | 2,80                        | 1060                                    | 3,56                        | 1490                                    | 4,19                        |
| 640                                     | 2,82                        | 1070                                    | 3,56                        | 1500                                    | 4,20                        |
| 650                                     | 2,89                        | 1080                                    | 3,61                        | 1510                                    | 4,20                        |
| 660                                     | 2,90                        | 1090                                    | 3,64                        | 1520                                    | 4,21                        |
| 670                                     | 2,92                        | 1100                                    | 3,67                        | 1530                                    | 4,21                        |
| 680                                     | 2,94                        | 1110                                    | 3,70                        | 1540                                    | 4,22                        |
| 690                                     | 2,96                        | 1120                                    | 3,73                        | 1550                                    | 4,25                        |
| 700                                     | 2,97                        | 1130                                    | 3,76                        | 1560                                    | 4,28                        |
| 710                                     | 2,98                        | 1140                                    | 3,79                        | 1570                                    | 4,31                        |
| 720                                     | 2,98                        | 1150                                    | 3,80                        | 1580                                    | 4,34                        |
| 730                                     | 2,98                        | 1160                                    | 3,81                        | 1590                                    | 4,37                        |
| 740                                     | 2,99                        | 1170                                    | 3,82                        | 1600                                    | 4,40                        |
| 750                                     | 3,00                        | 1180                                    | 3,83                        | 1610                                    | 4,43                        |
| 760                                     | 3,01                        | 1190                                    | 3,84                        | 1620                                    | 4,45                        |
| 770                                     | 2,95                        | 1200                                    | 3,85                        | 1630                                    | 4,47                        |
| 780                                     | 2,97                        | 1210                                    | 3,86                        | 1640                                    | 4,49                        |
| 790                                     | 2,98                        | 1220                                    | 3,87                        | 1650                                    | 4,50                        |
| 800                                     | 3,00                        | 1230                                    | 3,88                        | 1660                                    | 4,52                        |
| 810                                     | 3,02                        | 1240                                    | 3,90                        | 1670                                    | 4,54                        |
| 820                                     | 2,96                        | 1250                                    | 3,92                        | 1680                                    | 4,56                        |

FIGURE 4 CADPAT™ (TW)

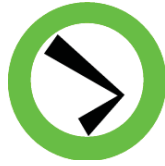
COLOUR: BLACK

FIGURE 4 DCamC<sup>MC</sup> (RBT)

COULEUR: NOIR







NOTICE

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

AVIS

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

Annex C

PAS & PPS Evaluation  
To: W8486-163147

**EVALUATION**  
**OF**  
**GLOVES, COLD/WET WEATHER (CWWG)**  
**NSN 8415-21-920-9019 A/A**

**1 General.**

1.1 **Evaluation.** This annex describes how The Department of National Defence (DND) is to perform pre-award and pre-production evaluation of the Cold Wet Weather Glove (CWWG) in terms of evaluating physical samples for the quality of workmanship and for their ability to demonstrate capability to meet requisite technologies, and for conformance to specified materials and measurements outlined in Annex B. The evaluations will be done through a technical verification performed by a team of DND Subject Matter Experts (SMEs)

1.2 If more than one bid is compliant, the successful bidder will be determined by the lowest unit price per glove.

**2 Testing, Test Methods, and Certificate of Compliance.**

2.1 Unless otherwise specified, all testing and test methods must be in accordance with the specified requirements. An accredited independent laboratory familiar with textile, leather, and/or hand wear-related testing must conduct all testing unless otherwise stated.

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**OPI/BSPR: DSSPM 2-13**



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Testing carried out by university textile testing laboratories will also be acceptable. Should a non-accredited laboratory be required for specific tests, approval must be sought and received in writing from the Contracting Authority in advance.

2.2 The test interval is subject to change. It may be increased or decreased at the discretion of the Department of National Defence. DND may also request additional tests and samples at any time.

2.3 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. This document must be on official company stationery, it must be current, it must make reference to the applicable specification, and it must have the original signature of the company's designated representative. DND reserves the right to verify the statements made in the C of C. Full test results, demonstrating the product's compliance, will be accepted in lieu of a C of C.

3 **Pre-Award Samples.** As part of the evaluation to confirm a Bidder's capability of meeting the technical and performance requirements, the pre-award sample of 2 (two) pairs of CWWG in size 'L' must be submitted.

3.1 Gloves and packaging must not have any markings that identify company name, including stamps, hang tags, or markings inside and outside of the gloves. Non-compliance of this requirement can result in the bid being disqualified.

3.2 The Bidder must ensure that the required pre-award samples are manufactured in accordance with the technical and performance requirements outlined in the Annex B and are fully representative of the bid submitted.

3.3 **Pre-Production Samples.** As part of the evaluation to confirm a contractor's capability of meeting the technical and performance requirements, the pre-production sample of 1 (one) pair of CWWG in each sizes (XS, S, M, L, XL) for a total of (5) pairs must be submitted.

3.3.1 Gloves and packaging must not have any markings that identify company name, including stamps, hang tags, or markings inside and outside of the gloves. Non-compliance of this requirement can result in the bid being disqualified.

3.3.2 The Bidder must ensure that the required pre-award samples are manufactured in accordance with the technical and performance requirements outlined in the Annex B and are fully representative of the bid submitted.

**3.4 Material Substitutions.** All materials must be strictly in accordance with the technical and performance requirement. If all components for the pre-award sample cannot be obtained, bidder must provide a letter noting deviations with assurance that the pre-production sample will have the required components. Substitutions will not be accepted for pre-production samples.

**3.5 Workmanship and Construction Evaluation.** As part of the evaluation, to confirm a Bidder's submission for the quality of workmanship and for the ability to demonstrate capability to meet requisite technologies, the workmanship and construction will be evaluated using the criteria outlined in Table I.

**3.5.1 Pre-Award Maximum Infractions.** No Critical Infractions will be accepted in any pre-award samples. A maximum of three (3) Minor Infractions will be accepted in any pre-award samples. Observations will be noted and referenced in the pre-award evaluation. No critical or minor infractions will be accepted in pre-production samples. Observations will be noted and referenced in the pre-production evaluation.

**3.5.2 Definitions.**

**Critical Infraction.** A critical infraction is defined as a workmanship or construction issue evaluated to be non-compliant that directly affects serviceability of the gloves or affects overall quality assurance.

**Minor Infraction.** An minor infraction is defined as a workmanship or construction issue evaluated to be non-compliant that may not affect serviceability of the gloves but affects overall quality assurance.

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

Table I – Workmanship and Construction Evaluation

| Reference in<br>Annex B | Criteria  | Classification of Infraction |                     |             |
|-------------------------|---|------------------------------|---------------------|-------------|
|                         |   | Critical<br>Infraction       | Minor<br>Infraction | Observation |
| Materials               |   |                              |                     |             |
| 3.4.1                   | Leather see Table II Quality Control Testing Requirements | X                            |                     |             |

|        |   |   |   |  |
|--------|---|---|---|--|
| 3.4.2  | <b>Barrier Layer.</b> see Table II Quality Control Testing Requirements   | X |   |  |
| 3.4.3  | <b>Insulation.</b> see Table II Quality Control Testing Requirements  | X |   |  |
| 3.4.4  | <b>Lining.</b> see Table II Quality Control Testing Requirements  | X |   |  |
| 3.4.5  | <b>Gauntlet.</b> see Table II Quality Control Testing Requirements  | X |   |  |
| 3.4.8  | <b>Elastic Tape.</b> The wrist suppression is not two pieces of elastic, each 5/16-inch (8 mm) wide, braided construction, in accordance with Table I.                                    |   | X |  |
| 3.4.9  | <b>Webbing.</b> The webbing for the wrist suppression strap is not 3/4-inch (19mm) 100% Nylon in accordance with Table II.  |   | X |  |
| 3.4.10 | <b>Buckle.</b> The buckle for the wrist suppression strap is not 3/4-inch (19 mm) 100% nylon in accordance with Figure VI. Colour must be black.  |   | X |  |
| 3.4.11 | <b>Elastic Cord.</b> The elastic cord for the bottom of the gauntlet is not 2.5 mm in diameter, 42% textured polyester, 58% rubber in accordance with Table III. The colour is not black. |   | X |  |
| 3.4.12 | <b>Cord Lock.</b> The cord lock for the elastic cord for the gauntlet is not black acetal with a non-corrosive metal spring and attachment slot.  |   | X |  |
| 3.4.13 | <b>Cord end cover.</b> The knot at the end of the elastic cord is not covered with black high quality plastic cylindrical bell, suitable to the thickness of the elastic cord.            |   | X |  |

|        |   |   |   |  |
|--------|---|---|---|--|
| 3.4.14 | <b>Glove Coupling System.</b> The glove coupling system, consisting of one glove clip and two triangular hooks is not acetel. The colour is not black.  |   | X |  |
| 3.4.15 | <b>Eyelet with Washer.</b> The eyelet is not located on the drawstring tunnel and gauntlet. The eyelet is not brass with a gunmetal permanent oxide finish with an outer diameter of 10.0 mm and inner diameter of 4.8 mm. The eyelet is not a corresponding washer of nickle plated brass. |   | X |  |
| 3.4.16 | <b>Adhesive</b> - The adhesive (and the quantity of adhesive used) must adversely affects the materials, the manufacturing processes and the performance criteria specified.  |   | X |  |
| 3.5.1  | <b>Cutting.</b> The glove palm is not cut from the leather specified. Skins have not been properly conditioned by dampening and then stretched width-wise and length-wise to best commercial standards and practices.   | X |   |  |
| 3.6.3  | Thread tension is not adjusted to ensure balanced and correctly formed stitches. Skips, puckers or stitching malfunctions are not acceptable.   |   | X |  |
| 3.6.4  | Beginning and end of lock stitched seams and stitching are not securely backstitched with 3-4 stitches if there is no other method used to secure end of seam.  |   | X |  |
| 3.6.5  | Seams formed are not smooth and regular with even seam allowances. Stitching is not accurately and evenly placed from seam edges as specified.  |   | X |  |

|                     |   |   |   |  |
|---------------------|---|---|---|--|
| 3.6.8               | <b>Serging.</b> Is not done with a three thread serger with a minimum of 13 stitches per inch (2.54 cm)   |   | X |  |
| 3.6.9               | <b>Overlocking.</b> Is not done using a single thread with 11-15 stitches per 1-inch (2.54 cm)  |   | X |  |
| 3.6.10              | <b>Zig-zag stitching.</b> Is not done using Stitch Type 321 using 10-13 stitches per inch (2.54 cm)   |   | X |  |
| <b>Construction</b> |   |   |   |  |
| 3.7.1.1             | <b>Lining, insulation and barrier layer insert joining.</b> The lining, insulation and barrier layer do not extend fully throughout the entire glove.   | X |   |  |
| 3.7.1.2             | The lining and insulation is not overlapped together. Tabs on the fingertips of the barrier are not included in the stitching of the corresponding fingertips of the lining/insulation.         |   | X |  |
| 3.7.1.3             | The label must be positioned on the lining in the gauntlet portion of the back of the hand and stitched around the top and side edges. The bottom edge must be caught in the closing operation. |   | X |  |
| 3.7.1.4             | Layers of the lining/insulation and the insert is not turned right side out. Insert has not been joined to the lining and insulation with the correct side facing the inside of the glove.      |   | X |  |
| 3.7.2.1             | <b>Fourchettes.</b> Fourchettes are not lock stitched at the finger tips of the third and fourth digits.  |   | X |  |

|          |  |  |   |  |
|----------|--|--|---|--|
| 3.7.2.3  | <b>Thumb and palm reinforcement.</b> The palm, patch is not stitched to the palm and thumb with a double row of stitching. Needles are not 1.5 mm to 2 mm apart using. The first row of stitching is not 1.5 to 2 mm from the edge.                            |  | X |  |
| 3.7.2.5  | <b>Wrist Elastic.</b> Two pieces of wrist elastic are not secured under tension on the flesh side of the leather to the wrist portion of the palm.   |  | X |  |
| 3.7.2.6  | <b>Wrist Suppression strap.</b> The wrist suppression strap does not consist of two pieces of webbing. The webbing pieces are not threaded through the buckle as indicated on the sealed pattern.  |  | X |  |
| 3.7.2.7  | <b>Closing Seams.</b> Remaining finger seams and the closing seams are not lock stitched. Ends of the suppression strap are not sewn in place. Suppression strap is not secured to the palm piece of the glove with a single row of stitching.                 |  | X |  |
| 3.7.2.8  | <b>Gauntlet.</b> Top and bottom edges of the gauntlet are not turned under and stitched 1 mm from the edge.  |  | X |  |
| 3.7.2.9  | <b>Eyelet.</b> An eyelet is not set into the lower edge of the gauntlet in line with the front closing seam. Gauntlet side seam is not lock stitched and serged together. Glove hooks are not attached with a leather loop, positioned 45mm from the top edge. |  | X |  |
| 3.7.2.10 | The gauntlet is not lock stitched to the bottom edge of the leather body   |  | X |  |
| 3.7.2.11 | <b>Joining.</b> The barrier layer/insulation/lining must be inserted into the leather glove body and properly bonded with adhesive to ensure that the components do not separate   |  | X |  |

|                                     |  |   |  |  |
|-------------------------------------|--|---|--|--|
|                                     | during the life of the glove. The bottom edge of the gauntlet must be turned over the serged edge of the lining to form a casing. The casing edge must be turned under and topstitched 2 mm gauge. The casing must finish 15 to 17 mm wide. The elastic cord must be included in the casing.                               |   |  |  |
| 3.7.2.13                            | <b>Cord Lock Attachment.</b> The leather loop is not threaded through the cord lock attachment slot. The ends of the leather loop is not glued with suitable adhesive. The leather loop is not positioned below the eyelet on the casing and securely stitched to the glove in the manner exhibited by the sealed pattern. | X |  |  |
| 3.7.3                               | <b>Finishing.</b> The gloves is not turned and properly worked out at fingertips.  | X |  |  |
| 3.8                                 | <b>Pairing.</b> Right hand glove is not matched as closely as possible in size and colour with a left hand glove to make a pair. Matched pair is not tacked together with a method that will not puncture or damage the gloves.  | X |  |  |
| 3.9                                 | <b>Scale of measurements.</b> The CWWGs does not meet the measurements as per Table VI and Figure I.   | X |  |  |
| Construction and Assembly - General | Cuts, tears, holes, rips, mend, lumps, creases, weak place, or other deficiencies seriously affecting serviceability.  | X |  |  |
| Construction and Assembly - General | Material defects such as, but not limited to, boney, loose, flanky, or otherwise materials, weak spots or mends, discolouration, etc.  | X |  |  |
| Construction and Assembly - General | Needle chews likely to develop into a hole.  | X |  |  |



|                                     |   |   |   |  |
|-------------------------------------|---|---|---|--|
| Construction and Assembly - General | Components missing or wrong size.   |   | X |  |
| Construction and Assembly - General | Noticeable separation of parts. Any open seam, any row of stitching missing, stitching uneven tension, appropriate number of stitches per inch for material, loose stitching resulting in loosely secured seam, tight stitch resulting in puckering of fabric or assembly, thread ends not trimmed, or parts caught in an unrelated row of stitching. | X |   |  |
| Construction and Assembly - General | Grease, oil, or other foreign matter on outside or inside of finished glove.  |   | X |  |
| Construction and Assembly - General | Pairs of finished gloves have significant variation in shade or colour.   |   | X |  |

#### 4 Quality Control Testing Requirements

- 4.1 Tests and test results will be required on each textile at the frequency stated on the chart below. If there is any change in the source of supply, test results according to the pre-production. Testing shall be submitted before the material is put into production. DND written approval is required prior to using any material from a new supplier.
- 4.2 All tests and test methods shall be in accordance with the specified requirements. All tests must be carried out on the same piece of goods. All testing shall be conducted by an accredited independent laboratory familiar with textile testing. Testing carried out by university textile testing laboratories will also be acceptable. Should a non-accredited laboratory be required for specific tests, approval shall be sought and received in writing from the Design Authority in advance.
- 4.3 Test requirements and the test interval are subject to change. They may be increased or decreased at the discretion of the Department of National Defense.
- 4.4 When a fabric sample is required, the sample and test results shall be from the same lot of fabric. The bidder shall provide assurance to the fact that all are from the same lot. DND may also request additional production samples at any time.

- 4.5 Although reporting of test results for all properties may not be required, it is mandatory that all of the requirements be met in accordance with the applicable specification. The Crown reserves the right to carry out testing of any specified property in order to confirm the compliance of the fabric with the applicable specification in its entirety.
- 4.6 For option quantities, pre-production test requirements shall apply if a new batch/lot of fabric is to be used.
- 4.7 All of the in-production test results shall be submitted through the DND Quality Assurance Representative (DND QAR).
- 4.8 Pre-Production and Production: The pre-production testing and sample shall be from the production that is intended for use in this current contract, so are production sample and testing. The pre-production samples shall be representative of the finished product in all respects.
- 4.9 The following quality control requirements shall be applied throughout the life of the contract at the stated frequency detailed below.

Table II: Quality Control Testing Requirements

| Materials  | Requirement                                       | Pre-Award                 | Pre-Production   | Production  |
|--|---|---------------------------|--|---|
| Leather, Goatskin, Aniline, Chrome Tanned, Gloving | In accordance with Appendix 1 to Annex B, Table I | Certificate of Compliance | <p>The following test results and sample shall be submitted:</p> <ul style="list-style-type: none"> <li>Chromium Oxide</li> <li>Water Resistance</li> <li>Water Vapour Diffusion</li> <li>Shrinkage Temperature</li> <li>One (1) skin</li> </ul> | <p>The following sample and test results shall be submitted every 10,000 sq ft of skins, or part thereof:</p> <ul style="list-style-type: none"> <li>pH</li> <li>Tear Strength</li> <li>Static Water Absorption</li> <li>Stiffness</li> <li>One (1) skin</li> </ul> |

| Materials         | Requirement                      | Pre-Award                 | Pre-Production  | Production  |
|-------------------|----------------------------------|---------------------------|---|---|
| WMVP Fabric       | DSSPM 2-3-87-INSERT, Table I     | Certificate of Compliance | <p>The following test results and sample shall be submitted:</p> <ul style="list-style-type: none"> <li>Water Resistance</li> <li>Moisture Vapour Transmission Resistance</li> <li>One half (1/2) metre full width fabric sample</li> </ul> | <p>The following sample and test results shall be submitted if the supplier changes:</p> <ul style="list-style-type: none"> <li>Water Resistance</li> <li>Moisture Vapour Transmission Resistance</li> <li>One half metre (1/2) full width fabric sample</li> </ul> |
| WMVP Glove Insert | DSSPM 2-3-80-INSERT<br>Table II  | Certificate of Compliance | <p>The following test result and sample shall be submitted:</p> <ul style="list-style-type: none"> <li>Seam Strength</li> <li>One Pair Glove Inserts – any size</li> </ul>  | <p>The following sample and test results shall be submitted if the supplier changes.</p> <ul style="list-style-type: none"> <li>Seam Strength</li> <li>One pair Glove Inserts, any size</li> </ul>  |
| Insulation        | DSSPM 2-3-80-INSULATION, Table I | Certificate of Compliance | <p>The following test result and sample shall be submitted:</p> <ul style="list-style-type: none"> <li>Thickness</li> <li>Clo</li> <li>One-half (1/2) metre full width insulation</li> </ul>  | <p>Certificate of Compliance if change in the supplier:</p> <ul style="list-style-type: none"> <li>One-half (1/2) metre full width insulation</li> </ul>  |
| Lining            | DSSPM 2-3-80-LINING, Table I     | Certificate of Compliance | <p>The following test result and sample shall be submitted:</p> <ul style="list-style-type: none"> <li>Wicking Rate</li> <li>Ball Bursting Strength</li> <li>One-half (1/2) metre full width lining</li> </ul>                              | <p>Certificate of Compliance if change in the supplier:</p> <ul style="list-style-type: none"> <li>One-half (1/2) metre full width lining</li> </ul>  |

| Materials                  | Requirement                 | Pre-Award  | Pre-Production            | Production                |
|----------------------------|-----------------------------|--|---------------------------|---------------------------|
| Cloth, Twill, Nylon/Cotton | D-80-001-121/SF-001, Type I | Certificate of Compliance                        | Certificate of Compliance | Certificate of Compliance |
| Requirement for CADPAT TW  | DSSPM 2-3-80-500            | Certificate of Compliance                        | Certificate of Compliance | Certificate of Compliance |
| Cold Wet Weather Glove     | IAW DSSPM 2-3-87-9019       | One pair, Size M, submitted with the bid package | One pair, Size K          |                           |