

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 0A1 / Noyau 0A1
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

Title - Sujet TACTICAL LIGHTWEIGHT BOMBSUITS		
Solicitation No. - N° de l'invitation W8476-123451/A	Date 2013-08-26	
Client Reference No. - N° de référence du client W8476-123451		
GETS Reference No. - N° de référence de SEAG PW-\$\$BK-372-23980		
File No. - N° de dossier 372bk.W8476-123451	CCC No./N° CCC - FMS No./N° VME	
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-10-08		Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>		
Address Enquiries to: - Adresser toutes questions à: Razeau, Ida-Marie		Buyer Id - Id de l'acheteur 372bk
Telephone No. - N° de téléphone (819) 956-0578 ()		FAX No. - N° de FAX (819) 956-5650
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE BLDG 236 EAST END 195 AVE&82ND ST EDMONTON Alberta T5J4J5 Canada		

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Munitions Division (BK) / Division des munitions (BK)
11 Laurier St./11, rue Laurier
8C2, Place du Portage, Phase III
Gatineau
Québec
K1A 0S5

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

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with the requirement.

2. Statement of Work

The Work to be performed is detailed under Annex A Statement of Work for the Tactical Lightweight Bomb Suit (TLB Suit), attached hereto.

The Contract End Item List is detailed in Annex B to this RFP.

2.1 Ownership of Product - CADPAT(tm)

All products and materials provided to perform the work and any modifications made by the selected Contractor shall be the property of the Crown.

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

The printed textile and any garments made therefrom shall be for the sole end use of DND.

The contractor hereby acknowledges that it shall not manufacture, sell or offer for sale goods incorporating the CADPAT(tm) 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 thereto shall 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.

2.2 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods described at Annex A, Statement of Work for the Tactical Lightweight Bomb Suit (TLB Suit), with quantities detailed in Annex B - Contract End Item List Deliverables, of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

Quantities required are detailed in Annex B -Contract End Item List for the Tactical Lightweight Bomb Suit (TLB Suit)

The Contracting Authority may exercise the option in whole or in part (one or more separate orders), at any time before the expiry of the Contract by sending a written notice to the Contractor.

3. Approval Documents and Export Licenses

The Contractor must apply for all necessary Governmental and other approval documents, including but not limited to Export Licenses, to deliver the goods to the consignee(s) within seven (7) days after receipt of the contract and, if applicable, receipt of Canadian End-User Certificate, Canadian International Import Certificate and/or Annual Explosive Importation Permit. The Contractor must provide a copy of the application(s) above to the Contracting Authority within seven (7) days of the date of the application(s). Furthermore, the Contractor must provide the Contracting Authority with a copy of available documentation from all Governmental and other approval document authorities regarding the status of all approval document applications within two (2) weeks of the Contracting Authority's request.

PART 2 - BIDDER INSTRUCTIONS

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 (<http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>) 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 (2013-06-01) 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: sixty (60) days

Insert: one hundred and twenty (120) days

1.1 SACC Manual Clauses

A9130T (2011-05-16)

Controlled Goods Program

B4024T (2006-08-15)

No Substitute Products

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.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) 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 questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

- 4.1 Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario, Canada.
- 4.2 The Bidder may, at its discretion, substitute the applicable laws of a Canadian province or territory of its choice without affecting the validity of its bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of its choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidder.

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid (5 hard copies)
Section II: Financial Bid (2 hard copy)
Section III: Certifications (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 are encouraged to:

- 1) use paper containing fibre certified as originating from a sustainably-managed forest and/or 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.

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, in accordance with Annex A Statement of Work for Tactical Lightweight Bomb (TLB) Suit

Section II: Financial Bid

Bidders must submit their financial bid in Canadian Dollars, in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

Bidders must submit their financial bid DDP - Delivery Duty Paid.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

1.2 SACC Manual Clauses

C3011T (2010-01-11)

Exchange Rate Fluctuations

1.3 Delivery

First delivery shall only be initiated (will only be accepted) once the required data item deliverables are provided and accepted by DND. These consist of:

- a) Operator Manual;
- b) Initial Training Package;
- c) Interim Spare Parts List;
- d) Recommended Spare Parts List;
- e) Identification Plates;
- f) Supplementary Provisioning Technical Documentation, and
- g) Packaging, Labels and Codes.

These will be required prior to 1st delivery (1st "equipment" delivery no later than 180 days after Kick Off). Once these are accepted, Equipment can be delivered.

Delivery schedule, shall be firmed up with the above in mind, at the kick off meeting.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

1. Evaluation Procedures

(a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical, administration, and financial evaluation criteria.

(b) An evaluation team composed of representatives of Canada and third party who will evaluate the bids.

1.1 Technical Evaluation

The Technical Evaluation shall be completed in a two phase process detailed in Annex C the Evaluation Criteria for the Tactical Lightweight Bomb (TLB) Suit.

1.2 Financial Evaluation

The Winning bidder will be determined by calculating the lowest cost. The bidder with the lowest cost will be recommended for award of a contract.

Bidders must submit their bid in Canadian Dollars, firm prices, Canadian customs duties, and excise taxes included, and Goods and Services Tax (GST) or Harmonized Sales Tax (HST) excluded.

2. Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical, evaluation criteria to be declared responsive. The responsive bid with the lowest cost will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications to be awarded a contract. Canada will declare a bid non-responsive if the required certifications are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

1. Certifications Required with the Bid

Bidders must submit the following duly completed certifications with their bid.

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required will assist Canada in confirming that the certifications are true.

1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Human Resources and Skills Development Canada (HRSDC) - Labour's website.

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.

1.3 Price Justification

In the event that the Bidder's bid is the sole responsive bid received, the Bidder must provide, on Canada's request, one or more of the following price justification:

- (a) a current published price list indicating the percentage discount available to Canada; or
- (b) a copy of paid invoices for the like quality and quantity of the goods, services or both sold to other customers; or
- (c) a price breakdown showing the cost of direct labour, direct materials, purchased items, engineering and plant overheads, general and administrative overhead, transportation, etc., and profit; or
- (d) price or rate certifications; or
- (e) any other supporting documentation as requested by Canada

1.3 Traceability

The bidder certifies that it or its supplier are legally entitled to manufacture the items detailed in the Line Item Detail.

Authorized Signature

Date

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement associated with the requirement.

2. Statement of Work

The Contractor must perform the Work in accordance with Annex A, Statement of Work for the Tactical Lightweight Bomb (TLB) Suit.

2.1 Ownership of Product - CADPAT(tm)

All products and materials provided to perform the work and any modifications made by the selected Contractor shall be the property of the Crown.

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

The printed textile and any garments made therefrom shall be for the sole end use of DND.

The contractor hereby acknowledges that it shall not manufacture, sell or offer for sale goods incorporating the CADPAT(tm) 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 thereto shall 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.

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 (<http://sacc.pwgsc.gc.ca/sacc/index-e.jsp>) issued by Public Works and Government Services Canada.

3.1 General Conditions

2010A (2013-04-25) General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

4. Delivery Date

All the deliverables must be received in accordance with the Delivery Schedule detailed in Annex B - Contract End Item List for the Tactical Lightweight Bomb (TLB) Suit.

Delivery will be firmed up at the kick off meeting.

4.1 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods described at Annex A, Statement of Work for the Tactical Lightweight Bomb Suit (TLB Suit), with quantities detailed in Annex B - Contract End Item List Deliverables, of the Contract under the same conditions and at the prices and/or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

Quantities required are detailed in Annex B -Contract End Item List for the Tactical Lightweight Bomb Suit (TLB Suit)

The Contracting Authority may exercise the option in whole or in part (one or more separate orders), at any time before the expiry of the Contract by sending a written notice to the Contractor.

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Ida-Marie Razeau
Public Works and Government Services Canada
Acquisitions Branch
Defence and Major Projects Sector (DMPS)
Place du Portage, Phase III, 8C2
11 Laurier Street
Gatineau, Quebec K1A 0S5

Courier Service Postal Code: J8X 4A6

Telephone: 819-956-0578
Facsimile: 819-956-5650
E-mail address: ida-marie.razeau@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.

5.2 DND AUTHORITIES

5.2.1 DND REQUISITION AUTHORITY

The administration control for the Department of National Defence is the Director of Land Procurement (DLP). The responsible DLP Requisition Authority is:

To be assigned at Contract award.

Mailing Address

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

Courier Address

Department of National Defence
National Printing Bureau Building
45 Blvd. Sacré-Coeur
Gatineau, Quebec J8X 1C6
Canada

5.2.2 ENGINEERING/DESIGN AUTHORITY

The Engineering Authority (EA) responsible for this requirement is:

To be assigned at Contract award.

Mailing Address

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

Courier Address

Department of National Defence
National Printing Bureau Building
45 Blvd. Sacré-Coeur
Gatineau, Quebec J8X 1C6
Canada

The Engineering Authority named above 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 Engineering Authority, however the Engineering 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.

5.2.3 CONSIGNEE CONTACT

The Contractor must deliver the goods 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.

7 CF Supply Depot
Lancaster Park,
Edmonton, Alberta
Tel: 780-973-4011 EXT 4524.

5.3 Contractor's Representative

General Enquiries

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

Shipping Contact:

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

The Shipping contact is responsible for the Shipping to and From the Phase II testing to be held as detailed in the Bid Evaluation. This contact shall be contacted when Phase II will start and is responsible for shipping Item to the Destination. This Contact shall be contacted once all testing is complete to have item returned.

6.0 Payment

6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm unit prices totaling \$ _____ (insert the amount at contract award). Customs duties are included, and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

6.3 SACC Manual Clauses

C6000C (2011-05-16) Limitation of Price
H1001C (2008-05-12) Multiple Payments
C2000C (2007-11-30) Taxes - Foreign Based Contractors

7. Invoicing Instructions

-
- 7.1 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.
- 7.2 Invoices must be distributed as follows:
- (a) The original and one (1) copy must be forwarded to the following address for certification and payment.

See Article 5.2.1 for Address
 - (b) One (1) copy must be forwarded to the Contracting Authority identified under the

See Article 5.1 for Address.
 - (c) one (1) copy must be forwarded to the consignee.

See Article 5.2.3 for Address.

8. Shipping Instructions - Delivery and Destination Schedules Unknown

1. The Contractor must ship the goods prepaid DDP - Delivered Duty Paid, Edmonton, Alberta, Canada. Unless otherwise directed, delivery must be made by the most economical means. The Contractor is responsible for all delivery charges, administration, costs and risks of transport and customs clearance, including the payment of customs duties and taxes.
2. The Contractor must deliver the goods 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
Telephone: 780-973-4011, ext. 4524

9.0 Certifications

9.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation or if it is determined that any certification made by the Contractor in its bid is

untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

10. Applicable Laws

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

11. 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) 2010A (2013-04-25) General Conditions - Goods
- (c) Annex A, Statement of Work
- (d) the Contractor's bid dated _____ (insert date of bid) (If the bid was clarified or amended, insert at time of contract award: ", as clarified on _____ " or ", as amended on _____ " and insert date(s) of clarifications or amendment(s))

12. SACC Manual Clauses

A9006C (2008-05-12)	Defence Contract
A9062C (2011-05-16)	Canadian Forces Site Regulations
A9131C (2011-05-16)	Controlled Goods Program
B1000T (2007-11-30)	Condition of Materiel
B1505C (2006-06-16)	Shipment of Hazardous Materials
B4042C (2008-05-12)	Identification Markings
B4060C (2011-05-16)	Controlled Goods
B5001C (2010-01-11)	Procedure for Design Change or Additional Work
C2611C (2007-11-30)	Customs Duties - Contractor Importer
C2800C (2013-01-28)	Priority Rating
C2801C (2011-05-16)	Priority Rating - Canadian Contractors
D0005C (2007-11-30)	Complete Delivery
D1001C (2008-05-12)	Phased Delivery
D2000C (2007-11-30)	Labelling
D2025C (2008-12-12)	Wood Packaging Materials
D3010C (2012-07-16)	Dangerous Goods/Hazardous Products
D3018C (2007-11-30)	Preparation for Delivery
D3020C (2008-05-12)	Preparation for Delivery - European Union
D5540C (2010-08-16)	ISO 9001:2000 Quality Management Systems - Requirements (QAC Q)

D5510C (2012-07-16) Quality Assurance Authority (DND) - Canadian-based Contractor
 D5515C (2010-01-11) Quality Assurance Authority (DND) - Foreign-based and
 United States Contractor
 D5604C (2008-12-12) Release Documents
 D5605C (2008-01-11) Release Documents
 D5606C (2012-07-16) Release Documents
 D5620C (2012-07-16) Release Documents
 D6010C (2007-11-30) Palletization

13. Registration - US Code of Federal Regulations

13.1. As this item may require transport to the United States of America, from Canada, the item must be registered in accordance with the US Code of Federal Regulations (CFR) 49 part 171. The item must be assigned an EX number in accordance with CFR 49-171.8 and classified in accordance with CFR 49 - 171.12(a).

13.2 The Contractor will obtain an EX number directly associated with the specified NATO Stock Number (NSN).

13.3 Request for EX numbers is to be forwarded to:

Eleanor Lawson
 U.S. Department of Transportation
 HMS/OHMEA/Approvals
 1200 New Jersey Avenue, SE
 East Building, 2nd Floor, Rm. E23-443
 Washington, DC 20590
 Tel: 202-366-3987
 Fax: 202-366-3753
 E-Mail approvals@dot.gov

13.4 The Contractor will provide the classification certificate for the Contract item(s) on or before delivery of the items to the Technical Authority. However, delivery will not be delayed if an EX number cannot be obtained prior to the product being delivered. The Contractor will advise the Technical Authority of the circumstances for the delay in obtaining the EX number. The Contractor will provide the EX Number to the Technical Authority immediately after been assigned.

13.5 If an EX number cannot be provided by the contractor all pertinent information such as drawings of components, energetic material description and percentage use in all compositions will be provided to the Technical Authority through the Contracting Authority.

13.6 The EX number will be annotated on the Ammunition Data Card under Remarks, Block 17.

14. Insurance Requirements

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

STATEMENT OF WORK
FOR
TACTICAL LIGHTWEIGHT BOMB (TLB) SUIT

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Related Appendix & ANNEX documents:

APPENDIX 1: Data Item Description (DID) for the Tactical Lightweight Bomb Suit (TLB Suit)

APPENDIX 2: Contract Data Requirements List (CDRL) the Tactical Lightweight Bomb Suit (TLB Suit)

APPENDIX 3: Specification for CADPAT™ (TW) [Canadian Disruptive Pattern (Temperate Woodland)]

APPENDIX 4: Specification for CADPAT™ (AR) [Canadian Disruptive Pattern (Arid)]

1.0 Scope

1.1 Purpose

- 1.1.1 The purpose of this Statement of Work (SOW) is to define the work requirements for the provision of Tactical Lightweight Bomb (TLB) Suits for use by CF Explosive Ordnance Disposal (EOD) personnel (EOD operators).

1.2 Background

- 1.2.1 CF EOD operators are required to clear unexploded ordnance (UXO) and Improvised Explosive Devices (IEDs). IEDs come in all sizes, shapes and forms, with various explosive contents and with increasingly sophisticated means of initiation. IEDs pose the most serious threat to EOD operators. In some cases, the HB/CP Suit (heavy bomb suit) lacks sufficient portability to be taken on task. For these non-permissive environments, a lighter, portable protection system is required to provide similar protection in a scalable form when the HB/CP Suit cannot be used.

1.3 Intended Use

- 1.3.1 A TLB Suit will be worn during IED disposal operations to provide protection against explosive blast effects and fragmentation contents of an IED. The suit will be employed anywhere in the world under various climatic conditions and harsh physical environments. It will be subject to repeated periods of sustained and rugged use followed by extended storage.

1.4 Acronyms and Abbreviations

AR	Arid Region
CA	Contracting Authority
CADPAT™	Canadian Disruptive Pattern
CDRL	Contract Data Requirements List
CE	Conformité Européenne ("European Conformity")
CEPA	Canadian Environmental Protection Act
CF	Canadian Forces
CFTO	Canadian Forces Technical Orders
DID	Data Item Description
DND	Department of National Defence
DSCO	Director Supply Chain Operations
DSSPM	Director Soldier Systems Project Management
DTMS	Defence Terminology Management System
EHS	Environmental Health and Safety
EHSIR	Environmental Health and Safety Impact Report
EOD	Explosive Ordnance Disposal
FSP	Fragment Simulating Projectile
Hz	Hertz
IAW	In Accordance With
IEC	International Electrotechnical Commission
IED	Improvised Explosive Device
ILS	Integrated Logistics Support
ISO	International Organization for Standardization
MSDS	Material Safety Data Sheets
NATO	North Atlantic Treaty Organization
NBC	Nuclear Biological Chemical
NCAGE	Commercial and Government Entity
NIJ	National Institute of Justice
NSN	NATO Stock Number
OEM	Original Equipment Manufacturer
PMP	Project Management Plan

POL	Petroleum, Oil, Lubricants
PWGSC	Public Works and Government Services Canada
QA	Quality Assurance
R&O	Repair & Overhaul
RFP	Request for Proposal
SOW	Statement of Work
SPTD	Supplementary Provisioning Technical Documentation
STANAG	NATO Standardization Agreement
TA	Technical Authority
TIES	Technical Investigation and Engineering Support
TLB Suit	Tactical Lightweight Bomb Suit
TW	Temperate Woodlands
UL	Underwriters Laboratories
UXO	Unexploded Ordnance

2.0 Applicable Documents

2.1 Applicability

- 2.1.1 The following documents form part of the SOW to the extent specified herein and shall be considered supplemental if not specifically identified in the text. Unless otherwise specified, the issue or amendment of the documents effective for the contract shall be those in effect on the date of the RFP.

2.2 References

- 2.2.1 Whereas mentioned, the following Standards shall be used for the preparation of deliverables to the extent specified in this SOW:

C-01-100-100/AG-005	FOREIGN GOVERNMENT PUBLICATIONS AS ADOPTED PUBLICATIONS
C-01-100-100/AG-006	WRITING, FORMAT AND PRODUCTION OF TECHNICAL PUBLICATIONS
D-01-100-207/SF-002	SPECIFICATION - PREPARATION OF INTERIM ILLUSTRATED PARTS MANUALS FOR LAND EQUIPMENTS
D-01-100-214/SF-000	SPECIFICATION FOR PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT
D-01-400-001/SG-000	STANDARD - ENGINEERING DRAWING PRACTICES FOR CLASS 1 DRAWINGS AND TECHNICAL DATA LIST
D-01-400-002/SF-000	SPECIFICATION - DRAWINGS, ENGINEERING AND ASSOCIATED LISTS
D-02-002-001/SG-001	STANDARD – IDENTIFICATION MARKING OF CANADIAN MILITARY PROPERTY
D-LM-008-001/SF-001	METHODS OF PACKAGING

D-LM-008-002/SF-001	SPECIFICATION FOR MARKING FOR STORAGE AND SHIPMENT
D-LM-008-011/SF-001	PREPARATION AND USE OF PACKAGING REQUIREMENTS CODES
D-80-001-055/SF-001	SPECIFICATION FOR LABEL, CLOTHING AND EQUIPMENT
ISO 10005	QUALITY MANAGEMENT SYSTEM GUIDELINES
MIL-P-46593A	PROJECTILE, CALIBERS .22, .30, .50 AND 20MM FRAGMENT SIMULATING
MIL-STD-622F	V50 BALLISTIC TEST FOR ARMOUR
STANAG 2911 (EDITION 2)	DESIGN CRITERIA FOR FRAGMENTATION PROTECTIVE BODY ARMOUR
STANAG 2920 (EDITION 2)	BALLISTIC TEST METHOD FOR PERSONNEL ARMOUR MATERIALS AND COMBAT CLOTHING
TR-HFM-089	TEST METHODOLOGIES FOR PERSONAL PROTECTIVE EQUIPMENT AGAINST ANTI- PERSONNEL MINE BLAST

2.3 Order of Precedence

- 2.3.1 Unless otherwise specified, the issue or the amendment of the documents for this contract shall be those in effect on the date of contract award. The Contractor shall bring to the attention of the TA any perceived inconsistencies between the SOW and the documents attached in the Appendixes/Annexes or referenced in this SOW. In the event of conflict between the content in this SOW and the referenced documents, the content of this SOW shall take precedence.

3.0 Technical Requirements

3.1 System Characteristics

3.1.1 General

- 3.1.1.1 The TLB Suit requirement shall be assembled using production components from a current production line that are not prototypes or pre-production models.

3.1.2 Design

- 3.1.2.1 The TLB Suit shall protect the EOD operator in the hazardous conditions encountered in IED disposal operations, while remaining lightweight and portable for deployment in non-permissive environments.
- 3.1.2.2 As the IED threat is variable and unpredictable, the TLB Suit shall be scalable and adaptable for operation in various combinations of ballistic protection and portability.
- 3.1.2.3 All components of the TLB Suit (see para. 3.2.1) shall be designed to work together with in-service CF components (see para. 3.2.2.1) to provide full body ballistic protection.
- 3.1.2.4 Any components in, or included as part of, the TLB Suit that are prone or exposed to excessive wear and tear, shall be designed with additional protection, reinforcement or consumable replacement items in order to maintain the integrity and protective qualities of the suit.
- 3.1.2.5 The design of the TLB Suit shall be guided by the content of STANAG 2911 - Design Criteria for Fragmentation Protective Body Armour.

3.1.3 Transportability

- 3.1.3.1 The TLB Suit shall be easily transportable with no more than 10 minutes preparation time.
- 3.1.3.2 The TLB Suit shall be transportable by fixed and rotary wing aircraft, cargo ships, rail, and commercial and military wheeled vehicles on highways and cross-country.

3.1.4 Service Life

- 3.1.4.1 The in-service life of TLB Suit shall be no less than ten (10) years.

3.2 System Components

3.2.1 The TLB Suit shall consist of the following components for ballistic protection:

- 3.2.1.1 Ballistic Helmet Visor (used in conjunction with in-service CG634 helmet)
- 3.2.1.2 Arm protection
- 3.2.1.3 Neck/shoulder protection
- 3.2.1.4 Lower Body protection
- 3.2.1.5 Available Chest and Groin Protection (requested through Option quantities, which can be used instead of in-service fragmentation protective vest for blast overpressure protection)

3.2.2 Compatibility

- 3.2.2.1 The TLB Suit shall be compatible with the following in order to provide full body protection:

- 3.2.2.1.1 The in-service CG634 helmets:
 - 3.2.2.1.1.1 small: NSN 8470-21-912-7604; and
 - 3.2.2.1.1.2 medium: NSN 8470-21-912-7605; and
 - 3.2.2.1.1.3 large: NSN 8470-21-912-7606.
- 3.2.2.1.2 The in-service fragmentation protective vest:
 - 3.2.2.1.2.1 x-small/short: NSN 8470-21-921-3064; and
 - 3.2.2.1.2.2 x-small/regular: NSN 8470-21-921-3065; and
 - 3.2.2.1.2.3 small/short: NSN 8470-21-921-3067; and
 - 3.2.2.1.2.4 small/regular: NSN 8470-21-921-3068; and
 - 3.2.2.1.2.5 small/tall: NSN 8470-21-921-3069; and
 - 3.2.2.1.2.6 medium/short: NSN 8470-21-921-3070; and
 - 3.2.2.1.2.7 medium/regular: NSN 8470-21-921-3071; and
 - 3.2.2.1.2.8 medium/tall: NSN 8470-21-921-3072; and
 - 3.2.2.1.2.9 large/short: NSN 8470-21-921-3073; and
 - 3.2.2.1.2.10 large/regular: NSN 8470-21-921-3075; and
 - 3.2.2.1.2.11 large/tall: NSN 8470-21-921-3079.
- 3.2.2.1.3 The in-service bullet resistant plates:
 - 3.2.2.1.3.1 NSN 8470-21-921-3223;
- 3.2.2.1.4 The in-service CF combat boots:
 - 3.2.2.1.4.1 NSN 8430-21-872-4291;
- 3.2.3 Ergonomics
 - 3.2.3.1 The TLB Suit shall provide seamless protection over the entire body, when matched with the in-service equipment (see para 3.2.2.1), providing overall protective capabilities, regardless of the wearer's position.
 - 3.2.3.2 The TLB Suit shall be a multi-piece design to:
 - 3.2.3.2.1 Facilitate rapid donning and doffing; and
 - 3.2.3.2.2 Enable mixing of components from the other size ranges to address variations in operator torso/limb sizes.
- 3.2.4 Closure and Adjustment Characteristics
 - 3.2.4.1 The method of closing and sealing the TLB suit, when donned, shall provide sufficient overlap of protective material to ensure that a consistent level of protection is maintained over the body.
- 3.2.5 Maintenance and Cleaning
 - 3.2.5.1 The TLB Suit shall allow for any blast or fragmentation protective inserts to be removed for cleaning.
 - 3.2.5.2 The TLB Suit outer shell shall be capable of being hand-cleaned with standard commercially available household-type cleaning products.

- 3.2.5.3 If the TLB Suit is contaminated by Petroleum, Oil, Lubricants (POL), hand-cleaning of the outer shell with standard household cleaning products shall remove sufficient amounts of the POL as to render its presence non-hazardous to combustion.
- 3.2.6 Ballistic Helmet Visor
 - 3.2.6.1 The Ballistic Helmet Visor shall be compatible with the in-service CG634 helmet (para 3.2.2.1.1).
 - 3.2.6.2 The ballistic helmet visor shall provide full face coverage.
 - 3.2.6.3 The ballistic helmet visor shall work in conjunction with the Neck/Shoulder Protection (para 3.2.8) to prevent knockback of the head and protection of the throat in the event of a blast.
- 3.2.7 Arm Protection
 - 3.2.7.1 The TLB Suit shall include Arm Protection (full sleeves) that securely attach to the suit.
 - 3.2.7.2 Arm Protection shall have integrated pouches capable of holding EOD tools and small pieces of equipment.
- 3.2.8 Neck/Shoulder Protection
 - 3.2.8.1 The TLB Suit shall include Neck/Shoulder Protection to protect the operator's head and neck from knockback and fragmentation in the case of an explosion.
 - 3.2.8.2 The Neck/Shoulder Protection shall protrude outward from the body and cover the operator's neck and chin.
 - 3.2.8.3 The Neck/Shoulder Protection shall provide full shoulder coverage and protection.
- 3.2.9 Lower Body Protection
 - 3.2.9.1 Lower Body Protection shall cover the entire lower body from waist to the ankle and be comprised of groin, thigh, hamstring, knee, shin, and calf protection.
- 3.2.10 Chest and Groin Protection (requested through Option quantities)
 - 3.2.10.1 Chest and Groin Protection shall integrate with the other components of the TLB Suit.
 - 3.2.10.2 Chest and Groin Protection shall provide blast overpressure and fragmentation protection to the chest, abdomen and groin.

3.3 Physical Characteristics

- 3.3.1 Size
 - 3.3.1.1 The TLB Suit shall be provided in at least the following three (3) size ranges, and within each size range, have at least three (3) sub-size ranges (additional size ranges and sub-size ranges will be considered so long as the final TLB Suit quantity is maintained);
 - 3.3.1.2 Size Ranges
 - 3.3.1.2.1 Size 1 shall support a waist size range between 76 to 82 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.

- 3.3.1.2.2 Size 2 shall support a waist size range between 86 to 92 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.
- 3.3.1.2.3 Size 3 shall support a waist size range between 96 to 102 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.
- 3.3.1.3 Height Range
 - 3.3.1.3.1 The short, medium and tall sub-sizes shall cover at least the height range between 162 cm and 188 cm tall.
- 3.3.1.4 To accommodate variations in the sizes of individual CF EOD operators, TLB Suit components from the above size groups shall be capable of being worn with components from other adjacent size groups without degradation of protection.
- 3.3.2 Weight
 - 3.3.2.1 The TLB Suits fitting size ranges 1, 2 and 3 shall not exceed 14 kg **excluding** the Ballistic Helmet Visor and Chest and Groin Protection.
 - 3.3.2.2 The Ballistic Helmet Visor shall not exceed 2 kg.
 - 3.3.2.3 The Chest and Groin Protection shall not exceed 6 kg in any size.
- 3.3.3 Colour
 - 3.3.3.1 The TLB Suit shall be available in the following colours:
 - 3.3.3.1.1 Arid Canadian Disruptive Pattern (CADPAT™) (IAW Appendix 4 to Annex A, CADPAT™ (AR)) except for high wear surfaces, such as knees and elbow, and minor attachments, such as the Ballistic Helmet Visor trim and tool pouches which shall either be non-reflective Light Sand, Arid CADPAT™, or black in color; and
 - 3.3.3.1.2 Temperate Woodland CADPAT™ (IAW Appendix 3 to Annex A, CADPAT™ (TW)) except for high wear surfaces, such as knees and elbow, and minor attachments, such as the Ballistic Helmet Visor trim and tool pouches, which shall either be non-reflective Canadian Average Green, Temperate Woodland CADPAT™, or black in colour; and
 - 3.3.3.1.3 All black in colour.

3.4 Performance Characteristics

- 3.4.1 TLB Suit Performance
 - 3.4.1.1 TLB Suit, along with the Chest and Groin Protection, shall be designed for blast injury protection. TLB Suit sources of blast injury include:
 - 3.4.1.1.1 Primary (blast overpressure) caused by the direct effects of the blast (blast induced variations in the environmental pressure). This could result in injuries to the lungs, upper respiratory tract, gastrointestinal tract and solid intra-abdominal organs.
 - 3.4.1.1.2 Secondary (fragmentation) ballistic injuries due to fragmentation and flying debris.
 - 3.4.1.2 Blast overpressure

- 3.4.1.2.1 The TLB Suit, along with the Chest and Groin Protection, test results shall indicate the overpressure protection provided by the TLB suit to the EOD operator for multiple quantities of explosive at different proximities.
- 3.4.1.2.1.1 The TLB Suit, along with the Chest and Groin Protection, test results shall correlate lethality/survivability data with pressure-duration characteristics of the free-field blast.
- 3.4.1.2.1.2 The TLB Suit, along with the Chest and Groin Protection, shall have a fifty percent (50%) or greater survivability, to the EOD operator wearing the TLB Suit, along with the Chest and Groin Protection, from blast overpressure as compared to an unprotected EOD operator. This is similar to the V50 requirements under Fragmentation below at para. 3.4.1.3.
- 3.4.1.2.1.3 The TLB Suit, along with the Chest and Groin Protection, test plan(s) shall follow parameters as outlined in Test Methodologies for Personal Protective Equipment Against Anti-Personnel Mine Blast Technical Report TR-HFM-089, specifically:
 - 3.4.1.2.1.3.1 Explosive Mass and Type – Minimum 100g of C4, or equivalent.
 - 3.4.1.2.1.3.2 Depth of Burial – Between flush buried (0mm) and 20mm depth (top of container to soil surface).
 - 3.4.1.2.1.3.3 Explosive test charge distance – No more than 1m distance from mannequin upper body region.
- 3.4.1.3 Fragmentation
 - 3.4.1.3.1 The TLB Suit shall meet MIL-STD-662F using the .22 Cal. projectile as specified in MIL-P-46593A or STANAG 2920 using the NATO 17 grain chisel nose Fragment Simulating Projectile (FSP), for the different body zones (All test results shall be based on a minimum n=3 for all tests, where n is number of trials):
 - 3.4.1.3.1.1 The TLB Suit shall meet or exceed protection of Neck (front): V50 570 m/s.
 - 3.4.1.3.1.2 The TLB Suit shall meet or exceed protection of Shoulder: V50 550 m/s.
 - 3.4.1.3.1.3 The TLB Suit shall meet or exceed protection of Arms: V50 425 m/s.
 - 3.4.1.3.1.4 The TLB Suit shall meet or exceed protection of Legs (front incl. groin): V50 425 m/s.
 - 3.4.1.3.1.5 The TLB Suit shall meet or exceed protection of Legs (rear): V50 225 m/s.
 - 3.4.1.3.1.6 The TLB Suit shall meet or exceed protection of Knees: V50 500 m/s.
 - 3.4.1.3.1.7 The TLB Suit shall meet or exceed protection of Visor: V50 400 m/s.
 - 3.4.1.3.1.8 The Chest and Groin Protection shall meet or exceed protection of chest, abdomen and groin: V50 1500 m/s.

3.4.2 Overall System Performance

3.4.2.1 The TLB Suit shall meet the following system performance requirements:

3.4.2.1.1 Ascending, Descending and Stepping over Obstacles

3.4.2.1.1.1 The TLB Suit shall allow the user to ascend and descend stairways (up to 20 cm steps) and ladders (with wrung spacing up to 30 cm), and to step over obstacles up to 30 cm high.

3.4.2.1.2 Donning and doffing

3.4.2.1.2.1 The EOD operator shall be able to don or doff the TLB Suit without assistance.

3.4.2.1.2.2 The EOD operator shall be able to don and doff the TLB Suit without removal of the in-service fragmentation protective vest, and without compromising the in-service fragmentation protective vest protection of the EOD operator.

3.4.2.1.2.3 Any method of securing the position of the TLB Suit components shall be adjustable by the EOD operator wearing combat or cold weather gloves.

3.4.2.1.3 Static Electricity

3.4.2.1.3.1 The TLB Suit shall present no static electricity hazard to EOD operators handling volatile or explosive materials.

3.5 Environmental and Climatic Characteristics

3.5.1 The TLB Suit shall provide fragmentation as well as blast protection (along with the Chest and Groin Protection), in mist, fog, rain, sleet and snow.

3.5.2 The TLB Suit shall be capable of operation in the temperature range of – 20°C to at least + 45°C.

3.5.3 The TLB Suit components shall not warp or deform nor otherwise degrade their protective performance during shipping or storage within temperature extremes of -30°C to +50°C.

4.0 Environmental Health and Safety

4.1 General

- 4.1.1 Environmental Health and Safety (EHS) consideration shall be incorporated and documented into the decision making process for the Work performed under this Contract. EHS documentation shall be maintained within the project file throughout the life of this Contract. The Contractor shall provide for and allow DND inspection and monitoring of EHS documentation throughout the life of the contract.
- 4.1.2 Polychlorinated Biphenyls (PCBs), halocarbons (as identified within the Ozone-Depleting Substances Regulations, 1998), and asbestos are not to be incorporated into the design, operation and maintenance of the equipment, or products used in equipment support activities.
- 4.1.3 The Contractor shall identify and report all sources of mercury contained or used within the design, operation and maintenance of the equipment, or products used in equipment support activities.
- 4.1.4 The Department is committed to the Federal programs to reduce or eliminate emissions from toxic substances. Contractors shall identify and submit justifications for the use of all regulated products and those containing substances identified within the Accelerated Reduction/Elimination of Toxics (ARET, <http://www.ec.gc.ca/nopp/aret/en/list.cfm>), National Pollutant Release Inventory (NPRI, http://www.ec.gc.ca/pdb/npri/npri_home_e.cfm) and/or List of Challenge Substances: (http://www.chemicalsubstanceschimiques.gc.ca/challenge-defi/list_e.html), and also for products containing heavy metals (heavy metals are those identified within Schedule 1 of the Canadian Environmental Protection Act (CEPA)) to the technical authority for approval.
- 4.1.5 Canada Labour Code, Part II dictates that the least hazardous materials should be used at the workplace. Therefore, the Contractor is to strive to use the least hazardous product that meets the requisite performance requirements.
- 4.1.6 New or amended support documentation such as Canadian Forces Technical Orders (CFTOs) shall incorporate appropriate EHS warnings and instructions in direct relation of the EHS risks presented in the contents.
- 4.1.7 It is the Contractor's responsibility to ensure that specifications, standards, support documents and test programs are reviewed for EHS compliance.

4.2 Environmental Management System:

- 4.2.1 The Contractor shall have a management system in place to control environmental, health and safety impacts resulting from their activities, products or services.
- 4.2.2 The Contractor shall have a formalized set of procedures and control measures in place to achieve conformance with the requirements of this Work, while ensuring environmental, health and safety protection and pollution prevention.
- 4.2.3 The Contractor shall also make reasonable effort to monitor that all subcontractors are in compliance with applicable environmental laws and regulations.

5.0 Project Management

5.1 Project Management Program

- 5.1.1 The Contractor shall designate a Project Manager with the responsibilities to coordinate, execute, and manage the Contractor's project management activities for the Contract. The Contractor's Project Manager shall have the total responsibility for all works required under the Contract.
- 5.1.2 The Contractor's Project Manager shall be the primary point of contact between the Contractor and the DND Technical Authority and the PWGSC Contracting Authority for all issues related to the Contract.

5.2 Project Management Plan (PMP)

- 5.2.1 The Contractor shall prepare, deliver, maintain and update a Project Management Plan (PMP) IAW CDRL TLB-PM-001 at Appendix 2 to ANNEX A and it's associated DID TLB-PM-001 at Appendix 1 to ANNEX A.

5.3 Project Meetings

- 5.3.1 Meeting Organization and Coordination
 - 5.3.1.1 The Contractor shall ensure that data, personnel and facilities are available for each meeting.
 - 5.3.1.2 As appropriate, meetings may be held at the Contractor or DND facilities at the discretion of the TA.
 - 5.3.1.3 The Contractor's Project Manager shall be present at all meetings. If the Project Manager does not have final approval authority for decision making and changes, then the person that has that final approval authority shall also be present at all meetings.
- 5.3.2 Kick-off Meeting
 - 5.3.2.1 The Contractor shall host a Kick-off Meeting (at the Contractor's facility) no later than twenty-one (21) calendar days after contract award to review and secure a common understanding of the requirements expressed in the following:
 - 5.3.2.1.1 The Contract;
 - 5.3.2.1.2 SOW;
 - 5.3.2.1.3 TLB Suit sizing name convention;
 - 5.3.2.1.4 Draft Project Management Plan, and
 - 5.3.2.1.5 Any other contractual or programmatic issues associated with the project as agreed between the TA, CA and the Contractor.
- 5.3.3 Other meetings
 - 5.3.3.1 The Contractor and/or the TA may schedule informal reviews, such as teleconferences, video conferences, briefings and technical interchange meetings, as required to help achieve the requirements of the Contract.
 - 5.3.3.2 The Contractor shall formally submit all items that could have a contractual impact as they arise.
- 5.3.4 Meeting Documentation
 - 5.3.4.1 The Contractor shall prepare and deliver a meeting agenda for all meetings, and the meeting minutes afterwards.

- 5.3.4.1.1 The Contractor shall prepare meeting agendas IAW CDRL TLB-PM-002 at Appendix 2 to ANNEX A and it's associated DID TLB-PM-002 at Appendix 1 to ANNEX A.
- 5.3.4.1.2 The Contractor shall record, prepare, and deliver the minutes of each meeting IAW CDRL TLB-PM-003 at Appendix 2 to ANNEX A and its associated DID TLB-PM-003 at Appendix 1 to ANNEX A.
- 5.3.4.2 No change in the interpretation of the Project, SOW, cost, or schedule, as defined in the Contract, may be authorized by the minutes of a meeting. Such action shall require formal Contract amendment by the CA.

6.0 Integrated Logistics Support (ILS)

6.1 Technical Publication Package

- 6.1.1 The Contractor shall prepare and deliver a Technical Publication package for the TLB Suit comprising of:
- 6.1.2 Operator Manual
 - 6.1.2.1 The Contractor shall deliver the Operator Manual with each TLB Suit IAW CDRL TLB-ILS-201 at Appendix 2 and its associated DID TLB-ILS-201 at Appendix 1 to this Annex A.
- 6.1.3 Initial Training Package
 - 6.1.3.1 The Contractor shall provide an Initial Training Package IAW CDRL TLB-ILS-202 at Appendix 2 and its associated DID TLB-ILS-202 at Appendix 1 to Annex A with location in Canada.
- 6.1.4 The Contractor shall deliver all Technical Publications in English and Canadian French.
- 6.1.5 The Contractor shall have all Technical Publication text translated by certified translators, such as members of an authorized provincial association of translators, to ensure the quality of translated text.
- 6.1.6 The Contractor shall ensure all translations are consistent with approved DND terminology. Approved terminology sources, in order of priority, are as follows:
 - 6.1.6.1 Concise Oxford Dictionary (for English);
 - 6.1.6.2 Petit Robert (for French);
 - 6.1.6.3 Termium, PWGSC Translation Bureau Linguistic Data Bank (<http://www.termiumplus.gc.ca/>); and
 - 6.1.6.4 Any other available source approved by DND.

6.2 Provisioning Documentation

- 6.2.1 The Contractor shall prepare and deliver Provisioning Documentation for the TLB Suit system comprising of:
- 6.2.2 Interim Spares List
 - 6.2.2.1 The Contractor shall deliver an Interim Spare Parts List IAW CDRL TLB-ILS-203 at Appendix 2 and its associated DID TLB-ILS-203 at Appendix 1 to this ANNEX A.
- 6.2.3 Recommended Spare Parts List
 - 6.2.3.1 The Contractor shall deliver a Recommended Spare Parts List IAW CDRL TLB-ILS-204 at Appendix 2 and its associated DID TLB-ILS-204 at Appendix 1 to this ANNEX A.
- 6.2.4 Supplementary Provisioning Technical Documentation
 - 6.2.4.1 The Contractor shall deliver Supplementary Provisioning Technical Documentation for all TLB Suit parts included in Recommended Spare Parts List IAW CDRL TLB-ILS-206 at Appendix 2 and its associated DID TLB-ILS-206 at Appendix 1 to this ANNEX A.

6.3 Initial Training Session

- 6.3.1 The Contractor shall provide Initial Training Session after delivery of the first TLB Suit.
- 6.3.2 The Initial Training Session shall consist of 1 serial, with up to 10 students, to be conducted in Canada.
- 6.3.3 The training session shall be no longer than one (1) day.
- 6.3.4 The Contractor shall deliver the training session in:
 - 6.3.4.1 English, with the capability to answer questions and elaborate points in-class in either official language; or
 - 6.3.4.2 French with the capability to answer questions and elaborate points in-class in either official language.
- 6.3.5 The Contractor shall provide all the materials required for training, including all course material and handouts.
- 6.3.6 The Contractor shall use the approved Initial Training Package.
- 6.3.7 The Contractor's trainer(s) shall be Subject Matter Expert(s) (SME) on the equipment taught during the training. The trainers shall have technical awareness in EOD, explosive blast and fragmentation effects.

6.4 Identification Plates

- 6.4.1 The Contractor shall provide all required Identification Plates IAW CDRL TLB-ILS-205 at Appendix 2 and its associated DID TLB-ILS-205 at Appendix 1 to this Annex A.
- 6.4.2 The Contractor shall attach Identification Plates to the following components for ease of tracking within the Canadian Forces Supply System:
 - 6.4.2.1 Prime Equipment;
 - 6.4.2.2 Spares;
 - 6.4.2.3 Training Equipment.

6.5 Instruments, Decals, Data Plates and Warnings

- 6.5.1 All instruments, decals and data plates shall be marked in metric units. Where international symbols are not possible, bilingual markings in English and Canadian French are required. Warning and precautionary data plates shall be provided in both official languages of Canada (English and Canadian French) where necessary to protect personnel and equipment.

6.6 Packaging, Labels and Codes

- 6.6.1 All parts and equipment supplied by the Contractor to DND, except the Interim Spares from 6.2.2, shall be packaged as per D-LM-008-001/SF-001 following:
 - 6.6.1.1 Level B Limited Military Package;
 - 6.6.1.2 Level B Limited Military Pack;
- 6.6.2 Packaging produced under 6.6.1 above shall be labeled as per D-LM-008-002/SF-001, using D-LM-008-011/SF-001 to prepare the required packaging and preservation codes.
 - 6.6.2.1 The Contractor shall provide copies of the labels produced under 6.6.2 IAW CDRL TLB-ILS-207 at Appendix 2 to Annex A, and its associated DID TLB-ILS-207 at Appendix 1 to Annex A for review and approval prior to their production and use.

- 6.6.2.2 The Contractor shall provide a list of all Packaging Codes resolved under 6.6.2 above IAW CDRL TLB-ILS-207 at Appendix 2 to Annex A, and its associated DID TLB-ILS-207 at Appendix 1 to Annex A.

6.7 Top Level Assembly Drawing

- 6.7.1 A (hardcopy and softcopy) Assembly drawing (IAW section 7.4 of D-01-400-001/SG-000 and DID TLB-ILS-206) of the TLB Suit and its major components, complete with dimensions and title block shall be provided at the end of the Kick-off meeting.

DATA ITEM DESCRIPTION
FOR THE
TACTICAL LIGHTWEIGHT BOMB SUIT (TLB Suit)

1.0 DATA ITEM DESCRIPTION (DID) ITEM LIST

DID #	Title	CDRL #
TLB-PM-001	Project Management Plan	TLB-PM-001
TLB-PM-002	Meeting Agenda	TLB-PM-002
TLB-PM-003	Meeting Minutes	TLB-PM-003
TLB-ILS-201	Operator Manual	TLB-ILS-201
TLB-ILS-202	Initial Training Package	TLB-ILS-202
TLB-ILS-203	Interim Spares List	TLB-ILS-203
TLB-ILS-204	Recommended Spare Parts List	TLB-ILS-204
TLB-ILS-205	Identification Plates	TLB-ILS-205
TLB-ILS-206	Supplementary Provisioning Technical Documentation	TLB-ILS-206
TLB-ILS-207	Packaging, Labels and Codes	TLB-ILS-207

DATA ITEM DESCRIPTION (DID) DEFINITION

The following section defines the various blocks of information found on the Data Item Description (DID) forms:

BLOCK 1 – TITLE

The title of the data item for the DID.

BLOCK 2 - IDENTIFICATION NUMBER

The Data Item Description (DID) number, consisting of a sequential three-digit number and prefixed with an abbreviation code, to uniquely identify the DID. Note that the 001-099 series is reserved to Project Management (PM) DIDs, the 101-199 series is reserved to Systems Engineering (SE) DIDs and the 201-299 series is reserved to Integrated Logistics Support (ILS) DIDs. The abbreviation codes used for the prefix are:

“PM” for Project Management
“SE” for Systems Engineering
“ILS” for Integrated Logistics Support

BLOCK 3 - DESCRIPTION

Provides a general description of the data content requirements.

BLOCK 4 - APPROVAL DATE

Indicates the date of the originator's approval of the DID.

BLOCK 5 - OFFICE OF PRIMARY INTEREST (OPI)

The office of primary interest for the review, acceptance and/or approval of the data item.

BLOCK 6 - GIDEP APPLICABLE

An “X” indicates that the data is to be submitted by a Government organization or the Contractor to the Government/Industry Data Exchange Program (GIDEP). Otherwise the block is left blank.

BLOCK 7 - APPLICATION / INTERRELATIONSHIP

Provides the application details and interrelationship of the data item to other DIDs or documents.

BLOCK 8 - ORIGINATOR

Indicates the originator's office responsible for the DID.

BLOCK 9 - APPLICABLE FORMS

Indicates any form associated with the DID.

BLOCK 10 - PREPARATION INSTRUCTIONS

Provides the preparation instructions, including format and content requirements for the data.

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Project Management Plan (PMP)	2. IDENTIFICATION NUMBER DID TLB-PM-001	
3. DESCRIPTION The Project Management Plan outlines the Contractor's approach for managing all aspects of the Project. The PMP will be used to provide the DND Technical Authority (TA) insight into the Contractor's project management practices and procedures as they apply to the Contract.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST DND/DGLEPM/DCSEM 9	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This Data Item Description (DID) contains the format, content and preparation instructions for the data product generated by the specific and discrete task requirements as delineated in the ANNEX A. Para. 5.2		
8. ORIGINATOR DND / DGLEPM / DCSEM 9	9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS <div style="margin-left: 20px;"> 10.1. FORMAT 10.1.1. The PMP shall be prepared in the Contractor's format. </div> <div style="margin-left: 20px;"> 10.2. CONTENT 10.2.1. The PMP shall describe the management processes, administrative procedures and organizational structure that will be used to manage the Work of the Contractor. The PMP shall further detail the practices and procedures for project scheduling, planning, organizing, directing, executing, communicating, reporting, managing risk, managing environmental health and safety issues and impacts, managing information, and closing of action items for all Work required by the Contract. The PMP shall address in detail the above points through the following: <div style="margin-left: 20px;"> 10.2.1.1. Overview: <ol style="list-style-type: none"> a. Purpose, Background, Scope and Objectives; b. Assumptions, Constraints and Risks; c. All Project Deliverables; d. Organization Summary; and e. Schedule Summary. </div> <div style="margin-left: 20px;"> 10.2.1.2. Organization: <ol style="list-style-type: none"> a. Project Management Organizational Chart, including internal and external organizations as it pertains to this Contract; </div> <div style="margin-left: 20px;"> 10.2.1.3. Management Processes: <ol style="list-style-type: none"> a. Project Management Approach and Procedures; b. Schedule Control; c. Quality Assurance; d. Reporting; e. Communications; </div> </div>		

- f. Risk Management (RM);
- g. Environmental, Health and Safety Issues Management;
- h. Information Management (IM); and
- i. Change Control Processes.

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Meeting Agenda	2. IDENTIFICATION NUMBER DID TLB-PM-002	
3. DESCRIPTION Meeting Agendas sets forth the venue and identify the discussion items to be covered at meetings.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST DND/DGLEPM/DCSEM 9	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This Data Item Description (DID) contains the format, content and preparation instructions for the data product generated by the specific and discrete task requirements as delineated in the ANNEX A. Para. 5.3.4.1.1.		
8. ORIGINATOR DND / DGLEPM / DCSEM 9-3	9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS 10.1 FORMAT 10.1.1 The Meeting Agenda shall be in the Contractor's format. 10.2 CONTENT 10.2.1 The Meeting Agenda shall set forth the venue, identify any requirements and list the discussion items to be covered at the meeting. 10.2.1.1 Venue. The Meeting Agenda shall address the venue as follows: a. Meeting Identification Number; b. Purpose; c. Date, time and location; and d. Attendees. 10.2.1.2 Discussion items. The Meeting Agenda shall address the discussion items through the following sections: a. Opening Remarks; b. Agenda Review; c. Review of previous Minutes; d. Opened Discussion Items; e. New Discussion Items; f. Review of Action Items; g. Next Venue; and h. Closing Remarks.		

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Meeting Minutes	2. IDENTIFICATION NUMBER DID TLB-PM-003	
3. DESCRIPTION Meeting Minutes consist of the detailed records of proceedings, discussions, decisions and action items from meetings.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST DND/DGLEPM/DCSEM 9	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This Data Item Description (DID) contains the format, content and preparation instructions for the data product generated by the specific and discrete task requirements as delineated in the ANNEX A. Para. 5.3.4.1.2.		
8. ORIGINATOR DND / DGLEPM / DCSEM 9-3	9. APPLICABLE FORMS	
10. PREPARATION INSTRUCTIONS 10.1 FORMAT 10.1.1 The Meeting Minutes shall be in the Contractor's format. 10.2 CONTENT 10.2.1 The Meeting Minutes shall contain the detailed records of proceedings, discussions, decisions and action items from the meeting. The detailed records shall be presented through the following Sections: <ul style="list-style-type: none"> a. General - including meeting identification number, purpose, date, time and location; d. Attendees; c. Opening Remarks; d. Agenda Review; e. Review of previous Minutes; f. Discussion Items - Including a summary record of proceedings, discussions, decisions, information addresses, action addresses and action completion date, for each item; g. Next Venue; h. Closing Remarks; and i. Signatures of Contractor's Project Manager and signatures of PWGSC CA and DND Technical Authority (TA). 		

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Operator Manual	2. IDENTIFICATION NUMBER DID TLB-ILS-201	
3. DESCRIPTION The Operator Manual contains all the essential information required to describe the safe and correct operative procedures and operator maintenance associated with the TLB Suit. In addition, a complete parts list will be added to the publication.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This DID contains the format, content and preparation instructions for the Operator Manual as required by Annex A SOW. Para 6.1.2. and C-01-100-100/AG-005.		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS		
10.1 FORMAT		
10.1.1 The Operator Manual shall be prepared in the Contractor Format and in full conformance with current issue of C-01-100-100/AG-005. Operator Manual shall be furnished in a three (3) ring binder(s) with paper quality not less than 108 ISO brightness and 90 gsm for weight. The National Defense Identification Number (NDID) provided to the Contractor by DND, shall be placed on the right top corner of all the pages of the manual. The Operator Manual should use illustrations, good quality color pictures and pictograms as much as possible.		
10.2 CONTENT		
The Operator Manual shall cover the following topics:		
10.2.1. The Operator Manual shall include as minimum the following topics:		
10.2.1.1. General Description;		
10.2.1.2. Preparation for use;		
10.2.1.3. Description of materiel ballistics;		
10.2.1.4. Donning and doffing procedures; and		
10.2.1.5. Maintenance, storage and care.		
10.2.2. The Operator Manual shall include (at the end of the manual) an exploded view of the TLB Suit with item names in the form of a list with columns for NSN, NCAGE, manufacturer parts number, item description, unit of issue and quantity per assembly. The provided format shall be in conformance with current issue of D-01-100-207/SF-002.		
10.3. ELECTRONIC FORMAT		
10.3.1 The Operator Manual shall be converted into a PDF file, which matches the printed publication's format and layout. Links, bookmarks and thumbnails are to be included in the PDF file. Any references made to a specific paragraph, figure, appendix, etc., shall be appropriately linked. Viewing the PDF: pages, regardless of size, containing text or illustrations in landscape, shall be rotated for electronic viewing and reading in landscape.		
10.3.2 The Operator Manual in PDF and in its native file format shall be submitted on CD or DVD media, which shall be labelled as follows:		
10.3.2.1 The project name: TLB Suit;		

<p>10.3.2.2 The contract number: W8476-123451 10.3.2.3 The Subject Matter: Operator Manual; 10.3.2.4 The DID number: (TLB-ILS-201) 10.3.2.5 The Revision number; 10.3.2.6 The date of delivery.</p>

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Initial Training Package	2. IDENTIFICATION NUMBER DID TLB-ILS-202	
3. DESCRIPTION The Initial Training Package contains all the essential information required to teach the operation, maintenance and storage of the TLB Suit.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This DID contains the format, content and preparation instructions for the Initial Training Package as required by Annex A SOW. Para 6.1.3.		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS 10.1 FORMAT 10.1.1 The Initial Training Package shall be delivered in MS PowerPoint Format. 10.2 CONTENT 10.2.1. The Initial Training Package shall include the training documentation as follow: 10.2.1.1. The training documentation is the material required for instruction and learning, this includes: <ul style="list-style-type: none"> a. Lesson Plan; b. Timetable; c. Microsoft PowerPoint Slide show; d. Student Handout; and e. Training exercises. 10.2.1.2. The following topics shall be addressed in the content of the Initial Training Package: <ul style="list-style-type: none"> a. Equipment overview; b. Pre-use inspection; c. Equipment sizing; d. Donning and Doffing; e. Maintenance and care; f. Storage, and preparation for travel; g. Safety, including personnel and equipment; and h. Hazardous material issues. 10.3. ELECTRONIC FORMAT 10.3.1 The Initial Training Package in MS PowerPoint Format shall be submitted on CD or DVD media, which shall be labelled as follows: 10.3.1.1 The project name: TLB Suit; 10.3.1.2 The contract number: W8476-123451		

<p>10.3.1.3 The Subject Matter: Initial Training Package ; 10.3.1.4 The DID number: (TLB-ILS-202) 10.3.1.5 The Revision number; 10.3.1.6 The date of delivery.</p>
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DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Interim Spares List	2. IDENTIFICATION NUMBER DID TLB-ILS-203	
3. DESCRIPTION List of essential spares which must be acquired in the event that insufficient time or documentation is available to conduct the conventional Initial Provisioning (IP) process prior to the system/equipment entering service with DND.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This DID contains the format, content and preparation instructions for the Interim Spares List as required by Annex A SOW. Para 6.2.2. and D-01-100-214/SF-000.		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS 10.1 FORMAT 10.1.1. The Interim Spares List shall be prepared as a Microsoft Excel Spreadsheet in accordance with CF Specification D-01-100-214/SF-000. The documentation shall be provided in electronic and paper format. 10.2 CONTENT 10.2.1 The Interim Spares List shall contain the data elements specified in all mandatory fields of Figure 5, column ISL, of D-01-100-214/SF-000 for each item considered for provisioning. 10.2.2 The Interim Spares List shall include each item considered for provisioning with sufficient quantity of initial spare parts for the TLB Suit to maintain operational until all spare parts have been delivered and accepted in the Canadian Forces Supply Depot. 10.3 ELECTRONIC FORMAT 10.3.1 The Interim Spares List in a Microsoft Excel Spreadsheet shall be submitted on CD or DVD media, which shall be labelled as follows: 10.3.1.1 The project name: TLB Suit; 10.3.1.2 The contract number: W8476-123451 10.3.1.3 The Subject Matter: Interim Spares List; 10.3.1.4 The DID number: (TLB-ILS-203) 10.3.1.5 The Revision number; 10.3.1.6 The date of delivery.		

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Recommended Spare Parts List	2. IDENTIFICATION NUMBER DID TLB-ILS-204	
3. DESCRIPTION List of spare parts deemed necessary, by the Contractor, to maintain the equipment and/or where applicable, it's associated support equipment, for a period of 24 months excluding the warranty period.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This DID contains the format, content and preparation instructions for the Recommended Spare Parts List as required by Annex A SOW. Para 6.2.3. and D-01-100-214/SF-000.		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS 10.1 FORMAT 10.1.1. The Recommended Spare Parts List shall be prepared as a Microsoft Excel Spreadsheet in accordance with CF Specification D-01-100-214/SF-000. The documentation shall be provided in electronic and paper format. 10.2 CONTENT 10.2.1 The Recommended Spare Parts List shall contain the data elements specified in all mandatory fields of Figure 5, column RSPL, of D-01-100-214/SF-000 for each item considered for provisioning. 10.3 ELECTRONIC FORMAT 10.3.1 The Recommended Spare Parts List in a Microsoft Excel Spreadsheet shall be submitted on CD or DVD media, which shall be labelled as follows: 10.3.1.1 The project name: TLB Suit; 10.3.1.2 The contract number: W8476-123451 10.3.1.3 The Subject Matter: Recommended Spare Parts List; 10.3.1.4 The DID number: (TLB-ILS-204) 10.3.1.5 The Revision number; 10.3.1.6 The date of delivery.		

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Identification Plates	2. IDENTIFICATION NUMBER DID TLB-ILS-205	
3. DESCRIPTION To uniquely identify equipment and components or spares.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This Data Item Description (DID) contains the format, content and preparation instructions for the Identification Plates as required by Annex A SOW. Para 6.4., D-02-002-001/SG-001, D-80-001-055/SF-001 and D-01-400-002/SF-000.		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS		
<div style="margin-left: 20px;"> 10.1 The specification of the Identification Plates shall be as indicated in reference manual D-02-001/SG-001, IDENTIFICATION MARKING OF CANADIAN MILITARY PROPERTY, D-80-001-055/SF-001 SPECIFICATION FOR LABEL, CLOTHING AND EQUIPMENT and any other applicable reference manual stated in these references. The data shown on Identification Plates shall be bilingual (English and Canadian French) throughout with care instructions permanently affixed to each clothing component of the TLB Suit. </div>		
<div style="margin-left: 20px;"> 10.2 The Identification Plates shall contain as a minimum the following data in this sequence: <div style="margin-left: 20px;"> 10.2.1 NSCM/CAGE code; 10.2.2 Government Ownership Designation; 10.2.3 Item Name; 10.2.4 Serial Number; 10.2.5 Size; 10.2.6 MRN; and 10.2.7 Contract number. </div> </div>		
<div style="margin-left: 20px;"> 10.3 Hardcopy Format <div style="margin-left: 20px;"> 10.3.1 Identification Plates shall be provided as Level 2 drawings (see D-01-400-002/SF-000) in 1:1 scale on white bond paper. </div> </div>		
<div style="margin-left: 20px;"> 10.4 Electronic Format <div style="margin-left: 20px;"> 10.4.1 Viewing the PDF: pages, regardless of size, containing text or illustrations in landscape, shall be rotated for electronic viewing and reading in landscape. 10.4.2 The Identification Plates drawings in PDF and its native file format shall be submitted on CD or DVD media, which shall be labelled as follows: <div style="margin-left: 20px;"> 10.4.2.1 The project name : TLB Suit 10.4.2.2 The contract number : W8476-123451 10.4.2.3 The Subject Matter : Identification Plates 10.4.2.4 The DID number : (TLB-ILS-205) 10.4.2.5 The revision number; 10.4.2.6 The date of delivery. </div> </div> </div>		

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Supplementary Provisioning Technical Documentation	2. IDENTIFICATION NUMBER DID TLB-ILS-206	
3. DESCRIPTION The Supplementary Provisioning Technical Documentation (SPTD) fully identifies and describes part(s) that may be catalogued.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This Data Item Description (DID) contains the format, content and preparation instruction for the data product. Annex A, 6.7 and 6.2.4, D-01-100-214/SF-000 and D-01-400-001/SG-000 section 7.4.		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS 10.1 FORMAT 10.1.1 SPTD shall be supplied in PDF format and in black and white. 10.2 CONTENT 10.2.1 Supplementary Provisioning Technical Documentation (SPTD) shall be provided for each item appearing on the Provisioning Documentation (PD) as follows: 10.2.1.1 The SPTD shall include an Assembly drawing with attached parts lists, so that DND can ensure that the PD reflects the current and complete configuration of the equipment being produced. 10.2.1.2 For item identification and cataloging purposes, the technical data supplied for all PD shall be sufficiently comprehensive to allow DND to classify and fully describe the item within the NATO codification system and shall be cross-referenced to the applicable contract number. 10.3 ELECTRONIC FORMAT 10.3.1 The SPTD in a PDF shall be submitted on CD or DVD media, which shall be labelled as follows: 10.3.1.1 The project name: TLB Suit; 10.3.1.2 The contract number: W8476-123451 10.3.1.3 The Subject Matter: SPTD; 10.3.1.4 The DID number: (TLB-ILS-206) 10.3.1.5 The Revision number; 10.3.1.6 The date of delivery.		

DATA ITEM DESCRIPTION		
DND Form 1409		
1. TITLE Packaging, Labels and Codes	2. IDENTIFICATION NUMBER DID TLB-ILS-207	
3. DESCRIPTION To ensure that the labelling used to identify packages for items procured by DND and shipped to or stored at a Canadian facility comply with CF Specifications and to obtain a complete record of packaging codes for catalogued items of the TLB Suit.		
4. APPROVAL DATE February 2013	5. OFFICE OF PRIMARY INTEREST TLB Suit ILS Manager	6. GIDEP APPLICABLE N/A
7. APPLICATION/INTERRELATIONSHIP This DID contains the format, content and preparation instructions for the Packaging, Labels and Codes as required by Annex A, Paragraph 6.6; <ul style="list-style-type: none"> D-LM-008-011/SF-001: Preparation and Use of Packaging Requirements Codes, 1988-11-10; D-LM-008-002/SF-001: Specification for Marking for Storage and Shipment, 1991-08-01; D-01-400-002/SF-000: Levels of Engineering Drawings and Associated Lists, 2011-03-01. 		
8. ORIGINATOR TLB Suit ILS Technician	9. APPLICABLE FORMS N/A	
10. PREPARATION INSTRUCTIONS <ol style="list-style-type: none"> 10.1. The design, populated with the appropriate data, of each Packaging Label shall be provided as Level 1 engineering drawings (as defined in D-01-400-002/SF-000) dimensioned to show the critical measurements as defined by D-LM-008-002/SF-001 (example: text size, bar code dimensions, etc.). 10.2. The Packaging Codes prepared from D-LM-008-011/SF-001 for the Packaging Labels for each item shall be compiled into a spreadsheet containing the following columns of data, titled as below: <ol style="list-style-type: none"> 10.2.1. <i>Item Name</i> – as given by the Contractor; 10.2.2. <i>Manufacturer's Reference Number (MRN)</i> – Source manufacturer's part number; 10.2.3. <i>NCAGE</i> – Source Manufacturer's NCAGE; 10.2.4. <i>OEM part number</i> – Part number assigned by Contractor; 10.2.5. <i>NATO Nomenclature</i> – Item name as assigned by NATO; 10.2.6. <i>NATO Stock Number</i>; 10.2.7. <i>Packaging Code</i> – as resolved by the Contractor; 10.2.8. <i>Label Number</i> – cross-referenced with the label drawing number from 10.1 above. 10.3. Delivery Formats <ol style="list-style-type: none"> 10.3.1. Hard Copy: shall be on letter, legal, or 11" x 17" white bond paper, as appropriate for good legibility. 10.3.2. Soft Copy: <ol style="list-style-type: none"> 10.3.2.1. Label Drawings: as text-searchable PDF files, rotated as appropriate to permit normal 		

viewing on-screen.

10.3.2.2. Packaging Codes spreadsheet:

10.3.2.2.1. As a text-searchable PDF file, rotated as appropriate to permit normal viewing on-screen; and,

10.3.2.2.2. As a MS Excel format spreadsheet.

10.3.2.3. All files shall be submitted on CD or DVD media, which shall be labelled as follows:

10.3.2.3.1. The project name: TLB Suit;

10.3.2.3.2. The contract number: W8476-123451;

10.3.2.3.3. The Subject Matter: Packaging Labels and Codes;

10.3.2.3.4. The DID number: TLB-ILS-207;

10.3.2.3.5. The Revision number; and,

10.3.2.3.6. The date of delivery.

CONTRACT DATA REQUIREMENTS LIST
FOR THE
TACTICAL LIGHTWEIGHT BOMB SUIT (TLB Suit)

1.0 CONTRACT DATA REQUIREMENT LIST (CDRL) ITEM LIST

The following section lists the CDRLs (Block 2 – Title or Description of Data) attached to this Annex, including their CDRL number (Block 1 – Item Number) as well as their associated Data Item Description (DID) number (Block 4 – Authority: Data Item Number):

CDRL #	Title	DID #
TLB-PM-001	Project Management Plan	TLB-PM-001
TLB-PM-002	Meeting Agenda	TLB-PM-002
TLB-PM-003	Meeting Minutes	TLB-PM-003
TLB-ILS-201	Operator Manual	TLB-ILS-201
TLB-ILS-202	Initial Training Package	TLB-ILS-202
TLB-ILS-203	Interim Spare Parts List	TLB-ILS-203
TLB-ILS-204	Recommended Spare Parts List	TLB-ILS-204
TLB-ILS-205	Identification Plates	TLB-ILS-205
TLB-ILS-206	Supplementary Provisioning Technical Documentation	TLB-ILS-206
TLB-ILS-207	Packaging, Labels and Codes	TLB-ILS-207

2.0 CONTRACT DATA REQUIREMENT LIST (CDRL) DEFINITION

The following section defines the various blocks of information found on the CDRL forms:

BLOCK A – SYSTEM / ITEM

Provides the name of the System or Item for which the CDRL applies.

BLOCK B – CONTRACT / RFP NUMBER

Identifies the Contract or RFP for which the CDRL applies.

BLOCK C – SOW IDENTIFIER

Identifies the SOW for which the CDRL applies.

BLOCK D – DATA CATEGORY

Identifies the general category of the data for which the CDRL is being prepared.

BLOCK E – CONTRACTOR

Identifies the Contractor responsible for the delivery of the CDRL.

BLOCK 1 - ITEM NUMBER

The Item Number is a sequential three-digit number to uniquely identify the individual data item (CDRL number). Note that the 001-099 series is reserved to Project Management (PM) CDRLs, the 101-199 series is reserved to Systems Engineering (SE) CDRLs and the 202-299 series is reserved to Integrated Logistics Support (ILS) CDRLs.

BLOCK 2 - TITLE OR DESCRIPTION OF DATA

The title of the data item being referred to in this CDRL.

BLOCK 3 - SUBTITLE

This block contains the subtitle of the data item for the CDRL if the title requires further identification.

BLOCK 4 - AUTHORITY (DATA ITEM NUMBER)

Indicates the Data Item Description (DID) number to which this CDRL refers.

BLOCK 5 - CONTRACT REFERENCE

The specific paragraph number of the Contract Demand, Statement of Work, Request for Proposal, Specification, or other applicable document to assist in identifying the work effort associated with the data item.

BLOCK 6 – REQUIRING OFFICE

Identifies the technical office of primary interest responsible for defining the data requirement, reviewing, acceptance and/or approval of the data item, and ensuring the adequacy of the delivered data.

BLOCK 7 - INSPECTION

This block indicates the requirement for INSPECTION and ACCEPTANCE of the data. The following codes are used:

CODE	INSPECTION	ACCEPTANCE
SS	Source	Source
DD	Destination	Destination
SD	Source	Destination
DS	Destination	Source

If no applicable code is available for the data item, this block is marked as "N/A".

BLOCK 8 - APPROVAL CODE (APP CODE)

Indicates items of critical data requiring specific advanced written approval, such as test plans, identified by placing an "A" in this field. These data may require submission of a preliminary draft prior to publication of a final document. When a preliminary draft is required, Block 16 shall show the length of time for Government approval/disapproval and when final is to be delivered. Block 16 also indicates the extent of the approval requirements, eg, approval of technical content and/or format.

If advance approval is not required, this block is marked as "N/A".

BLOCK 9 - INPUT

Indicates if data are the integrated results of specific inputs from associated contractors by placing an "X" in this block. Otherwise the block is left blank.

BLOCK 10 - FREQUENCY

This block indicates the frequency of the delivered data. The following frequency codes are used:

ANPLY	Annually
ASGEN	As generated
ASREQ	As required
BI-MO	Every 2 months
BI-WK	Every 2 weeks
DAILY	Daily
MNTHY	Monthly
ONE/R	One time with revisions
OTIME	One time
QRTLY	Quarterly
R/ASR	Revisions as required
SEMIA	Semi-annually
WKLY	Weekly

BLOCK 11 - AS OF DATE

For data items that are submitted only once, the "as of" date or associated constraint is indicated. The following abbreviations are used for the constraints:

ASGEN	As generated
ASREQ	As required
DACA	Days after contract award
MACA	Months after contract award
EOM	End of month
EOQ	End of quarter

If the as-of date is not applicable, leave this block blank.

BLOCK 12 - DATE OF 1ST SUBMISSION

The initial submission date or associated constraint for the 1st submission of the data item is indicated in this block using typical abbreviations as listed above under Block 11.

BLOCK 13 - DATE OF SUBSEQUENT SUBMISSION / EVENT

The date(s) of subsequent submission(s) or associated constraint(s) of the data item is indicated in this block. The abbreviations used for the constraints are as listed above under Block 11. If no subsequent submission or associated are not involved, this block is marked as "N/A".

BLOCK 14 - DISTRIBUTION AND ADDRESSEES

Indicates the addressees and the respective number of copies (hard copies and soft copies separately), for both the initial or original submissions (Sub-Block "Initial"), and for the final or subsequent submissions (Sub-Block "Final"), for which the data item is required.

Column A contains addresses. The number of initial hard and soft copies for each addressee (as applicable) is indicated in Column B – INITIAL – Hard Copy and Column B – FINAL – Soft Copy.

BLOCK 15 - TOTAL

Indicates the total number of copies (hard copies and soft copies separately) required for both the original submission and for the final submission.

BLOCK 16 - REMARKS

Provides additional or clarifying information. Where other blocks refer to Block 16 – Remarks, then the associated block number is indicated with the information, and a "See Block 16" note would be entered in the referring block.

BLOCKS 17 - 19

These blocks are for Contractor input as required as part of the RFP or Contract. These blocks are not used by TA.

BLOCK - PREPARED BY

This block identifies the CDRL originator's name and designation.

BLOCK - DATE

This block indicates the date of the CDRL approval.

BLOCK - APPROVED BY

This block contains the identification information, such as name and designation, of the person approving the CDRL.

CONTRACT DATA REQUIREMENTS LIST					DND Form 1413				
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)					B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER TLB Suit SOW		D. DATA CATEGORY Management Data			E. CONTRACTOR TBD				
1. ITEM NUMBER CDRL TLB-PM-001		2. TITLE OR DESCRIPTION OF DATA Project Management Plan (PMP)			3. SUBTITLE N/A				
4. AUTHORITY (Data Item Number) DID TLB-PM-001		5. CONTRACT REFERENCE ANNEX A - SOW Para. 5.2			6. REQUIRING OFFICE DND TA				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16		14. DISTRIBUTION and ADDRESSEES				
8. APP CODE N/A		11. AS OF DATE	13. DATE OF SUB SUBMISSION See Block 16	A. ADDRESS	B. COPIES				
					DRAFT		FINAL		
					Hard Copy	Soft Copy	Hard Copy	Soft Copy	
16. REMARKS Block 12: A draft PMP shall be submitted for review within thirty (30) calendar days after the Kick-off Meeting. Response Time: Comments on the PMP will be provided by Canada within fourteen (14) calendar days of receipt. Block 13: The updated PMP, addressing the comments from Canada, shall be submitted for acceptance within fourteen (14) calendar days of receipt of comments.					PWGSC CA	1	1	1	1
					DND TA	1	1	1	1
PREPARED BY DND TLB Suit TA		APPROVED BY DND TLB Suit PM/DCSEM 9							
DATE		DATE			15. TOTAL	2	2	2	2
17. CONTRACT FILE/DOC NUMBER		18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE					

CONTRACT DATA REQUIREMENTS LIST					DND Form 1413				
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)					B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER TLB Suit SOW		D. DATA CATEGORY Management Data			E. CONTRACTOR TBD				
1. ITEM NUMBER TLB-PM-002		2. TITLE OR DESCRIPTION OF DATA Meeting Agenda			3. SUBTITLE N/A				
4. AUTHORITY (Data Item Number) DID TLB-PM-002		5. CONTRACT REFERENCE ANNEX A - SOW Para. 5.3.4.1.1			6. REQUIRING OFFICE DND TA				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ASGEN	12. DATE OF 1 st SUBMISSION		14. DISTRIBUTION and ADDRESSEES				
8. APP CODE N/A		11. AS OF DATE	13. DATE OF SUB SUBMISSION		A. ADDRESS				
					B. COPIES				
					DRAFT				
					FINAL				
					Hard Copy	Soft Copy	Hard Copy	Soft Copy	
16. REMARKS Block 12: The Meeting Agenda shall be submitted for review no later than fourteen (14) calendar days prior to each meeting. Response Time: Comments on the Meeting Agenda, including additions or deletions of discussion items, will be provided by Canada no later than seven (7) calendar days of receipt. Block 13: The revised Meeting Agenda addressing the comments from Canada shall be tabled at the meeting.					PWGSC CA	1	1	1	1
					DND TA	1	1	1	1
PREPARED BY DND TLB Suit TA		APPROVED BY DND TLB Suit PM/DCSEM 9							
DATE		DATE			15. TOTAL				
17. CONTRACT FILE/DOC NUMBER		18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	2	2	2	2	

CONTRACT DATA REQUIREMENTS LIST					DND Form 1413				
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)					B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER TLB Suit SOW		D. DATA CATEGORY Management Data			E. CONTRACTOR TBD				
1. ITEM NUMBER TLB-PM-003		2. TITLE OR DESCRIPTION OF DATA Meeting Minutes			3. SUBTITLE N/A				
4. AUTHORITY (Data Item Number) DID TLB-PM-003		5. CONTRACT REFERENCE ANNEX A - SOW Para. 5.3.4.1.2			6. REQUIRING OFFICE DND TA				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ASGEN	12. DATE OF 1 st SUBMISSION		14. DISTRIBUTION and ADDRESSEES				
8. APP CODE A		11. AS OF DATE	13. DATE OF SUB SUBMISSION		A. ADDRESS				
					B. COPIES				
					DRAFT				
					FINAL				
					Hard Copy	Soft Copy	Hard Copy	Soft Copy	
16. REMARKS Block 12: Meeting minutes shall be submitted for review no later than seven (7) calendar days following each meeting. Response Time: Comments on the meeting minutes will be provided by Canada no later than seven (7) calendar days of receipt. Block 13: Revised meeting minutes addressing the comments from Canada shall be submitted for approval no later than seven (7) calendar days of receipt of comments.					PWGSC CA	1	1	1	1
					DND TA	1	1	1	1
PREPARED BY DND TLB Suit TA		APPROVED BY DND TLB Suit PM/DCSEM 9							
DATE		DATE			15. TOTAL				
17. CONTRACT FILE/DOC NUMBER		18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	2	2	2	2	

CONTRACT DATA REQUIREMENTS LIST				DND Form 1413				
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)				B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER Annex A – TLB Suit SOW		D. DATA CATEGORY Integrated Logistics Support		E. CONTRACTOR				
1. ITEM NUMBER CDRL TLB ILS-201		2. TITLE OR DESCRIPTION OF DATA Operator Manual		3. SUBTITLE				
4. AUTHORITY (Data Item Number) DID TLB ILS-201		5. CONTRACT REFERENCE Annex A – SOW Section 6.1.2		6. REQUIRING OFFICE TLB Suit ILS Manager				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16	14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Block 16	ADDRESS	COPIES			
						DRAFT		FINAL
					Hard Copy	Soft Copy	Hard Copy	Soft Copy
16. REMARKS <u>Block 12: Draft Copy</u> - The Draft Copy shall be submitted thirty (30) calendar days after the kick-off meeting. <u>Response Time:</u> Comments on the Draft Copy will be provided by Canada within 14 (14) calendar days after Draft submission. <u>Block 13: Master Copy:</u> Master Copy addressing comments from Canada, shall be submitted to Canada no later than seven (7) calendar days after comments are received. The approved Master Copy of the Operator Manual will be the Final Copy of which one (1) Final copy shall be delivered with each TLB Suit delivery to CFSD.				TLB Suit ILSM	1	1	1	1
				PWGSC CA	1	1	1	1
				One with each TLB Suit			104	
PREPARED BY TLB Suit ILS Technician		APPROVED BY TLB Suit ILS Manager						
DATE		DATE						
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE	15. TOTAL	2	2	106	2	

CONTRACT DATA REQUIREMENTS LIST											
A SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)					B CONTRACT / RFP NUMBER W8476-123451						
C SOW IDENTIFIER Annex A – TLB Suit SOW		D DATA CATEGORY Integrated Logistics Support			E CONTRACTOR						
1. ITEM NUMBER CDRL TLB ILS-202		2. TITLE OR DESCRIPTION OF DATA Initial Training Package			3. SUBTITLE						
4. AUTHORITY (Data Item Number) DID TLB-ILS-202		5. CONTRACT REFERENCE Annex A – SOW Section 6.1.3			6. REQUIRING OFFICE TLB Suit ILS Manager						
7. INSPECTION DD		9. INPUT	10. FREQUENCY ONE/R		12. DATE OF 1 st SUBMISSION See Block 16		14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A			11. AS OF DATE N/A		13. DATE OF SUBSEQUENT SUBMISSION See Block 16		ADDRESS				
							COPIES				
							DRAFT				
							FINAL				
							Hard Copy				
							Soft Copy				
16. REMARKS <u>Block 12:</u> The Initial Training Package shall be submitted for evaluation and review thirty (30) calendar days after the kick-off meeting. <u>Response Time:</u> Comments on the Initial Training Package will be provided by Canada within fourteen (14) calendar days of package submission. <u>Block 13:</u> The updated Initial Training Package addressing the comments from Canada shall be submitted back to Canada for acceptance within seven (7) calendar days of receipt of final comments. The approved Initial Training Package will be required for the first Initial Training Session and its delivery is required prior to delivery of the first TLB Suit.					TLB Suit ILSM		1	1	1	1	
					PWGSC CA		1	1	1	1	
PREPARED BY TLB Suit ILS Technician		APPROVED BY TLB Suit ILS Manager									
DATE		DATE									
17. CONTRACT FILE/DOC NUMBER		18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE		15. TOTAL		2	2	2	2

CONTRACT DATA REQUIREMENTS LIST								
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)				B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER Annex A – TLB Suit SOW		D. DATA CATEGORY Integrated Logistics Support		E. CONTRACTOR				
1. ITEM NUMBER CDRL TLB ILS-203		2. TITLE OF DATA Interim Spare Parts List		3. SUBTITLE				
4. AUTHORITY (Data Item Number) DID TLB ILS-203		5. CONTRACT REFERENCE Annex A – SOW Para 6.2.2		6. REQUIRING OFFICE TLB Suit ILS Manager				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16	14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Block 16	ADDRESS	COPIES			
					DRAFT		FINAL	
					Hard Copy	Soft Copy	Hard Copy	Soft Copy
16. REMARKS <u>Block 12:</u> The Interim Spares List shall be submitted for evaluation and review fourteen (14) calendar days after the kick-off meeting. <u>Response Time:</u> Comments on Interim Spares List will be provided by the Crown within fourteen (14) calendar days. <u>Block 13:</u> Revisions to the Interim Spares List addressing the comments from the Crown, shall be submitted for acceptance within seven (7) calendar days of receipt of respective comments.				TLB Suit ILSM	1	1	1	1
				PWGSC CA	1	1	1	1
				DSCO	1	1	1	1
PREPARED BY TLB Suit ILS Technician		APPROVED BY ROMECS ILS Manager						
DATE :		DATE :						
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES		19. ESTIMATED PRICE	15. TOTAL	3	3	3	3

CONTRACT DATA REQUIREMENTS LIST								
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)				B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER Annex A – TLB Suit SOW		D. DATA CATEGORY Integrated Logistics Support		E. CONTRACTOR				
1. ITEM NUMBER CDRL TLB ILS-204		2. TITLE OF DATA Recommended Spare Parts List		3. SUBTITLE				
4. AUTHORITY (Data Item Number) DID TLB ILS-204		5. CONTRACT REFERENCE Annex A – SOW Para 6.2.3		6. REQUIRING OFFICE TLB Suit ILS Manager				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16	14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Block 16	ADDRESS	COPIES			
					DRAFT		FINAL	
				Hard Copy	Soft Copy	Hard Copy	Soft Copy	
16. REMARKS <u>Block 12:</u> The Recommended Spare Parts List (RSPL) shall be submitted for evaluation and review twenty five (25) calendar days after the kick-off meeting. <u>Response Time:</u> Comments on Recommended Spare Parts List (RSPL) will be provided by the Crown within fourteen (14) calendar days. <u>Block 13:</u> Revisions to the Recommended Spare Parts List (RSPL) addressing the comments from the Crown, shall be submitted for acceptance within fourteen (14) calendar days of receipt of respective comments.				TLB Suit ILSM	1	1	1	1
				PWGSC CA	1	1	1	1
				DSCO	1	1	1	1
PREPARED BY TLB Suit ILS Technician		APPROVED BY ROMECS ILS Manager						
DATE :		DATE :						
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE	15. TOTAL	3	3	3	3	

CONTRACT DATA REQUIREMENTS LIST								
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)				B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER Annex A - TLB Suit SOW		D. DATA CATEGORY Integrated Logistics Support		E. CONTRACTOR				
1. ITEM NUMBER CDRL TLB ILS-205		2. TITLE OR DESCRIPTION OF DATA Identification Plates		3. SUBTITLE				
4. AUTHORITY (Data Item Number) DID TLB ILS-205		5. CONTRACT REFERENCE Annex A – SOW Section 6.4		6. REQUIRING OFFICE TLB Suit ILS Manager				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16	14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Block 16	ADDRESS	COPIES			
						DRAFT	FINAL	
					Hard Copy	Soft Copy	Hard Copy	Soft Copy
16. REMARKS <u>Block 12:</u> The Equipment Identification Plate format shall be submitted for approval within fourteen (14) calendar days following the kick-off meeting. <u>Response Time:</u> Comments on the Equipment Identification Plate format will be provided by Canada within fourteen (14) calendar days. <u>Block 13:</u> The updated Equipment Identification Plate format addressing the comments from Canada shall be submitted for final acceptance within seven (7) calendar days of receipt of comments.				TLB Suit ILSM	1	1	1	1
				PWGSC CA	1	1	1	1
PREPARED BY TLB Suit ILS Technician		APPROVED BY TLB Suit ILS Manager						
DATE		DATE						
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE	15. TOTAL	2	2	2	2	

CONTRACT DATA REQUIREMENTS LIST								
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)				B. CONTRACT / RFP NUMBER W8476-123451				
C. SOW IDENTIFIER Annex A – TLB Suit SOW		D. DATA CATEGORY Integrated Logistics Support		E. CONTRACTOR				
1. ITEM NUMBER CDRL TLB ILS-206		2. TITLE OF DATA Supplementary Provisioning Technical Documentation		3. SUBTITLE				
4. AUTHORITY (Data Item Number) DID TLB ILS-206		5. CONTRACT REFERENCE Annex A – SOW Para 6.7 & 6.2.4		6. REQUIRING OFFICE TLB Suit ILS Manager				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16	14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Block 16	ADDRESS	COPIES			
					DRAFT		FINAL	
					Hard Copy	Soft Copy	Hard Copy	Soft Copy
16. REMARKS <u>Block 12:</u> The Supplementary Provisioning Technical Documentation shall be submitted for evaluation and review together with the RSPL. <u>Response Time:</u> Comments on Supplementary Provisioning Technical Documentation will be provided by the Crown within fourteen (14) calendar days. <u>Block 13:</u> Revisions to the Supplementary Provisioning Technical Documentation addressing the comments from the Crown, shall be submitted for acceptance with the RSPL.				TLB Suit ILSM	1	1	1	1
				PWGSC CA	1	1	1	1
PREPARED BY TLB Suit ILS Technician		APPROVED BY ROMECS ILS Manager						
DATE :		DATE :						
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE	15. TOTAL	2	2	2	2	

CONTRACT DATA REQUIREMENTS LIST								
A. SYSTEM / ITEM Tactical Lightweight Bomb Suit (TLB Suit)				B. CONTRACT / RFP NUMBER				
C. SOW IDENTIFIER Annex A – TLB Suit SOW		D. DATA CATEGORY Integrated Logistics Support		E. CONTRACTOR				
1. ITEM NUMBER CDRL TLB ILS-207		2. TITLE OF DATA Packaging, Labels and Codes		3. SUBTITLE				
4. AUTHORITY (Data Item Number) DID TLB ILS-207		5. CONTRACT REFERENCE Annex A – SOW Para 6.6		6. REQUIRING OFFICE TLB Suit ILS Manager				
7. INSPECTION DD	9. INPUT	10. FREQUENCY ONE/R	12. DATE OF 1 st SUBMISSION See Block 16	14. DISTRIBUTION AND ADDRESSEES				
8. APP CODE A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Block 16	ADDRESS	COPIES			
						DRAFT		FINAL
					Hard Copy	Soft Copy	Hard Copy	Soft Copy
16. REMARKS Block 12: The Packaging, Labels and Codes shall be submitted for evaluation and review within forty-two (42) calendar days after the Kick-off Meeting. Response Time: Comments on Packaging, Labels and Codes will be provided by the Crown within twenty-one (21) calendar days of their respective receipts. Block 13: Revisions to the Packaging, Labels and Codes, addressing the comments from the Crown, shall be submitted for acceptance within fourteen (14) calendar days of receipt of respective comments. Revisions/Additions to the Packaging, Labels and Codes shall also be provided once a range of spares are chosen from the RSPL (TLB-ILS-204) by DND to support the equipment.				TLB Suit ILSM	1	1	1	1
				PWGSC CA	1	1	1	1
				DSCO	1	1	1	1
PREPARED BY TLB Suit ILS Technician		APPROVED BY ROMECS ILS Manager						
DATE :		DATE :						
17. CONTRACT FILE/DOC NUMBER	18. ESTIMATED NO OF PAGES	19. ESTIMATED PRICE	15. TOTAL	3	3	3	3	

SPECIFICATION
FOR
CADPAT™ (TW)
[CANADIAN DISRUPTIVE PATTERN (TEMPERATE WOODLAND)]

NOTICE



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

AVIS

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

SPECIFICATION

FOR

CADPAT™ (TW)

[CANADIAN DISRUPTIVE PATTERN
(TEMPERATE WOODLAND)]

SPÉCIFICATION

DCamC^{MC} (RBT)

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

1. SCOPE

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

1.2 The information contained herein is Copyright to Her Majesty the Queen of Canada, as is its associated pattern. The term CADPAT™, with and without extensions, is a registered Trademark belonging to the Department of National Defence. Any of the data contained in this specification, and its associated pattern, may be used only for goods for Canada. The printed textile and any items made therefrom shall be for the sole end use of DND. There shall be no selling or offering for sale of goods incorporating the CADPAT™ pattern and 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^{MC} (RBT)]. Elle est destinée à être utilisée, lorsque cela est prescrit, pour tous les tissus employés par les Forces canadiennes dans la confection des vêtements opérationnels et de l'équipement individuel. Tous les écarts autorisés par rapport aux exigences énoncées dans le présent document doivent être clairement définis dans les documents d'achat.

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

OPI/BPR: DSSPM / DAPES 2-11

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 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
Telephone: 610-832-9585
Email: service@astm.org

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
Téléphone : 610-832-9585
Courriel: service@astm.org

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

CIE
International Committee on Illumination
CIE Central Bureau
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ou

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

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

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

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

2.4 Order of Precedence.

2.4.1 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.

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

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 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

precedence.

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

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

3.3.3 Print quality. Complete penetration of all component fibres in the specified cloth is required. Overall print quality, including colour penetration (i.e. the overall colouring of the wrong

3.3.3 Qualité d'impression. La pénétration complète de toutes les fibres composant le tissu prescrit est requise. La qualité globale de l'impression, y compris la pénétration de la couleur

side of the printed cloth), uniformity of each colour, clarity, definition, evenness, and all other qualities

(c.-à-d. la coloration globale de l'envers du tissu imprimé), l'uniformité de chaque couleur, la clarté,

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

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 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.

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

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

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).

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

3.3.7 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 Measurement requirements.

3.3.8 Exigences relatives aux mesures.

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

3.3.8.1 Toutes les mesures de couleur et de réflectance dans l'infrarouge doivent être effectuées conformément aux publications CIE 15-2004 et ASTM E308.2008 à l'aide de l'illuminant C et de l'observateur à 2° de la CIE, composante spéculaire

conditions of measurement must be followed and included in all test reports.

3.3.8.2 Sample preparation for all chromaticity and IRR measurements shall be in accordance with AATCC Instrumental Measurement Procedure #6, A1.3, non-opaque samples. It has been found that more than one layer of self fabric are usually required to provide consistent readings. A standard black backing is recommended. It is the responsibility of the operator to determine and follow a standard sample preparation which meets the stated conditions.

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

NOTE: Referee conditions:

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

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

incluse. Ces conditions de mesure doivent être respectées et incluses dans tous les rapports d'essai.

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

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

REMARQUE: Conditions de référence:

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

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

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

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

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

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

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

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

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

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

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

3.3.11 Requirement after Laundering.

3.3.11 Exigence après lavage.

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

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

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

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

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

- a) Contractor's identification (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 material and services conform to the requirements specified in this Specification. Contractors may utilize their own or any other inspection facility acceptable to the Crown or its designated representative. Contractors may also utilize their own test facilities so long as Crown approval has been obtained in advance and the conditions stated in ISO quality and manufacturing publications are followed.

4.2 The Crown reserves the right to perform

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 Le gouvernement se réserve le droit

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.

5. PACKAGING

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

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- a) title, number and date of this Specification and of the textile specification
- b) NATO Stock number of required item
- c) Nomenclature/Classification (textile specification)
- d) Pre-production requirements
- e) Packaging, packing, and marking of shipping containers

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^{MC} imprimé doivent être accompagnés des rapports de laboratoire du producteur pour les mesures de couleur et de RIR. Ces mesures doivent avoir été réalisées sur les marchandises expédiées et effectuées sur chaque lot traité, et à tout le moins, à tous les 5 000 m.

5. CONDITIONNEMENT

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

6. REMARQUES

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

- a) 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
- c) la nomenclature ou la classification (spécification relative au tissu)
- d) les exigences de présérie

- f) The Design Authority
- g) The Quality Assurance Authority

- 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 specification does not purport to address all safety, health and environmental concerns, if any associated with its use. It is the responsibility of the

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 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

user of this specification to establish appropriate safety, health and environmental practices and to determine the applicability of regulatory limitations prior to use.

spécification d'établir au préalable des méthodes appropriées qui tiennent compte des questions d'environnement, de santé et de sécurité, et de déterminer les restrictions réglementaires applicables.

TABLE I CADPAT™ REQUIREMENTS
CANADIAN AVERAGE GREEN

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

SPECIFICATIONS / SPÉCIFICATIONS									
CIE 1931/CIE LAB 1976			x		y		0,3600		
ILLUMINANT C, 2 deg.			Y%		5,24		0,4098		
specular component included/ composante spéculaire incluse			DW.nm		569,36				
			S%		38,50				
			L*		27,41				
			a*		-6,78				
			b*		16,46				
Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refli. Min Réfl. min.	Refli. Max Réfl. max.	Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refli. Min Réfl. min.	Refli. Max 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^{MC}
VERT CANADIEN MOYEN (suite)

Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Ref. Min Réf. min. %	Ref. Max Réf. max. %	Wavelength Longueur d'onde nm	Reflection Réflexion %	ST.DEV. Écart type %	Ref. Min Réf. min. %	Ref. Max Réf. max. %
1280	37.85	12.25	25.60	50.10	1720	17.30	7.49	9.81	24.79
1290	38.05	12.24	25.81	50.28	1730	17.11	7.45	9.66	24.56
1300	37.40	12.05	25.36	49.45	1740	16.92	7.42	9.50	24.34
1310	36.75	11.87	24.88	48.62	1750	16.72	7.34	9.38	24.07
1320	36.10	11.71	24.39	47.81	1760	16.52	7.26	9.26	23.79
1330	35.45	11.57	23.88	47.01	1770	16.33	7.18	9.14	23.51
1340	34.80	11.44	23.36	46.23	1780	16.12	7.11	9.02	23.23
1350	34.15	11.32	22.83	45.47	1790	15.92	7.03	8.89	22.96
1360	31.04	10.44	20.61	41.48	1800	15.72	6.96	8.76	22.68
1370	27.94	9.55	18.39	37.49	1810	14.93	6.63	8.30	21.55
1380	24.83	8.66	16.17	33.50	1820	14.13	6.29	7.85	20.42
1390	21.73	7.78	13.95	29.50	1830	13.34	5.95	7.39	19.29
1400	18.62	6.89	11.73	25.51	1840	12.55	5.62	6.93	18.16
1410	15.52	6.00	9.51	21.52	1850	11.75	5.28	6.47	17.03
1420	12.41	5.12	7.29	17.53	1860	10.96	4.94	6.01	15.90
1430	11.67	4.90	6.76	16.57	1870	10.16	4.61	5.56	14.77
1440	10.93	4.70	6.23	15.63	1880	9.37	4.27	5.10	13.64
1450	10.19	4.52	5.67	14.71	1890	8.57	3.94	4.64	12.51
1460	9.46	4.35	5.10	13.81	1900	7.78	3.60	4.18	11.38
1470	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					

FIGURE 1 CADPAT™ (TW)

COLOUR: CANADIAN AVERAGE GREEN

FIGURE 1 DCamC^{MC} (RBT)

COULEUR: VERT CANADIEN MOYEN

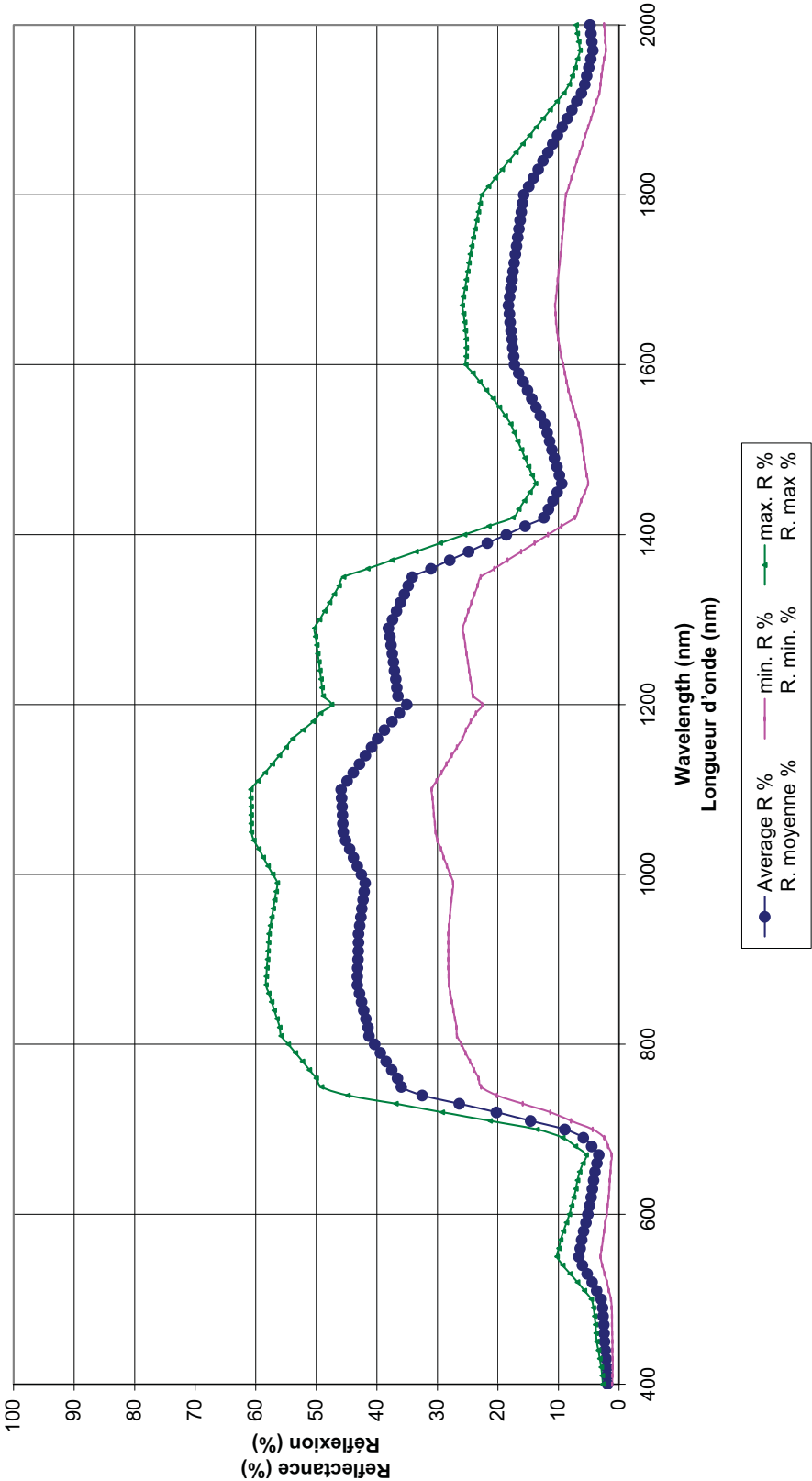


TABLE II CADPATTM REQUIREMENTS
LIGHT GREEN

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

SPECIFICATIONS / SPÉCIFICATIONS:									
CIE 1931/CIE LAB 1976									
ILLUMINANT C, 2 deg.									
specular component included									
composante spéculaire incluse									
Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refli. Min Réfl. min.	Refli. Max Réfl. max.	Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Écart type	Refli. Min Réfl. min.	Refli. Max Réfl. max.
nm	%	%	%	%	nm	%	%	%	%
400	4.37				840	52.68	18.50	34.18	71.18
410	4.30				850	53.12	18.62	34.50	71.74
420	4.24				860	53.37	18.75	34.81	72.32
430	4.18				870	54.00	18.89	35.12	72.89
440	4.12				880	54.00	18.81	35.19	72.80
450	4.13				890	53.95	18.74	35.21	72.69
460	4.47				900	53.89	18.68	35.21	72.57
470	4.82				910	53.84	18.62	35.22	72.46
480	6.82				920	53.79	18.57	35.22	72.36
490	9.53				930	53.75	18.53	35.22	72.27
500	12.22				940	53.53	18.45	35.08	71.97
510	14.86				950	53.30	18.37	34.93	71.67
520	17.51				960	53.06	18.30	34.76	71.36
530	17.24				970	52.84	18.25	34.60	71.09
540	15.74				980	52.61	18.20	34.41	70.80
550	14.23				990	52.39	18.16	34.24	70.55
560	12.69				1000	53.20	18.31	34.89	71.51
570	11.15				1010	54.01	18.47	35.54	72.47
580	10.50				1020	54.82	18.63	36.19	73.45
590	10.24				1030	55.56	18.80	36.76	74.36
600	10.34				1040	56.43	18.97	37.46	75.41
610	11.91				1050	56.89	19.02	37.87	75.91
620	13.49				1060	56.98	18.94	38.04	75.92
630	15.05				1070	57.07	18.87	38.20	75.94
640	16.61				1080	57.16	18.80	38.36	75.95
650	17.94				1090	57.26	18.73	38.52	75.99
660	18.70				1100	57.35	18.67	38.67	76.02
670	19.47				1110	56.10	18.42	37.68	74.52
680	18.68				1120	54.84	18.19	36.65	73.03
690	17.71				1130	53.59	17.98	35.61	71.57
700	17.46				1140	52.33	17.80	34.54	70.13
710	18.30				1150	51.08	17.64	33.45	68.72
720	19.14				1160	49.83	17.50	32.33	67.33
730	32.97	13.10	19.86	46.07	1170	48.40	16.83	31.57	65.23
740	40.59	15.38	25.21	55.98	1180	46.87	16.26	30.61	63.13
750	44.94	16.50	28.43	61.44	1190	45.33	15.83	29.51	61.16
760	45.73	16.76	28.98	62.49	1200	43.80	15.54	28.26	59.34
770	46.90	17.02	29.88	63.92	1210	45.60	15.50	30.10	61.10
780	48.07	17.29	30.78	65.36	1220	45.85	15.46	30.38	61.31
790	49.25	17.58	31.67	66.82	1230	46.09	15.43	30.66	61.52
800	50.41	17.87	32.55	68.28	1240	46.34	15.41	30.93	61.75
810	51.60	18.17	33.43	69.77	1250	46.58	15.38	31.20	61.96
820	51.80	18.25	33.54	70.05	1260	46.83	15.36	31.47	62.18
830	52.24	18.37	33.87	70.61	1270	47.07	15.33	31.74	62.40

TABLE II CADPAT™ REQUIREMENTS
LIGHT GREEN (cont.)

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

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

FIGURE 2 CADPAT™ (TW)

COLOUR: LIGHT GREEN

FIGURE 2 DCamC^{MC} (RBT)

COULEUR: VERT PÂLE

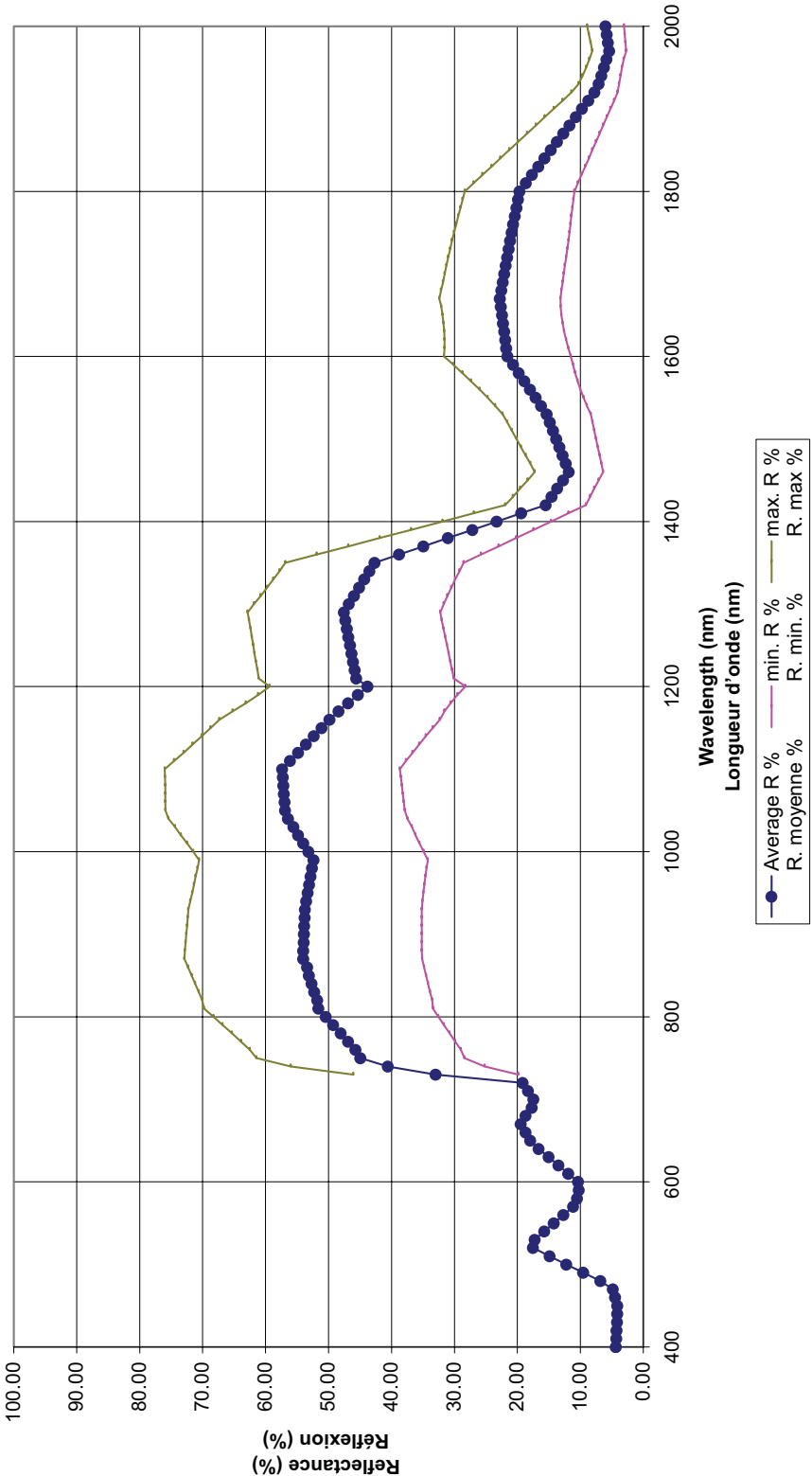


TABLE III CADPAT™ REQUIREMENTS
BROWN

TABLEAU III EXIGENCES RELATIVES AU DCamC^{MC}
BRUN

SPECIFICATIONS / SPÉCIFICATIONS:						
CIE 1931/CIE LAB 1936						
ILLUMINANT C. 2 deg.						
specular component included						
composante spéculaire incluse						
Wavelength Longueur d'onde	Reflection Réflexion	ST.DEV. Ecart type	Refl. Min Réfl. min.	Refl. Max Réfl. max.	Wavelength Longueur d'onde	Reflection 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	53.89
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^{MC}
BRUN (suite)

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

FIGURE 3 CADPAT™ (TW)

COLOUR: BROWN

FIGURE 3 DCamC^{MC} (RBT)

COULEUR: BRUN

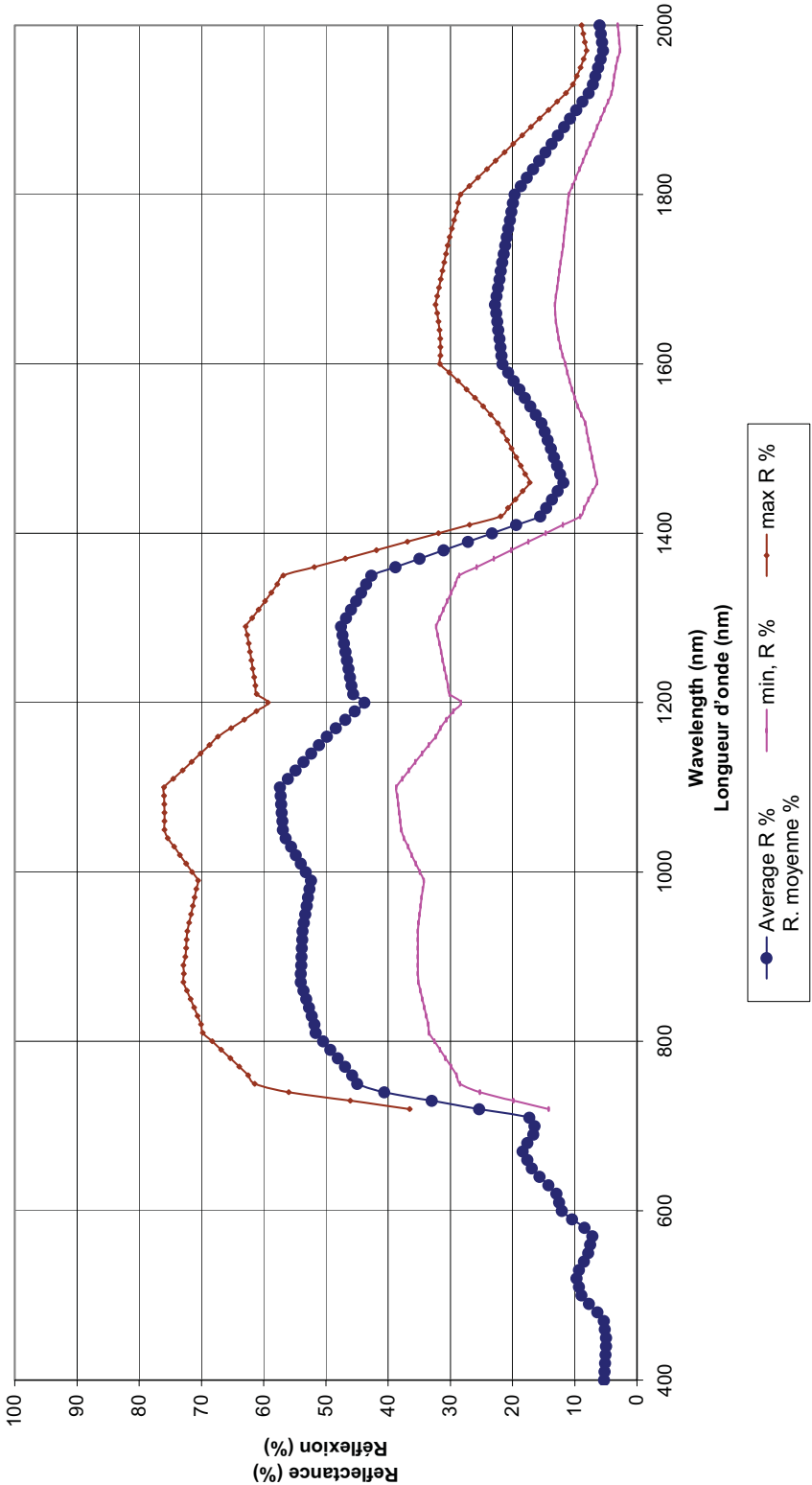


TABLE IV CADPAT™ REQUIREMENTS
BLACK

TABLEAU IV EXIGENCES RELATIVES AU DCamC^{MC}
NOIR

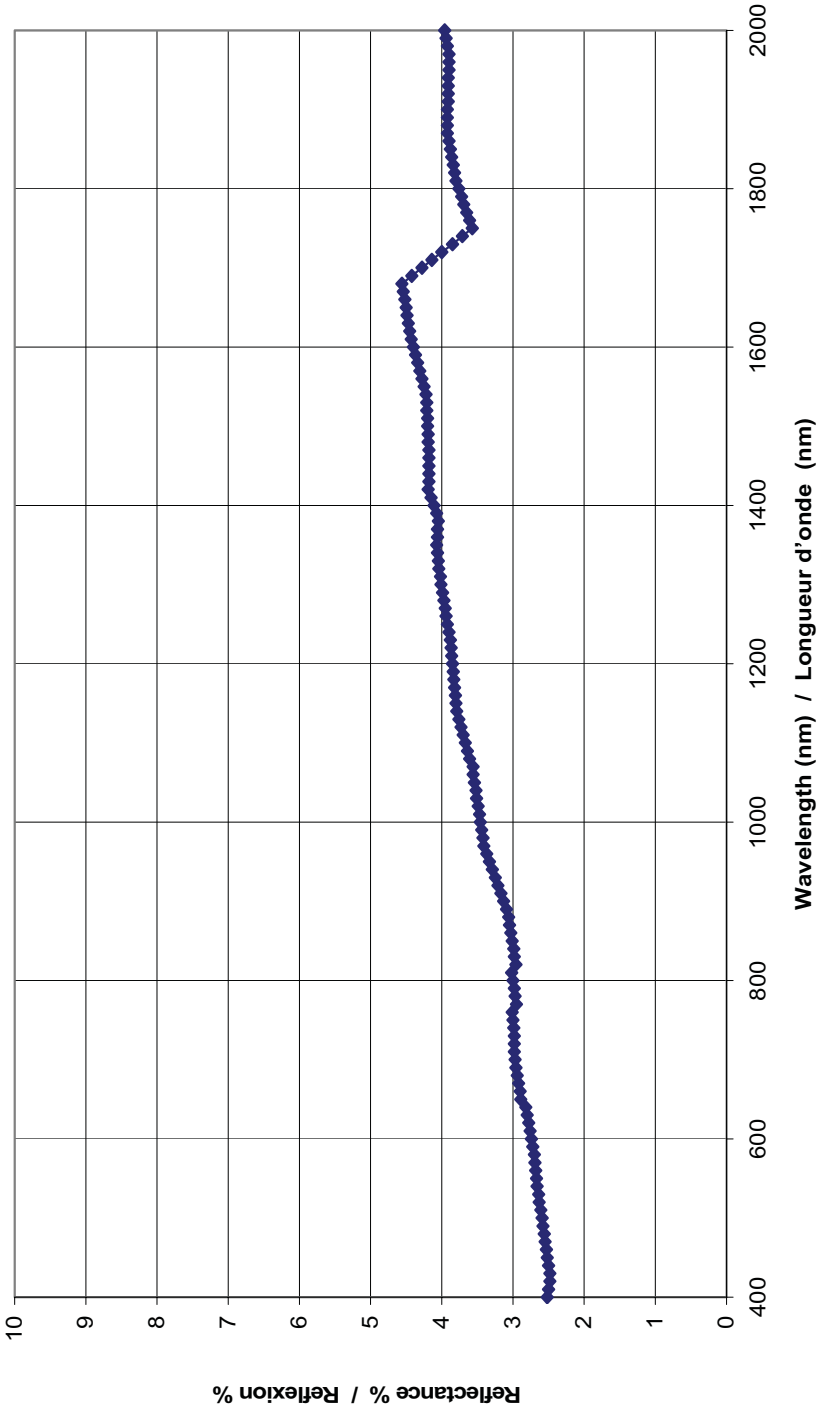
SPECIFICATIONS / SPÉCIFICATIONS:					
CIE 1931/CIE LAB 1971					
ILLUMINANT C, 2 deg.					
specular component included					
composante spéculaire incluse					
Wavelength (nm) Longueur d'onde (nm)	Reflection % Réflexion %	Wavelength (nm) Longueur d'onde (nm)	Reflection % Réflexion %	Wavelength (nm) Longueur d'onde (nm)	Reflection % Réflexion %
400	2,52	830	2,98	1260	3,94
410	2,50	840	2,99	1270	
420	2,48	850	3,01	1280	3,95
430	2,48	860	3,03	1290	3,97
440	2,50	870	3,05	1300	3,99
450	2,52	880	3,06	1310	4,01
460	2,53	890	3,09	1320	4,02
470	2,55	900	3,13	1330	4,04
480	2,56	910	3,17	1340	4,05
490	2,58	920	3,21	1350	4,06
500	2,59	930	3,25	1360	4,07
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	4,08
540	2,66	970	3,41	1400	4,07
550	2,67	980	3,42	1410	4,11
560	2,68	990	3,44	1420	4,15
570	2,69	1000	3,46	1430	4,18
580	2,70	1010	3,47	1440	4,19
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	4,18
630	2,80	1060	3,56	1490	4,19
640	2,82	1070	3,56	1500	4,19
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	4,22
700	2,97	1130	3,76	1560	4,25
710	2,98	1140	3,79	1570	4,28
720	2,98	1150	3,80	1580	4,31
730	2,98	1160	3,81	1590	4,34
740	2,99	1170	3,82	1600	4,37
750	3,00	1180	3,83	1610	4,40
760	3,01	1190	3,84	1620	4,43
770	2,95	1200	3,85	1630	4,45
780	2,97	1210	3,86	1640	4,47
790	2,98	1220	3,87	1650	4,49
800	3,00	1230	3,88	1660	4,50
810	3,02	1240	3,90	1670	4,52
820	2,96	1250	3,92	1680	4,54
					4,56

FIGURE 4 CADPAT™ (TW)

COLOUR: BLACK

FIGURE 4 DCamC^{MC} (RBT)

COULEUR: NOIR



SPECIFICATION
FOR
CADPAT™ (AR)
[CANADIAN DISRUPTIVE PATTERN (ARID)]

NOTICE



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

AVIS

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

SPECIFICATION

FOR

CADPAT™ (AR)

[CANADIAN DISRUPTIVE PATTERN (ARID)]

SPÉCIFICATION

DCamC^{MC} (RA)

[DESSIN DE CAMOUFLAGE CANADIEN,

(RÉGIONS ARIDES)]

1. SCOPE

1.1 Scope. This specification covers the technical performance requirements for both colour and Infra-red Reflectance for CADPAT™ (AR), Canadian Disruptive Pattern Arid. 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. Explicit in this is that any goods of not first quality

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 arides [DCamC^{MC} (RA)]. Elle est destinée à être utilisée, lorsque cela est prescrit, pour tous les tissus employés par les Forces canadiennes dans la confection des vêtements opérationnels et de l'équipement individuel. Tous les écarts autorisés par rapport aux exigences énoncées dans le présent document doivent être clairement définis dans les documents d'achat.

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

OPI/BPR: DSSPM / DAPES 2-11

Canada

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

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.

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 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

American Society for Testing and Materials
100 Bar Harbor Drive
West Conshohocken, PA
19428, USA

AATCC

American Association of Textile Chemists and Colorists, Technical Manual

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 documents suivants font partie intégrante de la présente spécification dans la mesure prescrite par cette dernière. La version en vigueur à la date de fabrication s'applique. La source de diffusion est celle qui est indiquée.

ASTM

American Society for Testing and Materials
100 Bar Harbor Drive
West Conshohocken, PA
19428-2959 19428, ÉTATS-UNIS

AATCC

American Association of Textile Chemists and Colorists, Technical Manual

P.O. Box 12215,
Research Triangle Park,
North Carolina
27709, USA

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

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.

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

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

3. REQUIREMENTS

3.1 CADPAT™ (AR) Specifications. The materiel covered by this specification shall be free

P.O. Box 12215
Research Triangle Park
North Carolina
27709, ÉTATS-UNIS

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

DSSPM 253-02	Tissu coton/nylon simple retors, DCamC ^{MC} (AR), pour les couleurs, la taille des motifs, la distribution des couleurs, la qualité de l'impression, la pénétration et la clarté
--------------	---

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

3. EXIGENCES

3.1 Spécification du DCamC^{MC} (RA). Le tissu visé par la présente spécification doit être

from imperfections or blemishes such as may adversely affect its appearance or serviceability. For inspection purposes, imperfections and blemishes shall be considered defects when clearly

visible at a normal inspection distance of approximately one metre under good, preferably North Light, lighting conditions.

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

3.3 Colour.

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

3.3.2 For CADPAT™ (AR) the colours specified in para 3.8 and Table I 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.

3.3.3 Print Quality. 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 253-02.

exempt d'imperfections ou de défauts qui pourraient nuire à son aspect ou à sa tenue en service. À des fins d'inspection, sont considérés comme défauts ceux qui sont clairement visibles à une distance

d'inspection normale d'environ un mètre sous un bon éclairage, de préférence la lumière du nord.

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

3.3 Couleur.

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

3.3.2 Pour le DCamC^{MC} (RA), les couleurs précisées sous forme numérique au paragraphe 3.8 et dans le tableau I 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 Qualité d'impression. 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 253-02.

3.3.4 Complete penetration of all component fibres in the specified cloth is required. 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. Hand of the finished, printed specified textiles shall be as represented by the appropriate sealed patterns for the finished cloths.

3.3.5 Infra-red Reflection (IRR). The required IRR characteristics are defined in para 3.9 and 3.10.2 and Table II of this specification, and depicted graphically in Figure I of this specification. 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.

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

3.3.7 Measurement Requirements.

3.3.7.1 All measurements for both colour and infra-red reflection are to be made in accordance with CIE publication 15.2 and ASTM E308.99 using CIE Illuminant C and a 2 degree observer, specular component included. These conditions of measurement must be followed and stated in all test reports.

3.3.7.2 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 is 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.

3.3.4 La pénétration complète de toutes les fibres composant le tissu prescrit est requise. 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. La main des tissus prescrits, finis et imprimés, doit être identique aux modèles réglementaires appropriés des tissus finis.

3.3.5 Réflectance dans l'infrarouge (RIR). Les caractéristiques de la RIR requises sont définies aux paragraphes 3.9 et 3.10.2 et dans le tableau II de la présente spécification, et elles sont représentées graphiquement dans la figure I. 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.

3.3.6 Fini. Aucun fini ne sera appliqué pour obtenir une stabilité temporaire 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.

3.3.7 Exigences relatives aux mesures.

3.3.7.1 Toutes les mesures de couleur et de réflectance dans l'infrarouge doivent être effectuées conformément aux publications CIE 15-2 et ASTM E308.99 à l'aide de l'illuminant C et de l'observateur à 2° de la CIE, composante spéculaire incluse.

3.3.7.2 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.

NOTE: Referee conditions:

REMARQUE: Conditions de référence:

- diffuse spectral 8° /hemispherical reflectance factors using a 150 mm diameter integrating sphere accessory coated with BaSO₄
- measurements made at 1 nm intervals over

the entire required range with a fixed spectral bandpass of 5 nm up to 860 nm and a variable spectral bandpass of <20 nm from 860 nm to 2000 nm

- measurement geometry 8° incidence, hemispherical collection ($8^\circ/t$), 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

- Facteurs de réflectance spectrale 8° / hémisphérique diffuse utilisant une sphère intégrante de 150 mm de diamètre, enduite de BaSO₄

- Mesures effectuées à intervalles de 1 nm sur toute la plage requise avec une bande passante spectrale fixe de 5 nm à 860 nm et une bande passante spectrale variable < 20 nm entre 860 nm et 2 000 nm

- Géométrie de mesure avec incidence de 8° et collecte hémisphérique ($8^\circ/t$), 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

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

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

Table I Colour Coordinates for CADPAT™ (AR) Colours

	L*	a*	b*
Light Sand / Sable pâle	64	1	20
Dark Sand / Sable foncé	53	6	10
Brown / Brun	34	7	13

Tableau I Coordonnées colorimétriques pour les couleurs du DCamC^{MC} (RA)

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

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

3.8.2 Gloss. 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. The specification and/or technical requirement for the finished textile applicable to the procurement will state whether this condition applies.

3.8.2 Lustre. 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. La spécification ou les exigences techniques pour le textile fini applicables à l'achat indiqueront si cette condition s'applique.

3.9 Infra-red Reflection. Infra-red values required are:

Table II Diffuse Reflectance Factors in % for CADPAT™(AR) Colours

Wavelength <i>Longueur d'onde</i>	Light Sand / Sable pâle			Dark Sand / Sable foncé			Brown / Brun		
	lower tolerance <i>tolérance inférieure</i>		upper tolerance <i>tolérance supérieure</i>	lower tolerance <i>tolérance inférieure</i>		upper tolerance <i>tolérance supérieure</i>	lower tolerance <i>tolérance inférieure</i>		upper tolerance <i>tolérance supérieure</i>
350	21.2	23.5	25.9	14.1	16	17.9	4.0	5	6.0
400	20.3	22.6	24.9	14.1	16	17.9	4.0	5	6.0
450	20.7	23	25.3	14.1	16	17.9	4.0	5	6.0
500	25.7	28.5	31.4	15.0	17	19.0	4.8	6	7.2
550	30.6	34	37.4	16.7	19	21.3	6.4	8	9.6
600	35.1	39	42.9	21.1	24	26.9	8.0	10	12.0
650	38.5	42.8	47.1	23.8	27	30.2	9.6	12	14.4
700	40.8	45.3	49.8	25.5	29	32.5	10.4	13	15.6
750	42.1	46.8	51.5	27.3	31	34.7	10.8	13.5	16.2
800	43.7	48.5	53.4	29.0	33	37.0	11.2	14	16.8
850	45.0	50	55.0	30.8	35	39.2	11.2	14	16.8
900	45.9	51	56.1	32.6	37	41.4	11.2	14	16.8
950	46.8	52	57.2	33.9	38.5	43.1	11.6	14.5	17.4
1000	47.7	53	58.3	34.8	39.5	44.2	12.0	15	18.0
1050	48.6	54	59.4	35.2	40	44.8	12.4	15.5	18.6
1100	49.5	55	60.5	35.6	40.5	45.4	12.8	16	19.2
1150	50.4	56	61.6	35.6	40.5	45.4	12.8	16	19.2
1200	50.7	56.3	61.9	35.6	40.5	45.4	12.8	16	19.2
1250	51.0	56.7	62.4	36.1	41	45.9	13.2	16.5	19.8
1300	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4
1350	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4
1400	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4
1450	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4
1500	51.3	57	62.7	36.1	41	45.9	13.6	17	20.4
1550	51.3	57	62.7	36.1	41	45.9	14.0	17.5	21.0
1600	51.3	57	62.7	36.1	41	45.9	14.4	18	21.6
1650	51.3	57	62.7	36.1	41	45.9	14.4	18	21.6
1700	51.3	57	62.7	36.1	41	45.9	14.4	18	21.6
1750	51.3	57	62.7	36.1	41	45.9	14.4	18	21.6
1800	50.4	56	61.6	35.6	40.5	45.4	14.4	18	21.6
1850	50.4	56	61.6	35.2	40	44.8	14.4	18	21.6
1900	49.5	55	60.5	34.3	39	43.7	14.4	18	21.6
1950	48.6	54	59.4	33.4	38	42.6	14.4	18	21.6
2000	47.7	53	58.3	32.6	37	41.4	14.4	18	21.6

3.9 Réflectance dans l'infrarouge. Les valeurs requises pour l'infrarouge sont les suivantes:

Tableau II Facteurs de réflectance diffuse en % pour les couleurs du DCamC^{MC}(RA)

3.10 Requirement After Laundering.

3.10.1 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.

3.10.2 Unless otherwise specified, the infra-red

3.10 Exigence après lavage.

3.10.1 Sauf indication contraire, les mesures de la couleur spécifiées dans les présentes doivent être à l'intérieur des tolérances d'origine (+/- 2 unités CIE LAB) après 15 cycles de lavage, lorsque ces cycles sont réalisés conformément à la méthode prescrite par la spécification applicable au tissu.

3.10.2 Sauf indication contraire, les mesures de la

reflectance measurements specified herein shall remain within the original tolerances (+/- 10% for light sand; +/- 12% for dark sand; +/- 20% for brown) after 15 laundering cycles, when the laundering cycles are carried out in accordance with the methodology prescribed in the applicable textile specification.

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

- a) Contractor's identification (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 material 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

réflectance dans l'infrarouge prescrites aux présentes doivent respecter les tolérances d'origine (+/- 10 % pour le sable pâle; +/- 12 % pour le sable foncé; +/- 20 % pour le brun) après 15 cycles de lavage, lorsque ces cycles sont réalisés conformément à la méthode prescrite par la spécification applicable au tissu.

3.11 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,

advance and the conditions stated in ISO quality and manufacturing publications are followed.

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

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.

5. PACKAGING

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

6. NOTES

6.1 Ordering data. Procurement documents should specify the following:

- a) title, number and date of this Specification and of the textile specification
- b) NATO Stock number of required item

pourvu qu'il ait obtenu à l'avance l'approbation du gouvernement et que les conditions décrites dans les publications de l'ISO sur la fabrication et la qualité soient respectées.

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

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^{MC} imprimé doivent être accompagnés des rapports de laboratoire du producteur pour les mesures de couleur et de RIR. Ces mesures doivent avoir été réalisées sur les marchandises expédiées et effectuées sur chaque lot traité, et à tout le moins, à tous les 5 000 m.

5. CONDITIONNEMENT

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

6. REMARQUES

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

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

- c) Nomenclature/Classification (textile specification)
- d) Pre-production requirements

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

- b) le numéro de nomenclature OTAN des articles requis

- c) la nomenclature ou la classification (spécification relative au tissu)
- d) les exigences de présérie
- e) le conditionnement, l'emballage et le marquage des contenants 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

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

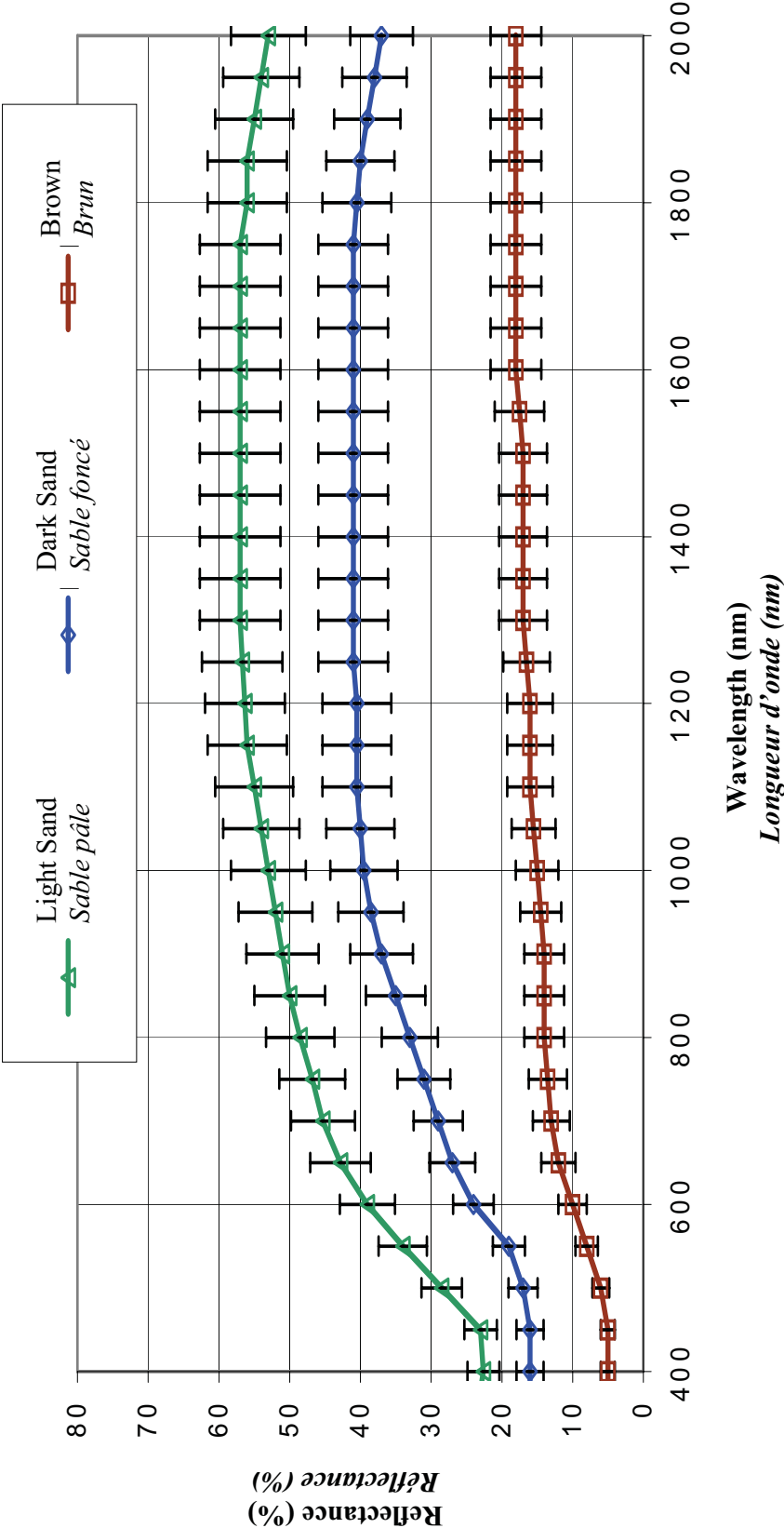
specification, or the evaluation of a product to this specification, may require the use of materials and/or equipment that could be hazardous. This specification does not purport to address all safety,

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.

conformément à la présente spécification pourrait nécessiter l'utilisation de matériel ou d'équipement dangereux. La présente spécification n'a pas pour objet de traiter de toutes les préoccupations relatives

à la santé, à la sécurité et à l'environnement liées à son utilisation. Il incombe à l'utilisateur de la spécification d'établir au préalable des méthodes appropriées qui tiennent compte des questions d'environnement, de santé et de sécurité, et de déterminer les restrictions réglementaires applicables.

FIGURE I IRR REQUIREMENTS FOR CADPAT™(AR) **FIGURE I EXIGENCES POUR LA RIR POUR LES**
COLOURS LIGHT SAND, DARK SAND **COULEURS SABLE PÂLE, SABLE FONCÉ**
AND BROWN **ET BRUN DU DCam^{MC} (RA)**



CONTRACT END ITEM LIST
FOR
TACTICAL LIGHTWEIGHT BOMB (TLB) SUIT

1.0 Contract Deliverables

1.1 General

- 1.1.1 The Contractor shall ensure that the TLB Suits are delivered correctly adjusted, lubricated and serviced such that the systems are ready for operation and transportation.
- 1.1.2 Option quantities, for the TLB Suit and Chest and Groin Protection, listed below shall be available in any of the three (3) colours (Temperate Woodlands CADPAT™ (IAW Appendix 3 to Annex A, CADPAT™ (TW)), Arid CADPAT™ (IAW Appendix 4 to Annex A, CADPAT™ (AR)) or all black), colour selection for option quantities will be determined after contract award.
- 1.1.3 TLB Suit CADPAT™ patterns shall be subject to evaluation by DND to ensure compliance.
- 1.1.3.1 Temperate Woodland CADPAT™ (IAW Appendix 3 to Annex A, CADPAT™ (TW)) and Arid CADPAT™ (IAW Appendix 4 to Annex A, CADPAT™ (AR)) pattern samples shall be supplied to DND for validation after contract award but before first delivery.
- 1.1.4 Note: 'LOT' equates to the quantity needed to fulfill the requirements of the CDRL, including revisions, as necessary until accepted by DND.

1.2 List of Deliverables

Line Item	Description	Size Range	Qty	Option (up to)
1-1	TLB Suit (Temperate Woodlands CADPAT™)	1	12	-
1-2		2	20	-
1-3		3	20	-
2-1	TLB Suit (Arid CADPAT™)	1	12	-
2-2		2	20	-
2-3		3	20	-
3-1	TLB Suit (Options)	1	-	48
3-2		2	-	80
3-3		3	-	80
4-1	Chest and Groin Protection (Options)	1	-	72
4-2		2	-	120
4-3		3	-	120
5	Project Management Plan (Annex A SOW 5.2)	-	LOT	-
6	Top Level Assembly Drawing (Annex A SOW 6.7)	-	1	-
7	Meeting Agenda (Annex A SOW 5.3.4)	-	LOT	-
8	Meeting Minutes (Annex A SOW 5.3.4)	-	LOT	-
9	Operator Manual (Annex A SOW 6.1.2)	-	LOT	-
10	Initial Training Package (Annex A SOW 6.1.3)	-	LOT	-
11	Initial Training Session (Annex A SOW 6.3)	-	2	-
12A	Interim Spare Parts List (Annex A SOW 6.2.2)	-	LOT	-
12B	Option to acquire Interim Spares after approval from DND	-	-	LOT
13A	Recommended Spare Parts List (Annex A SOW 6.2.3)	-	LOT	-
13B	Option to acquire Recommended Spares after approval from DND	-	-	LOT
14	Identification Plates (Annex A SOW 6.4)	-	LOT	-
15	Supplementary Provisioning Technical Documentation (Annex A SOW 6.2.4)	-	LOT	-
16	Packaging, Labels and Codes (Annex A SOW 6.6)	-	LOT	-

1.3 Data Format

- 1.3.1 All data delivered as part of this SOW, other than those with specific requirements, shall be prepared in the Contractor's own format. All documentation shall be submitted in hardcopy and in electronic format using software, which is authorized by the DND. Delivery media containing compressed files shall also contain the decompression software.
- 1.3.2 Unless otherwise specified as a specific requirement, the Contractor shall deliver all of the soft copies of data deliverables, in formats compatible with the office software currently in use by the DND as listed:
 - 1.3.2.1 Microsoft (MS) Windows XP Professional Operating System (OS), Multilingual Pack, Service Pack 3;
 - 1.3.2.2 MS Internet Explorer (IE) 7.0 with 128 Bit Encryption and associated SP;
 - 1.3.2.3 MS Office 2003, Professional Edition, SP3, Multilanguage Pack (Word, Excel, Access, PowerPoint and Outlook);
 - 1.3.2.4 MS Office Project 2003;
 - 1.3.2.5 Adobe Acrobat 6.0; and
 - 1.3.2.6 WinZip 8.1 SR-1;
- 1.3.3 Those compatible formats shall allow the files to be recognized, opened, and viewed or read in their intended form and format using DND's office software, as well as allowing the user to modify, select, copy and paste information from the files to other DND office software files.

TECHNICAL BID EVALUATION
FOR THE
TACTICAL LIGHTWEIGHT BOMB SUIT

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Proposal Evaluation and Selection Process For The Tactical Lightweight Bomb Suit (TLB Suit)

1. General

1.1. *Introduction*

This document defines the criteria that will be used to determine the winning bid for the procurement of the TLB Suit.

It contains a description of the evaluation process, identifies all the mandatory requirements and the Evaluation Trial tests and items to be evaluated, and defines the required information from the bidders for their proposal to be evaluated.

1.2. *Bid Selection Methodology*

It is Canada's desire to achieve an optimal capability at an expense of lowest possible cost. Therefore, a "Lowest Cost Compliant" approach will be employed for this acquisition process. All valid proposals will be evaluated against mandatory criteria based on trial results and Bidder's supplied information to determine technical compliances.

Selection of the winning proposal will be based on the proposed lowest cost provided that the proposal meets all mandatory requirements and confirms compliances with key technical & performance requirements, detailed in Appendixes 1 and 2 of this Annex C.

2. Bid Evaluation

2.1. *Responding to Evaluation Criteria*

For each listed requirement, the bidder shall provide a response in the Bidder's Response/References" column in Appendix 1 to clearly explain how the requirement is met, either by including the specific reference to indicate where in their proposal the information is found or including the complete response directly in that column.

Bidders shall provide the information required for each listed requirement in accordance with the method identified in the "Compliance Documentation Required" column of Appendix 1 to Annex C.

2.2. *Compliance Method*

The following compliance methods, as indicated in the "Compliance Documentation Required" column of Appendix 1, define the information required from the bidders against each requirement:

- a) Test Report (TR) - Where "Test Report" is identified in the "Compliance Documentation Required" column, the bidder shall provide a completed and detailed Test Report, including test procedures, data and results, for tests conducted on the equipment offered, to confirm it fully complies with the requirement.
- b) Recognized 3rd Party Test Report (3TR) - Where "Recognized 3rd Party Test Report" is identified in the "Compliance Documentation Required" column, the

bidder shall provide a completed and detailed Test Report using test data and results provided by a recognized 3rd party testing facility, including test procedures, for tests conducted on the equipment offered to confirm it fully complies with the requirement.

- c) Compliance Statement (CS) - Where “Compliance Statement” is identified in the “Compliance Documentation Required” column, the Bidder shall describe in detail how the equipment offered fully complies with the requirement. Supporting documentation is requested but not essential.

3. Evaluation of Compliances

3.1. *Phase 1: Evaluation of Criteria*

Stage 1 – Mandatory Criteria Evaluation; see Appendix 1 for more details.

The evaluation team will use the bidder’s submitted proposal to determine compliance against mandatory requirements.

3.2. *Phase 2: Evaluation Trial*

In this phase an evaluation trial will be conducted:

Test – Evaluation Trial; see Appendix 2 for more details.

The full ensemble will be fitted to subjects who are experienced EOD operators to determine fitting and other attributes identified for evaluation.

Appendix 1: MANDATORY REQUIREMENTS

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3 rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
Annex A – Para 3.1.1.1	The TLB Suit requirement shall be assembled using production components from a current production line and that are not prototypes or pre-production models.	CS			
Annex A – Para 3.1.2.5	The design of the TLB Suit shall be guided by the content of STANAG 2911 - Design Criteria for Fragmentation Protective Body Armour.	CS			
Annex A – Para 3.2.2.1.1	The TLB suit shall be compatible with the in-service CG634 helmets: 1) small: NSN 8470-21-912-7604; 2) medium: NSN 8470-21-912-7605; and 3) large: NSN 8470-21-912-7606.	CS			
Annex A – Para 3.2.2.1.2	The TLB suit shall be compatible with the in-service fragmentation protective vest: 1) x-small/short: NSN 8470-21-921-3064; and 2) x-small/regular: NSN 8470-21-921-3065; and 3) small/short: NSN 8470-21-921-3067; and 4) small/regular: NSN 8470-21-921-3068; and	CS			

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Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3 rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
	5) small/tall: NSN 8470-21-921-3069; and 6) medium/short: NSN 8470-21-921-3070; and 7) medium/regular: NSN 8470-21-921-3071; and 8) medium/tall: NSN 8470-21-921-3072; and 9) large/short: NSN 8470-21-921-3073; and 10) large/regular: NSN 8470-21-921-3075; and 11) large/tall: NSN 8470-21-921-3079.				
Annex A – Para 3.2.2.1.3	The TLB suit shall be compatible with the in-service bullet resistant plates: 1) NSN 8470-21-921-3223.	CS			
Annex A – Para 3.2.2.1.4	The TLB suit shall be compatible with the in-service CF combat boots: NSN 8430-21-872-4291.	CS			
Annex A – Para 3.2.6.1	The Ballistic Helmet Visor shall be compatible with the in-service CG634 helmet (para 3.2.2.1.1).	CS			
3.2.10	Chest and Groin Protection (requested through Option quantities) Chest and Groin Protection shall integrate with the other components of the TLB Suit. Chest and Groin Protection shall provide blast	CS			

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Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3 rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
	overpressure and fragmentation protection to the chest, abdomen and groin.				
Annex A – Para 3.3.1.1, 3.3.1.2, and 3.3.1.3	<p>The TLB Suit shall be provided in at least the following three (3) size ranges, and within each size range, have at least three (3) sub-size ranges (additional size ranges and sub-size ranges will be considered so long as the final TLB Suit quantity is maintained);</p> <p>Size Ranges</p> <p>Size 1 shall support a waist size range between 76 to 82 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.</p> <p>Size 2 shall support a waist size range between 86 to 92 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.</p> <p>Size 3 shall support a waist size range between 96 to 102 cm, with at least three (3) sub-sizes (short, medium, and tall) for height range below.</p> <p>Height Range</p> <p>The short, medium and tall sub-sizes shall cover at least the height range between 162 cm and 188 cm tall.</p>	CS			

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Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3 rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
Annex A – Para 3.3.2	<p>Weight</p> <p>The TLB Suits fitting size ranges 1, 2 and 3 shall not exceed 14 kg (approx. 31 lbs) excluding the Ballistic Helmet Visor and Chest and Groin Protection.</p> <p>The Ballistic Helmet Visor shall not exceed 2 kg (approx. 4.4 lbs).</p> <p>The Chest and Groin Protection shall not exceed 6 kg (approx. 13.2 lbs) in any size.</p>	CS			
Annex A – Para 3.4.1.2	<p>Blast overpressure</p> <p>The TLB Suit, along with Chest and Groin Protection, test results shall indicate the overpressure protection provided by the TLB suit to the EOD operator for multiple quantities of explosive at different proximities.</p> <p>The TLB Suit, along with the Chest and Groin Protection, test results shall correlate lethality/survivability data with pressure-duration characteristics of the free-field blast.</p> <p>The TLB Suit, along with the Chest and Groin Protection, shall have a fifty percent (50%) or greater survivability, to the EOD operator wearing the TLB Suit,</p>	3TR			

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3 rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
	<p>from blast overpressure as compared to an unprotected EOD operator.</p> <p>The TLB Suit, along with the Chest and Groin Protection, test plan(s) shall follow parameters as outlined in Test Methodologies for Personal Protective Equipment Against Anti-Personnel Mine Blast Technical Report TR-HFM-089, specifically:</p> <ul style="list-style-type: none"> a) Explosive Mass and Type – Minimum 100g of C4, or equivalent. b) Depth of Burial – Between flush buried (0mm) and 20mm depth (top of container to soil surface). c) Explosive test charge distance – No more than 1m radial distance from mannequin upper body region. 				

Key Requirement Criteria with References	Requirement Description	Compliance Documentation Required CS - Compliance Statement TR - Test Report 3TR - Recognized 3 rd Party Test Report	Bidder's Response/References	Compliance (This column is for the Evaluation Team only)	
				"C"	"NC"
Annex A – Para 3.4.1.3.1	<p>Fragmentation</p> <p>The TLB suit shall meet MIL-STD-662F using the .22 Cal. projectile as specified in MIL-P-46593A or STANAG 2920 using the NATO 17 grain chisel nose Fragment Simulating Projectile (FSP), for the different body zones (All test results shall be based on a minimum n=3 for all tests, where n is number of trials):</p> <ol style="list-style-type: none"> 1) The TLB suit shall meet or exceed protection of Neck (front): V50 570 m/s. 2) The TLB suit shall meet or exceed protection of Shoulder: V50 550 m/s. 3) The TLB suit shall meet or exceed protection of Arms: V50 425 m/s. 4) The TLB suit shall meet or exceed protection of Legs (front incl. groin): V50 425 m/s. 5) The TLB suit shall meet or exceed protection of Legs (rear): V50 225 m/s. 6) The TLB suit shall meet or exceed protection of Knees: V50 500 m/s. 7) The TLB suit shall meet or exceed protection of Visor: V50 400 m/s. 8) The TLB Suit with Chest and Groin Protection shall meet or exceed protection of chest, abdomen and groin: V50 1500 m/s. 	TR			

Appendix 2: EVALUATION TRIAL

1 INTRODUCTION

- 1.1 This appendix sets out the requirements for the Phase 2 Evaluation Trial.
- 1.2 The aim of the Evaluation Trial is to assess the performance of submitted samples against the requirements identified in Section 3.0 of Annex A.
- 1.3 The Evaluation Trial will be conducted at CFB Gagetown or some other appropriate venue in Canada, under the supervision of DND.

2 REQUIRED PREPARATIONS

- 2.1 All bids screened at Phase 1 as compliant will advance to Phase 2.
- 2.2 The DND Project Manager is responsible for the provision of the three (3) subjects who will be qualified EOD Operators of the requisite sizes (one in each size range) to act as trial subjects.
- 2.3 The bidders are responsible for delivery of three (3) complete samples of proposed TLB Suits (Annex A, Section 3.2.1, but not including optional Chest and Groin Protection), **all at no cost to Canada**, one in each of the three sizing configurations, and covering the three height ranges, as well as any additional samples to account for potential overlap between subject sizes, to ensure the samples are sufficient to provide three (3) complete, TLB Suits, one (1) fitted to each subject.
 - 2.3.1 Condition of samples of proposed TLB Suits: The samples that are supplied shall be pristine and shall not be pre-conditioned in any way, to enhance user comfort or reduce the stiffness of a new product.
 - 2.3.2 Bidders not capable of providing three (3) complete suits, one (1) fitted to each subject, by the end of the fitting and training period (see para. 5) will be deemed non-compliant and the samples returned.
 - 2.3.3 Any extra samples not required after the fitting of the three (3) subjects should be taken away by the bidder.
 - 2.3.4 Bidder should note that DND will be returning the three (3) complete samples that are fitted to the participants once used in the trial.
- 2.4 The bidders are responsible for providing no more than three (3) Field Service Representatives (FSR) for a one (1) day training and fitting period at CFB Gagetown, or some other appropriate venue in Canada, in order to:
 - a. Properly break-out the equipment from the packaging;
 - b. Size and fit the subjects; and

- c. Provide instruction in the correct use of the samples.

3 TRIAL PERSONNEL

- 3.1 The trials team will include:
 - 3.1.1 DND Project Trial Officer(s).
 - 3.1.2 Up to two (2) trial team Leaders.
 - 3.1.3 Additional assistance to set up and monitor the trials will be provided by the DND Project Manager as required.

4 SUBJECTS

- 4.1 Subjects will be drawn from experienced EOD operators.
- 4.2 Subjects will be medically screened and briefed on informed consent prior to the start of the trials.

5 TRAINING AND FITTING PERIOD

- 5.1 All three (3) subjects will be required.
- 5.2 The Bidders will each be allowed one (1) day for breakout of equipment, fitting subjects, training on donning and doffing, and preparation for screening tests in trial.
- 5.3 The training and fitting period will begin no earlier than 9:00AM and conclude no later than 5:00PM local time.

6 SCREENING TEST: EVALUATION TRIAL

- 6.1 All three (3) subjects will be required.
- 6.2 Anthropometrics of subjects will be documented.
- 6.3 Equipment will be donned in layers and photographed.
- 6.4 Equipment fit, sizing, and functionality will be assessed against the "List of Standard Integration / Protection Problems" (Table 1) by the entire test team upon completion of the activity routine (listed in Table 2).
 - 6.4.1 66 % pass rate for each row in table 1 (i.e. 2 out of 3 subjects), then 5 out 6 rows overall will be required to consider the TLB Suit as compliant.**

Table 1: TLB - List of Standard Integration / Protection Problems						
#	ISSUE	CONSEQUENCE	Subjects			Overall PASS/FAIL (5 out of 6 required to pass)
			1 P/F	2 P/F	3 P/F	
			2 out of 3 PASS/FAIL			
1.	TLB Suit does not integrate with helmet	TLB Suit not compatible with in-service equipment				
2.	TLB Suit does not integrate with fragmentation protective vest	TLB Suit not compatible with in-service equipment				
3.	TLB Suit does not integrate with in-service CF combat boots	TLB Suit not compatible with in-service equipment				
4.	Ballistic Helmet Visor does not fit helmet	Adequate face protection would not be possible				
5.	Ballistic Helmet Visor-Neck/Shoulder Protection interference	Limited head mobility/ Discomfort				
6.	Unable to complete activity routine due to restrictions caused by TLB Suit	Suit inadequate for EOD operator tasks				

Table 2: Activity Routine – Evaluation Trial	
Activity Number	Activity
1	Carry the TLB Suit in in-service backpack/rucksack, in full fighting order and basic load for a 5 kilometre (3.11 mile) march.
2	Don the TLB Suit unassisted in less than 10 minutes.
3	Flexibility test involving the following: <ul style="list-style-type: none"> 1) crouching 2) kneeling 3) stand from kneeling position 4) arm movement
3	Walk forward a distance of 100 meters (approx. 328 feet).
4	Crawl through a culvert a distance of at least 10 meters (approx. 33 feet).
5	Complete the Test of Elementary Training (weapon proficiency) (ToET).
6	Run a distance of 50 meters (approx. 164 feet).
7	Ascend stairs a height of 10 meters (approx. 33 feet).
8	Descend stairs a height of 10 meters (approx. 33 feet).
9	Climb a ladder and mount a platform.
10	Walk to other end of platform and back then descend ladder.
11	Mental acuity test involving the loading and unloading of a disruptor with a blank cartridge.
12	Doff the TLB Suit unassisted in less than 10 minutes.

7 ASSESSMENT

7.1 Results of all tests on each bidder's system will be compiled and assessed by Technical Staff: DND Project Trials Officer(s) and Trial Team Leaders. Non-compliance will be indicated as follows:

7.1.1 Issues that would cause major breaches in protection.

7.1.2 Integration issues that would require modification of the system or overly limit the operator's capabilities on-task.