

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

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

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

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

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

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

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

**Comments - Commentaires**

<b>Title - Sujet</b> EXTREME COLD WEATHER MUKLUKS		
<b>Solicitation No. - N° de l'invitation</b> W8486-151946/A	<b>Date</b> 2015-05-05	
<b>Client Reference No. - N° de référence du client</b> W8486-151946		
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$PR-751-67242		
<b>File No. - N° de dossier</b> pr751.W8486-151946	<b>CCC No./N° CCC - FMS No./N° VME</b>	
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2015-06-23</b>		<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>		
<b>Address Enquiries to: - Adresser toutes questions à:</b> Doré, Catherine		<b>Buyer Id - Id de l'acheteur</b> pr751
<b>Telephone No. - N° de téléphone</b> (819) 956-1247 ( )		<b>FAX No. - N° de FAX</b> (819) 956-5454
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>  Specified Herein Précisé dans les présentes		

**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**

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

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

Solicitation No. - N° de l'invitation

W8486-151946/A

Amd. No. - N° de la modif.

File No. - N° du dossier

pr751W8486-151946

Buyer ID - Id de l'acheteur

pr751

Client Ref. No. - N° de réf. du client

W8486-151946

CCC No./N° CCC - FMS No/ N° VME

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirement**

There is no security requirement associated with this bid solicitation.

### **1.2 Requirement**

This Request for Proposal is for the provision of Extreme Cold Weather Mukluk (ECWM) for the Department of National Defence. This procurement process is divided in two stages.

Stage 1 (Trial Contracts): A maximum of three (3) contracts will be awarded for the supply of 50 Mukluk Shells and 100 pairs of removable liner(s), removable insole(s) and replacement laces under each contract. These goods will be used for a User Acceptance Performance Evaluation.

Stage 2 (Main Contract): Following the User Evaluation Trial result, one contract will be awarded for the supply of 12,000 pairs of the Mukluk Shells, 36,000 pairs of removable liner(s) and removable insole(s) and 24,000 pairs of replacement laces. The Main Contract also includes one option to purchase additional maximum quantity of 12,000 pairs of Mukluk Shells and 24,000 pairs of removable liner(s) and removable insole(s).

Note that a maximum of two (2) bids per Bidder can be submitted.

The requirement for the Trial Contracts is detailed in Part 6.A – Trial Contract Clauses.

The requirement for the Main Contract is detailed under Annex A of the resulting Main Contract clauses.

### **1.3 Debriefings**

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

### **1.4 Trade Agreements**

The requirement is subject to a preference for Canadian goods and/or services.

## **PART 2 - BIDDER INSTRUCTIONS**

### **2.1 Standard Instructions, Clauses and Conditions**

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

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

The 2003 (2014/09/25) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: 60 days  
Insert: 365 days

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## 2.2 Submission of Bids

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

## 2.3 Enquiries - Bid Solicitation

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

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

## 2.4 Applicable Laws

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

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

## 2.5 Samples

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

- Company Name
- Complete mailing & physical address (p.o. box numbers not acceptable)
- Area code and telephone number
- Contact name
- E-mail address
- Solicitation Number & Closing Date

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

E-mail : catherine.dore@tpsgc-pwgsc.gc.ca

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

## 2.6 Samples - Return to Sender

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

## 2.7 Specifications and Standards

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

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

Canadian General Standards Board  
Place du Portage III, 6B1

11 Laurier Street  
Gatineau, Québec  
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)  
Fax: (819) 956-5740  
E-mail: [ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca](mailto:ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca)  
CGSB Website: <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html>

## 2.8 Transportation Costs Information

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

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

## PART 3 - BID PREPARATION INSTRUCTIONS

### 3.1 Bid Preparation Instructions

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

- Section I: Technical Bid (3 hard copies)
- Section II: Financial Bid (1 hard copy)
- Section III: Certifications (1 hard copy)

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

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

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

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

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

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

3) Green Initiatives (for PWGSC information only)

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

- environmentally responsible manufacturing;
- environmentally responsible waste disposal;
- waste reduction;
- packaging;

- re-use strategies;
- recycling.

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

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work (reference 4.1.1 Technical Evaluation).

### **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

#### **3.1.1 Exchange Rate Fluctuation**

C3011T      2013/11/06      Exchange Rate Fluctuation

### **Section III: Certifications**

Bidders must submit the certifications required under Part 5.

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1 Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) The evaluation team will determine first if there are two or more bids with a valid Canadian Content certification. In that event, the evaluation process will be limited to the bids with the certification; otherwise, all bids will be evaluated. If some of the bids with a valid certification are declared non-responsive, or are withdrawn, and less than two responsive bids with a valid certification remain, the evaluation will continue among those bids with a valid certification. If all bids with a valid certification are subsequently declared non-responsive, or are withdrawn, then all the other bids received will be evaluated.

#### **4.1.1 Technical Evaluation**

##### **4.1.1.1 Phase 1 - Mandatory Technical Criteria**

##### **Pre-Award Samples and Supporting Documentation**

As part of the technical evaluation, to confirm a Bidder's capability of meeting the technical requirements, pre-award samples and supporting documentation as detailed at Annex I must be included with the bid.

A maximum of two (2) bids per bidder can be submitted.

Boots and packaging must not have any identifiable markings, including stamps, hang tag, markings inside or outside of the boots. Non compliance will result in the bid being declared non-responsive.

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

The pre-award samples will be evaluated for quality of workmanship and conformance to specified materials and measurements in accordance with Annex I.

The Bidder must deliver the required pre-award samples and supporting documentation at no charge to Canada and must ensure that they are received with the bid at time and place of bid closing. If any supporting documentation is missing (not submitted with the bid), the Contracting Authority will inform the Bidder in writing and provide the Bidder with two (2) working days from the request to submit the missing documentation. Failure to submit the required pre-award samples and the supporting documentation within the specified timeframe will result in the bid being declared non-responsive.

The samples submitted by the Bidder will remain the property of Canada.

Laboratory analysis of the product offered showing test results for specific tests listed under Annex I must be provided with the pre-award samples. Testing must be performed by an independent accredited laboratory establishment or by in-house facilities as specified at Annex I and must be in accordance with the test methods detailed in the Requirement. The laboratory report and test results must be dated within one year of the Request for Proposal posting date.

In addition, Certificate of Compliances listed under Annex I is required with the pre-award samples.

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

#### **Certificate of Compliance-Definition**

A Certificate of Compliance is a written statement from an appropriate official of the source of supply attesting the compliance of the product to the requirement specified at Annex I. This document must be on official company stationery; it must be dated within one year of the Request for Proposal posting date; it must make reference to the applicable specification and have the original signature of the company's designated representative. Canada reserves the right to verify the statements made in the Certificate of Compliance. Full test results, demonstrating the product's compliance, will be accepted in lieu of a Certificate of Compliance.

#### **4.1.1.2 Phase II – Point Rated Technical Criteria**

A point rated evaluation will be completed on bids deemed compliant in Phase I. Details of the point rated criteria are included at Annex E.

#### **4.1.1.3 Phase III – User Evaluation Trial**

Following the award of the Trial Contracts, the Contractor must supply 50 pairs of Mukluk shells and 100 pairs of removable liner(s), removable insole(s) and replacement laces as per Annex F and H within 90 calendar days from the award date. A technical evaluation will be completed in accordance with Annex F on all trial quantities. Failure to supply the goods within the specified time frame will result in the bid for the Main Contract being declared non-responsive.

Details of the User Evaluation Trial are included at Annex G.

### **4.1.2 Financial Evaluation**

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

- a. The Bidder must submit firm unit prices in Canadian dollars, applicable taxes are excluded, DDP (Edmonton, AB and Montreal, QC) Incoterms 2000, transportation costs included, all applicable Customs Duties and Excise taxes included.

- b. The Bidder must submit firm unit pricing for all items and all destinations including option (listed at Annex A). The Bidder is requested to quote firm unit pricing at no more than two decimal points.

#### 4.1.2.2 SACC Manual Clause

A9033T 2012/07/16 Financial Capability

#### 4.1.2.3 Financial Evaluation Methodology

For the purpose of establishing a bid evaluation price, the firm unit prices for items 1 to 4 will be multiplied by the quantity of each item. For items 5 to 7, the firm unit prices for each item and each destination will be averaged and multiplied by the following quantities:

Item	Quantity for Evaluation Purpose (pair)	
	Montreal	Edmonton
5	7,200	4,800
6	14,400	9,600
7	14,400	9,600

The resultant totals will be added together to establish the Total Bid Evaluation Price.

The quantity for evaluation purpose must not be interpreted as a guarantee of actual usage.

## 4.2 Basis of Selection

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

### 4.2.1 Trial Contracts

The responsive bids with the lowest cost per point will be recommended for award of a Trial Contract (up to a maximum of three contracts).

The Total Bid Evaluation Price will be divided by the points obtained in the Point Rated Technical Criteria.

If a tie were to occur, the tiebreak would be done by first choosing the boot with the highest rank in drying rate (of removable liner). If still tied, then the boot with the highest rank in moisture vapour transmission rate will be used. Should there still continue to be a tie, the final tiebreaker will be the highest ease of ignition rate of the removable liner.

### 4.2.2 Main Contract

To be declared responsive, a bid must meet the criteria at Annex G.

The responsive bid with the highest score in the User Evaluation Trial will be recommended for award of the Main Contract.

If a tie were to occur, the tiebreaker will be the lowest cost per point.

## 4.3 Contract Financial Security

1. If this bid is accepted, the Bidder may be required to provide contract financial security, after the bid closing date and within 10 calendar days from receipt of a written request from the Contracting Authority.
  - (a) a security deposit as defined in clause "Security Deposit Definition" in the amount of up to ten percent (10%) of the contract price.
2. Security deposits in the form of government guaranteed bonds with coupons attached will be accepted only if all coupons that are unmaturing, at the time the security deposit is provided, are attached to the bonds. The Contractor must provide written instructions concerning the action to be taken with respect to coupons that will mature while the bonds are pledged as security, when such coupons are in excess of the security deposit requirement.

3. If Canada does not receive the required financial security within the specified period, Canada may, as its discretion, accept another offer, issue a new bid solicitation, award a contract or reject all the bids.

#### 4.4 Security Deposit Definition

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

## **PART 5 - CERTIFICATIONS**

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

The certifications provided by bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default in carrying out any of its obligations under the Contract, if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

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

### **5.1 Certifications Precedent to Contract Award and Certifications Required with the Bid**

#### **5.1.1 Certifications Precedent to Contract Award**

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

##### **5.1.1.1 Integrity Provisions - Associated Information**

By submitting a bid, the Bidder certifies that the Bidder and its Affiliates are in compliance with the provisions as stated in Section 01 Integrity Provisions - Bid of Standard Instructions 2003. The associated information required within the Integrity Provisions will assist Canada in confirming that the certifications are true.

##### **5.1.1.2 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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list ([http://www.labour.gc.ca/eng/standards\\_equity/eq/emp/fcp/list/inelig.shtml](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)) available from [Employment and Social Development Canada \(ESDC\) - 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.

##### **5.1.1.3 Samples and Production Certification**

The Bidder certifies that:

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

## 5.1.2 Certifications Required with the Bid

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

### 5.1.2.1 Canadian Content Certification

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

#### Canadian Content Certification

This procurement is conditionally limited to Canadian goods.

Subject to the evaluation procedures contained in the bid solicitation, bidders acknowledge that only bids with a certification that the goods offered are Canadian goods, as defined in clause A3050T, may be considered.

Failure to provide this certification completed with the bid will result in the good(s) offered being treated as non-Canadian goods.

The Bidder certifies that:

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

#### Plant Location

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

## PART 6 - RESULTING CONTRACT CLAUSES

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

### 6.A TRIAL CONTRACT

#### 6.A.1 Security Requirements

6.A.1.1 There is no security requirement applicable to this Contract.

#### 6.A.2 Requirement

The Contractor must provide 50 pairs of Mukluk shells, 100 pairs each of removable liner(s), removable insole(s) and replacement laces proposed in the Contractor's bid dated (insert date) in accordance with the Annex F and in the sizes specified in the size roll at Annex H to the following address:

Louis St-Laurent Building  
555 Boulevard des Carrières  
Gatineau, Québec  
J8Y 6V7  
Attn: (to be advised at contract)

Boots and packaging must not have any identifiable markings, including stamps, hang tag, markings inside or outside of the boots. Non compliance will result in the rejection of the goods.

The Contractor must provide with all deliveries a CF 1280 form.

#### 6.A.3 Standard Clauses and Conditions

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

#### **6.A.3.1 General Conditions**

2030 (2014/09/25), General Conditions - Goods (Higher Complexity), apply to and form part of the Contract.

#### **6.A.4 Term of Contract**

##### **6.A.4.1 Delivery Date (Mandatory)**

The delivery of the Trial Quantity must be completed within 90 calendar days from the effective date of the Contract.

Failure to submit the Trial Quantity within the specified time frame will be grounds for termination of the Contract for default.

##### **6.A.4.1.1 Shipping Instructions - Delivery at Destination**

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

(a) Delivered Duty Paid (DDP) (Gatineau, Québec) Incoterms 2000 for shipments from commercial contractor.

##### **6.A.4.1.2 SACC Manual Clauses**

D5545C 2010/08/16 ISO 9001:2008 - Quality Management Systems - Requirements (QAC C)

#### **6.A.5 Authorities**

##### **6.A.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

##### **Catherine Doré**

Public Works and Government Services Canada  
Acquisitions Branch  
Commercial and Consumer Products Directorate (CCPD)  
Clothing & Textiles Division  
Place du Portage, Phase III, 6A2  
11 Laurier Street  
Gatineau, Quebec K1A 0S5  
Telephone : 819-956-1247 Facsimile: 819-956-5454  
E-mail address: catherine.dore@tpsgc-pwgsc.gc.ca

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

##### **6.A.5.2 Technical Authority**

The Technical Authority for this Contract is:

##### **Mailing/Shipping Address**

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

Solicitation No. - N° de l'invitation  
W8486-151946/A  
Client Ref. No. - N° de réf. du client  
W8486-151946

Amd. No. - N° de la modif.  
File No. - N° du dossier  
pr751.W8486-151946

Buyer ID - Id de l'acheteur  
pr751  
CCC No./N° CCC - FMS No./N° VME

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

#### **6.A.5.3 Procurement Authority**

The Procurement Authority for the Contract is:

##### **Mailing/Shipping Address**

Department of National Defence  
101 Colonel By Drive  
Ottawa, Ontario  
K1A 0K2

Attn: DLP (to be advised at contract)

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

#### **6.A.5.4 Contractor's Representative**

The person responsible for :

##### **General enquiries**

Name: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

##### **Delivery follow-up**

Name: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

#### **6.A.6 Payment**

##### **6.A.6.1 Basis of Payment – Firm Price**

In consideration of the Contractor satisfactorily completing all of its obligations under the Trial Contract, the Contractor will be paid a firm price of \$29,000.00. Customs duties are included and all applicable taxes are extra, if applicable.

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

##### **6.A.6.2 SACC Manual Clauses**

H1000C 2008/05/12 Single Payment

#### **6.A.7 Invoicing Instructions**

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

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

Note: The original invoice (PDF) can be emailed to (to be advised at contract award) and must be stamped with the word "ORIGINAL" and the other copies must be stamped with the words "COPY DO NOT PAY".

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

(c) One (1) copy must be forwarded to the consignee.

## **6.A.8 Certifications**

### **6.A.8.1 Compliance**

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the associated information, 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.

### **6.A.8.2 SACC Manual Clauses**

A3060C 2008/05/12 Canadian Content Certification

## **6.A.9 Applicable Laws**

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

## **6.A.10 Priority of Documents**

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

- a) the Articles of Agreement;
- b) the general conditions 2030 (2014/09/25), General Conditions - Goods (Higher Complexity);
- c) Annex B, Specification;
- d) Annex H, Size Roll for Trial;
- e) Annex F, Pre-Trial Technical Evaluation Requirements; and
- f) the Contractor's bid dated \_\_\_\_\_.

## **6.A.11 Defence Contract**

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

#### 6.A.12 Materials: Contrator Total Supply

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

#### 6.A.13 Plant Closing

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

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

#### 6.A.14 Plant Location

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

#### 6.A.15 Subcontractor(s)

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

Name of Company: \_\_\_\_\_

Location: \_\_\_\_\_

Value of subcontract: \$ \_\_\_\_\_

Nature of subcontracting work performed: \_\_\_\_\_

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

#### 6.A.16 Overshipment

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

#### 6.A.17 Ownership of Product - CADPAT

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

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

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

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

#### 6.A.18 Specifications and Standards

##### 6.A.18.1 Canadian General Standards Board (CGSB) - Standards

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

Canadian General Standards Board  
Place du Portage III, 6B1  
11 Laurier Street  
Gatineau, Québec  
Telephone: (819) 956-0425 or 1-800-665-CGSB (Canada only)  
Fax: (819) 956-5740

Solicitation No. - N° de l'invitation  
W8486-151946/A  
Client Ref. No. - N° de réf. du client  
W8486-151946

Amd. No. - N° de la modif.  
File No. - N° du dossier  
pr751.W8486-151946

Buyer ID - Id de l'acheteur  
pr751  
CCC No./N° CCC - FMS No./N° VME

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E-mail: ncr.cgsb-ongc@pwgsc-tpsgc.gc.ca  
CGSB Website: <http://www.tpsgc-pwgsc.gc.ca/ongc-cgsb/index-eng.html>

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## 6.B. MAIN CONTRACT

### 6.B.1 Security Requirements

6.B.1.1 There is no security requirement applicable to this Contract.

### 6.B.2 Requirement

The Contractor must provide the items detailed under the "Requirement" at Annex A.

### 6.B.3 Standard Clauses and Conditions

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

#### 6.B.3.1 General Conditions

2030 (2014/09/25), General Conditions - Goods (Higher Complexity), apply to and form part of the Contract.

### 6.B.4 Term of Contract

#### 6.B.4.1 Delivery - Firm Quantity - Phased

Each component (one pair of shells, two pairs of liner(s), two pairs insole(s) and one pair of laces) must be sent concurrently but packaged separately and in the corresponding sizes.

The first delivery must be made within \_\_\_\_\_ calendar days from the date of the written notice of approval of pre-production samples. The quantity delivered must be \_\_\_\_\_ pairs of Mukluk Shells (with the corresponding components). The balance must be delivered at the rate of \_\_\_\_\_ pairs of Mukluk Shells (with the corresponding components) weekly after the first delivery until completion of the Contract.

##### 6.B.4.1.1 Delivery - Appointments

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

(a) 7 CF Supply Depot Lancaster Park  
Edmonton, Alta  
780-973-4011, ext. 4524

(b) 25 CF Supply Depot Montreal  
Montreal, Qué.  
514-252-2777, ext. 2363

##### 6.B.4.1.2 Preparation for Delivery

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

##### 6.B.4.1.3 Bulk Shipments

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

##### 6.B.4.1.4 Shipping Instructions - Delivery at Destination

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

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

#### **6.B.4.1.5 SACC Manual Clauses**

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
D5540C	2010/08/16	ISO 9001:2008 - Quality Management Systems - Requirements (QAC Q)
D5604C	2008/12/12	Release Documents (DND) - Foreign-based Contractor
D5605C	2010/01/11	Release Documents (DND) - United States-based Contractor
D5606C	2012/07/16	Release Documents (DND) - Canadian-based Contractor
D6010C	2007/11/30	Palletization

#### **6.B.5 Authorities**

##### **6.B.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Catherine Doré  
Public Works and Government Services Canada  
Acquisitions Branch  
Commercial and Consumer Products Directorate (CCPD)  
Clothing & Textiles Division  
Place du Portage, Phase III, 6A2  
11 Laurier Street  
Gatineau, Quebec K1A 0S5  
Telephone : 819-956-1247 Facsimile: 819-956-5454  
E-mail address: catherine.dore@tpsgc-pwgsc.gc.ca

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

##### **6.B.5.2 Technical Authority**

The Technical Authority for this Contract is:

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

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

##### **6.B.5.3 Procurement Authority**

The Procurement Authority for the Contract is:

Mailing/Shipping Address

Solicitation No. - N° de l'invitation  
W8486-151946/A  
Client Ref. No. - N° de réf. du client  
W8486-151946

Amd. No. - N° de la modif.  
File No. - N° du dossier  
pr751.W8486-151946

Buyer ID - Id de l'acheteur  
pr751  
CCC No./N° CCC - FMS No./N° VME

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

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

#### **6.B.5.4 Quality Assurance Authority**

The Quality Assurance Authority for the Contract is:

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

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

#### **6.B.5.5 Contractor's Representative**

The person responsible for :

##### **General enquiries**

Name: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

##### **Delivery follow-up**

Name: \_\_\_\_\_  
Telephone No.: \_\_\_\_\_  
Facsimile No.: \_\_\_\_\_  
E-mail address: \_\_\_\_\_

#### **6.B.6 Payment**

##### **6.B.6.1 Basis of Payment – Firm Unit Prices**

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

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

#### **6.B.6.2 SACC Manual Clauses**

H1001C 2008/05/12 Multiple Payments

#### **6.B.7 Invoicing Instructions**

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

2. Invoices must be distributed as follows:

a) One (1) copy must be forwarded to the following address :

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

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

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

##### **6.B.7.1 Release Documents - Distribution**

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

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

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

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

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

#### **6.B.8 Certifications**

##### **6.B.8.1 Compliance**

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the associated information, 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.

#### **6.B.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor**

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

#### **6.B.8.3 SACC Manual Clauses**

A3060C 2008/05/12 Canadian Content Certification

#### **6.B.9 Applicable Laws**

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

#### **6.B.10 Priority of Documents**

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

- a) the Articles of Agreement;
- b) the general conditions 2030 (2014/09/25), General Conditions - Goods (Higher Complexity);
- c) Annex A, Requirement;
- d) Annex B, DSSPM 2-3-87 Performance Specification for the Canadian Forces Product Improved Extreme Cold Weather Mukluk (ECWM) Assembly
- e) Annex C, DSSPM 2-2-80-502 Specification for CADPATTM (WO) [Canadian Disruptive Pattern (Winter Operations)]
- f) Annex D, Pre-Production, and Production Requirements for the Product Improved Extreme Cold Weather Mukluk (ECWM) Assembly
- g) Annex H, Size Roll (Production Quantities)
- h) Annex J, D-LM-008-002/SF-001 Specification for Marking For Storage and Shipment
- i) Annex K to PART 5 – BID SOLICITATION - Federal Contractors Program for Employment Equity – Certification
- j) the Contractor's bid dated \_\_\_\_\_.

#### **6.B.11 Defence Contract**

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

#### **6.B.12 SACC Manual Clauses**

C2800C 2013/01/28 Priority Rating  
C2801C 2014/11/27 Priority Rating - Canadian-based Contractors  
D2000C 2007/11/30 Marking

#### **6.B.13 Materials: Contrator Total Supply**

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

#### **6.B.14 Procedures for Design Change/Deviations**

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

The Contractor must complete Part 1 of the Design Change/Deviation form DND 672 and forward one (1) copy to the Technical Authority and one (1) copy to the Contracting Authority.

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

#### 6.B.15 Plant Closing

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

2016-2017		
Summer Holiday	FROM _____	TO _____
Christmas Holiday	FROM _____	TO _____
2017-2018		
Summer Holiday	FROM _____	TO _____
Christmas Holiday	FROM _____	TO _____
2018-2019		
Summer Holiday	FROM _____	TO _____
Christmas Holiday	FROM _____	TO _____

#### 6.B.16 Plant Location

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

#### 6.B.17 Subcontractor(s)

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

Name of Company: \_\_\_\_\_  
Location: \_\_\_\_\_  
Value of subcontract: \$ \_\_\_\_\_  
Nature of subcontracting work performed: \_\_\_\_\_

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

#### 6.B.18 Overshipment

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

#### 6.A.19 Ownership of Product - CADPAT

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

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

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

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

#### **6.B.20 Quality Plan**

No later than 30 days after the effective date of the Contract, the Contractor must submit for acceptance by the Department of National Defence (DND) a Quality Plan prepared according to the latest issue (at contract date) of ISO 10005:2005 "Quality management systems - Guidelines for quality plans". The Quality Plan must describe how the Contractor will conform to the specified quality requirements of the Contract and specify how the required quality activities are to be carried out, including quality assurance of subcontractors. The Contractor must include a traceability matrix from the elements of the specified quality requirements to the corresponding paragraphs in the Quality Plan.

The documents referenced in the Quality Plan must be made available when requested by Public Works and Government Services Canada or DND.

If the Quality Plan was submitted as part of the bidding process, the Contractor must review and, where appropriate, revise the submitted plan to reflect any changes in requirements or planning which may have occurred as a result of pre-contract negotiations.

Upon acceptance of the Quality Plan by DND, the Contractor must implement the Quality Plan. The Contractor must make appropriate amendments to the Quality Plan throughout the term of the contract to reflect current and planned quality activities. Amendments to the Quality Plan must be acceptable to DND.

#### **6.B.21 Post Contract Award Meeting**

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

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

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

#### **6.B.22 Progress Reports**

The Contractor must provide a progress report on the last working day of each month detailing the following:

- a summary of work accomplished during the reporting period;
- a summary of work planned for the ensuing period;
- a statement as to whether the work is proceeding according to plan with a full explanation for deviations from the work; and
- delivery status of boots by size and destination.

A copy of the report must be distributed by email to the Contracting, Technical and Procurement Authority.

#### **6.B.23 Pre-Production Samples**

1. The Contractor must provide pre-production samples and supporting documentation as detailed in Annex D to the Technical Authority for acceptance without charges to Canada within \_\_\_\_\_ calendar days from date of contract award.
2. If the pre-production samples are rejected, the Contractor must submit second pre-production samples within \_\_\_\_\_ calendar days of notification of rejection from the Technical Authority.
3. If the pre-production samples are accepted by either full acceptance or conditional acceptance, the Contractor must proceed with production as per the Contract requirements.
4. Rejection by the Technical Authority of the second pre-production samples submitted by the Contractor for failing to meet the contract requirements will be grounds for termination of the Contract for default.
5. The Contractor must carry out all required inspection and tests to verify conformance to the technical requirements of the Contract.
6. The pre-production samples submitted by the Contractor will remain the property of Canada.
7. The Technical Authority will notify the Contractor, in writing, of the full acceptance, conditional acceptance, or rejection of the pre-production samples. A copy of this notification will also be provided by the Technical Authority to the Contracting Authority. The notice of the full acceptance or conditional acceptance does not relieve the Contractor from complying with all requirements and conditions of the Contract.
8. The Contractor must not commence or continue with production of the items and must not make any deliveries until the Contractor has received a written notification from the Technical Authority that the pre-production samples are fully acceptable or conditionally acceptable. Any production of items before pre-production sample acceptance will be at the sole risk of the Contractor.
9. The pre-production samples may not be required if the Contractor is currently in production. The request for waiver of pre-production samples must be made by the Contractor in writing to the Contracting Authority. The waiving of this requirement will be at the sole discretion of the Technical Authority and will be evidenced through a contract amendment.

#### **Production Samples**

1. In addition to the pre-production samples, the Contractor must provide production samples and supporting documentation as specified at Annex D to the Technical Authority for acceptance without charges to Canada.
2. Rejection by the Technical Authority of the production samples submitted by the Contractor for failing to meet the contract requirements will be grounds for termination of the Contract for default.

#### **Certificate of Compliance-Definition**

A Certificate of Compliance is a written statement from an appropriate official of the source of supply attesting the compliance of the product to the requirement specified at Annex D. This document must be on official company stationery; it must be dated within one year of the Request for Proposal posting date; it must make reference to the applicable specification and have the original signature of the company's designated representative. Canada reserves the right to verify the statements made in the Certificate of Compliance. Full test results, demonstrating the product's compliance, will be accepted in lieu of a Certificate of Compliance.

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

Laboratory analysis of the product offered showing test results for specific tests listed under Annex D must be provided with the samples. Testing must be performed by an independent accredited laboratory

establishment or by in-house facilities as specified at Annex D and must be in accordance with the test methods detailed in the Requirement. The laboratory report and test results must be dated within one year of the Request for Proposal posting date.

## **6.B.24 Specifications and Standards**

### **6.B.24.1 Canadian General Standards Board (CGSB) - Standards**

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

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

## **6.B.25 Financial Security**

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

## ANNEX A REQUIREMENT

### 1. TECHNICAL REQUIREMENT

The Contractor is required to provide Canada for the Department of National Defence (DND) with Extreme Cold Weather Mukluk Shell, removable liner(s), removable insole(s) and replacement laces in accordance with the Performance Specification for the Canadian Forces Product Improved Extreme Cold Weather Mukluk (ECWM) Assembly dated 1 June 2014 and all amendments issued during the solicitation period.

### 2. ADDRESSES

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

### 3. DELIVERABLES

#### CONTRACT QUANTITY

##### Firm Quantity

Item	Description	Unit of Issue	Destination	Firm Quantity	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra
1	Mukluk Shell with one pair of laces	Pair	Montreal	7,200	\$ _____
			Edmonton	4,800	\$ _____
2	Removable Liner(s)	Pair	Montreal	21,600	\$ _____
			Edmonton	14,400	\$ _____
3	Removable Insole(s)	Pair	Montreal	21,600	\$ _____
			Edmonton	14,400	\$ _____
4	Replacement Laces	Pair	Montreal	14,400	\$ _____
			Edmonton	9,600	\$ _____

Refer to size roll at Annex H.

#### OPTION

Item	Description	Unit of Issue	Destination	Quantity	Firm Unit Price, DDP, Transportation costs included, Applicable taxes extra		
					Year 1	Year 2	Year 3
5	Mukluk Shell with one pair of laces	Pair	Montreal	1,800 to 3,600	\$_____	\$_____	\$_____
				3,601 to 4,800	\$_____	\$_____	\$_____
				4,801 to 7,200	\$_____	\$_____	\$_____
			Edmonton	1,200 to 2,400	\$_____	\$_____	\$_____
				2,401 to 3,200	\$_____	\$_____	\$_____
				3,201 to 4,800	\$_____	\$_____	\$_____
6	Removable Liner(s)	Pair	Montreal	3,600 to 7,200	\$_____	\$_____	\$_____
				7,201 to 9,600	\$_____	\$_____	\$_____
				9,601 to 14,400	\$_____	\$_____	\$_____
			Edmonton	2,400 to 4,800	\$_____	\$_____	\$_____
				4,801 to 6,400	\$_____	\$_____	\$_____
				6,401 to 9,600	\$_____	\$_____	\$_____
7	Removable Insole(s)	Pair	Montreal	3,600 to 7,200	\$_____	\$_____	\$_____
				7,201 to 9,600	\$_____	\$_____	\$_____
				9,601 to 14,400	\$_____	\$_____	\$_____
			Edmonton	2,400 to 4,800	\$_____	\$_____	\$_____
				4,801 to 6,400	\$_____	\$_____	\$_____
				6,401 to 9,600	\$_____	\$_____	\$_____

Year 1: If exercised (ordered) within 12 months from contract award date.

Year 2: If exercised (ordered) between 13 to 24 months from contract award date.

Year 3: If exercised (ordered) between 25 to 36 months from contract award date.

#### **4. OPTION QUANTITY - Identified as Items 5 to 7**

The Contractor grants to Canada the irrevocable option to acquire the goods described under items 5 to 7 and under the same terms and conditions and at the prices stated in the Contract. The option may only be exercised by the Contracting Authority for a minimum of 3,000 pairs of Mukluk Shells or 6,000 pairs of removable liner(s) or removable insole(s) per amendment and for a maximum of 12,000 pairs of Mukluk Shells, 24,000 pairs of removable liner(s) and 24,000 pairs of removable insole(s) for all amendments in total distributed amongst the destinations and will be evidenced through a contract amendment.

Solicitation No. - N° de l'invitation  
W8486-151946/A  
Client Ref. No. - N° de réf. du client  
W8486-151946

Amd. No. - N° de la modif.  
File No. - N° du dossier  
pr751.W8486-151946

Buyer ID - Id de l'acheteur  
pr751  
CCC No./N° CCC - FMS No./N° VME

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The Contracting Authority may exercise the option within 36 months after contract award date by sending a written notice to the Contractor. Multiple amendments may result.

A size roll will be provided if and when the option is exercised. Delivery times of the option quantities will be negotiated at the time that the option is exercised.

Canada reserves the right to request changes in colour for the option quantity. Canada will define technical requirements and fund any testing required to support these changes.



## NOTICE

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

**PERFORMANCE SPECIFICATION  
FOR THE  
CANADIAN FORCES PRODUCT IMPROVED  
EXTREME COLD WEATHER MUKLUK (PIECWM) ASSEMBLY**

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



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©Sa Majesté la Reine en chef du Canada représentée par le Ministre de la Défense nationale, 2015

**PERFORMANCE SPECIFICATION  
FOR THE  
CANADIAN FORCES PRODUCT IMPROVED  
EXTREME COLD WEATHER MUKLUK (PIECWM) ASSEMBLY**

**1.0 SCOPE**

**1.1**        **Scope:** This document defines the performance criteria required for the manufacture and procurement of an Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly for use by the Canadian Forces. This item is intended for wear by CF members while in garrison, in the field, and while conducting combat operations in extreme cold weather environments from 0° to -51° Celsius.

**1.2**        **Definition:**

**1.2.1**       **Extreme Cold Weather Mukluk Assembly:** For the purpose of this document, the extreme cold weather mukluk assembly is defined as a left and right boot (a pair) and includes all the following parts and components, all of which are required for the item to be functional:

- **Mukluk Shell:** For this requirement, the mukluk shell consists of the upper, vamp, outsole, heel and all sub-components such as, but is not limited to, the toe cap, counter, eyelet stay and facings, back strap, lasting insole, shank, foxing, midsole, cushion midsole. It is understood that some sole attachment methods, manufacturing processes, or overall designs may not utilize all of these sub-components;
- **Removable Liner:** Removable component that is inserted into the mukluk shell to contribute in overall fit and provide performance characteristics such as, but not limited to, thermal insulation and moisture management;
- **Footbed Components:** Removable or permanent component(s) that are found at the bottom of the inside of the mukluk shell to contribute to overall fit and provide performance characteristics such as, but not limited to, ventilation, insulation, cushioning, and moisture management;
- **Bottoming Components:** Permanent component(s) of the boot located below the featherline that add to the structure and functionality of the boot. This may include, but not be limited to the following: lasting insole, shank, midsole, cushion midsole, and outsole.
- **Laces:** Removable components of the boot that is used in the adjustment/closure system.

**1.3**        **Performance Requirements:** In specifying the different performance requirements, two levels of measurement will be used. These are defined as follows:

- **Essential:** An essential requirement is a criterion that **must** be met. The word "**must**" will be considered synonymous with essential; and
- **Desirable:** A desirable criterion describes a performance requirement where performance better than the stated essential level is deemed to have significant operational value. The word "**should**" will be considered synonymous with desirable.

**1.3.1** Performance criteria in this document have been organized as the following:

- Performance Requirements – Whole Boot (Section 2.0);
- Performance Requirements – Upper Materials (Section 3.0);
- Performance Requirements – Bottoming Components, Outsole, and Footbed Components (Section 4.0);
- Performance Requirements – Removable Liner (Section 5.0);
- Performance Requirements – Mandatory Components / Design Elements (Section 6.0); and
- Performance Requirements – Compatibility With Equipment and Clothing (Section 7.0).

**1.3.2** **Conformance of materials and performance:** Conformance of materials and performance to certain performance requirements of this specification will require the submission of test results from accredited independent laboratories or Certificates of Compliance (C of C). Refer to Annex D, Annex F, and Annex K for details. When certificates of compliance are submitted, the Government reserves the right to inspect and test such items to determine the validity of the certification.

**1.3.2.1** Unless otherwise stated, test results must reflect testing completed on finished goods defined as, but not limited to whole boots, components (boot shells, removable liners, insoles, laces) or yard goods.

**1.3.3** This system may be considered by DND as a baseline for extreme cold weather footwear systems in the future.

## **2.0 PERFORMANCE REQUIREMENTS – WHOLE BOOT**

**2.1** **General:** The PIECWM Assembly design **must** incorporate fabrics and materials to ensure the foot (to ankle height) remains dry from exterior sources. Materials used in the production of this item are expected to be of standard commercial practice but must be modified, if necessary, in order to meet the needs and requirements of CF members in the environment for which the item is intended. It is expected that all materials used to meet the Performance Specification will hold up under the extreme conditions found in Field, Garrison and Combat operations conducted under extreme conditions described below. Materials should be selected to optimize the overall boot performance for the given environment, not specifically address a single measure of performance (i.e., weight, comfort, water absorption, etc.). The quality and workmanship of the item is expected to exceed that found in the commercial market, given the environment for which the item is intended. Any design utilized must be production-ready utilizing conventional mass production methods.

2.1.1 The PIECWM Assembly **must** meet the requirements of Canadian Forces operating in consistently changing terrain, such as snow, sleet, slush, wet snow and immersion in streams, puddles, marshes or swamps, and dry, sub and high arctic winter conditions, with temperatures ranging from 0°C to -51°C with extreme winds (from 8 m/s (28.8 km/h) to 10 m/s (32.8 km/h)) and humidity (tending to saturation).

2.1.2 The PIECWM Assembly **must** allow the user to carry out a full range of tasks, including, but not limited to, dismounted mobility (marching with/without the aid of snowshoes, or skis and bindings) and the safe operation of multiple pattern military vehicles and over-snow machines.

2.1.3 The PIECWM Assembly **must** prevent the foot (to ankle height) from becoming wet from exterior sources such as slush, wet snow or snow when worn for eighteen (18) hours per day and must provide protection from the elements while permitting the transfer of body moisture to the outside of the boot.

2.1.4 Removable materials used in the PIECWM Assembly **must** allow the soldier to replace wet components during operations and dry out the complete system in a tent using limited heat sources such as a lantern and portable cooking stove.

**2.2** **Colour:** Colour of finished product on finished boots **must** meet requirements as detailed below. Metamerism must be no greater than that exhibited by the referenced Sealed Pattern.

**2.2.1** **Upper:**

**2.2.1.1** The colour requirements for the upper components **must** be CADPAT™ WO (Winter Ops) in accordance with **Annex C** (DSSPM 2-2-80-502 (Chromaticity Coordinates and Luminance and Specular Gloss)) and in accordance with Sealed Pattern DSSPM 258-09P.

**2.2.1.1.1 Deviation for colour white Annex C** (DSSPM 2-2-80-502): For this requirement, the chromaticity coordinates and luminance for colour white are revised in **Annex C** (DSSPM 2-2-80-502) to the following:

Property		Test Method	Specified Requirement	Minimum Acceptable	Maximum Acceptable
Chromaticity Coordinates and Luminance	White	ISO 7724 / 1,2,3  D65, 10° observer, specular component included	L* = 93.88 ( <b>max</b> )  a* = -0.42  b* = -0.15		Delta E ( $\Delta E$ ) $\leq 3$

**2.2.1.1.2** Note that in **Annex C** (DSSPM 2-2-80-502) specifically in the table included after paragraph 3.3.3, that the specified requirement for luminance of white (L\* = 93.88 (**max**)) is the recommended maximum value in order to meet the overall CADPAT™ WO requirement to obtain the Delta E. Note that there are no minimum or maximum acceptable values for a\* or b\* for the colour white or for L\*, a\*, or b\* for the colour grey.

2.2.1.2 **Near Infra-Red Reflectance:** The near infra-red reflectance should conform to the minimum acceptable requirements for white and grey in accordance with **Annex C** (DSSPM 2-2-80-502).

2.2.1.3 **Ultra-Violet Reflection:** The ultra-violet reflection should conform to the minimum acceptable requirements for white and grey in accordance with **Annex C** (DSSPM 2-2-80-502).

2.2.2 **Bottoming components:** The bottoming components of the PIECWM Assembly **must** be either white or grey. If white, the finish **must** not contain optical brighteners.

2.2.3 **Fittings:** The colour of any of the fittings (laces, eyelets, webbing, thread) of the ECMW Assembly **must** be either white or grey. If white, the finish **must** not contain optical brighteners.

2.2.4 **Components:** The colour of any components used on the inside of the PIECWM Assembly **should** be white **or** grey. If white, the finish **must** not contain optical brighteners.

2.3 **Weight:** The maximum weight of one boot of a pair of Mondopoint 260/110 sized PIECWM Assembly including its associated components **must** not exceed 1350 grams. Weighing **must** be completed on left and right boots of one pair and the result averaged. The sample must be pre-conditioned at 20 degrees Celsius (tolerance (+/- 2 degrees Cel.) with a 65% relative humidity (+/- 2.0%) for a minimum of 24 hours.

2.4 **Height:** The minimum height **must** be 12 inches (30.5 cm) and the maximum height **must** be 13-1/2 inches (34.3 cm), not including the adjustable closure system as defined in paragraph 2.4.1. Height **must** not include the height of the snow cuff outlined in paragraph 2.4.1. The height may be graded proportionally to the size. Height **must** be measured on the inside of the mukluk assembly (fully assembled with removable liner and insole(s)) from the bottom of the heel on a level surface to the highest point on the upper shaft (at the seam where the upper and snow cuff meet) on a Mondopoint 260/110 sized PIECWM Assembly.

2.4.1 **Adjustable Snow Cuff:** The PIECWM Shell **must** include a snow cuff with an adjustable closure system at the upper edge of the shaft that **must** keep snow from entering the inside of the boot. The height of the snow cuff **must** not interfere with the movement at the knee. The adjustable closure must ensure easy adjustment and consistent closure to ensure a good seal to prevent the ingress of snow.

## 2.5 **Water Ingress / Water Egress:**

2.5.1 **Whole Boot Leakage Test:** Finished boots **must** be tested and pass in accordance with the whole boot leakage test outlined in paragraph 8.2.

2.5.2 **Water Repellence and Resistance:** Performance requirements for water repellence and water resistance of the upper material(s) are outlined in paragraphs 3.1.4 and 3.1.5 **must** be met.

2.5.3 **Moisture Vapour Transmission Rate:** The materials used in the PIECWM Assembly **must** provide protection from the elements while permitting the transfer of body moisture to the outside of the boot. When tested in accordance with the whole boot moisture vapour transmission rate (MVTR) test outlined in paragraph 8.3, the minimum MVTR **must** be 2.5 grams/hour.

## 2.6 **Drying Rate:**

2.6.1 **Mukluk Shell and Footbed Components:** When tested in accordance with the drying rate test outlined in paragraph 8.4, the materials used in the mukluk shell and footbed components of the PIECWM Assembly **must** be 90% dry in less than ten (10) hours.

2.6.2 **Removable Liner:** When tested in accordance with the drying rate test outlined in paragraph 8.4, the materials used in removable liner **must** be 85% dry in less than six (6) hours.

2.7 **Thermal Rating:** In accordance with the whole boot foot thermal rating test CTT/PTC-1 (refer to paragraph 8.5 for additional details), the average test results **must** be a minimum -50° Celsius to -60° Celsius.

## 2.8 **Ease of Ignition:**

2.8.1 **Removable Liner:** When tested in accordance with CAN/CGSB-4.2 No. 27.4, the removable liner **must** have a mean ignition time of not less than 4 seconds.

2.9 **Microbial Resistance:** The materials used in the removable liner as well as the materials used in the footbed components **must** have anti-bacterial and anti-fungal protective properties that last throughout the life span of the components. The anti-microbial product(s) must be acceptable for use on textile substrates. The product(s) or active ingredient(s) used to impart the anti-microbial finish must have a Pest Control Product Registration Number that has been issued by the Pest Management Regulatory Agency of Health Canada or be an Environmental Protection Agency (EPA)-registered antimicrobial. If the active ingredients do not require a Pest Control Product Registration Number from the Pest Management Regulatory Agency of Health Canada or registration with EPA, they must have been tested to show that they are safe for humans and pets (with no irritation to skin or eyes, no toxicity, and no skin sensitization) and the finished goods must not require special disposal instructions due to environmental issues.

## 2.10 **Exposure to Chemicals:**

2.10.1 After limited exposure (i.e. splashing) from the following chemicals, the materials used in the PIECWM Assembly **must** not dissolve, disintegrate or be absorbed, resulting in changes in degradation (see definition in paragraph 2.10.2) or minimally affecting end item/component performance.

- a. Salt Water in accordance with CAN/CGSB-4.2 Method 21 (paragraph 4.5);
- b. Road Salt Mixture (solid, 77% minimum calcium chloride (type S, Grade 1) in accordance with ASTM D98, dissolved in water to make a 1:4 ratio mixture of road salt to water;
- c. Degreasers, cleaning agent (methyl ethyl ketone 99.8% assay); and
- d. Lubricating Oil: SAE Grade 50 (military grade 1100, commercial grade 100) in accordance with SAE J1966\*6.

2.10.2 **Definition of changes in degradation.** After exposure to the chemical using the test procedure outlined in paragraph 8.6, the materials **must** not have any changes resulting in degradation affecting end item/component performance. Examples of changes in degradation would be pitting, decomposition, clouding, crazing, cracking, and delamination of materials (defined as

separation, bubbling, cracking, or holes between layers of material), dissolving of the material(s) and disintegration of the material(s). Refer to paragraph 8.6 for additional details on number of specimens, amount of test chemical, and test procedure.

2.11 **Seams.** Seams must be tested after exposure to chemicals for leakage. Test conditions are maintained at 68.95 kPa (10.0 psi) for ten minutes using the equipment required for CAN/CGSB-4.2 Method 26.5. For all chemicals tested, there must be no leakage.

### 3.0 PERFORMANCE REQUIREMENTS – UPPER MATERIALS

#### 3.1 **Performance - General**

3.1.1 **Upper Material(s)**: The material(s) used in the uppers must retain its' fit, form and function characteristics after cycles of exposure to the climatic conditions outlined in paragraph 2.1.1 throughout the service life of the PIECWM Assembly.

3.1.2 **Breaking Strength**: When tested in accordance with CAN/CGSB-4.2 Method 9.2, the minimum breaking strength of the upper materials **must** be 1500 Newtons (warp) and 1000 Newtons (fill).

3.1.3 **Tearing Strength**: When tested in accordance with CAN/CGSB-4.2 Method 12.1, the minimum tearing strength of the upper materials **must** be 150 Newtons in both the warp and fill directions.

3.1.4 **Water Repellence**: When tested in accordance with CAN/CGSB-4.2 Method 26.2, the minimum spray rating for the shell fabric **must** be 100 (initial) and 80 (after three (3) washes). Washing and drying procedures **must** be in accordance with CAN/CGSB-4.2 Method 58-2004:

- Washing Procedure: III (Medium Temperature 50 deg. Celsius.);
- Drying Procedure: E (Tumble Dry, 66 deg. Celsius.)).

3.1.5 **Water Resistance**: When the shell fabric is tested in accordance with CAN/CGSB-4.2 Method 26.5 after exposure to a pressure of 10 psi for ten (10) minutes, the results **must** show no leakage.

3.1.6 **Seam Sealing Tape**: If seam sealing tape is used, it must be compatible with the upper materials and support the performance requirements for the whole boot. It must not unduly increase the stiffness of seams and/or whole boot. The same applies to seam joints and crossover points. The boot manufacturer must work with the seam sealing tape supplier to insure that application of the tape follows their recommended procedures.

### 4.0 PERFORMANCE REQUIREMENTS - BOTTOMING COMPONENTS, OUTSOLE, AND FOOTBED COMPONENTS

4.1 **Performance – General**: Outsoles **must** be made using compounds and a tread pattern which provides traction and stability to the user on all surfaces under temperature conditions ranging from 0°C to -51°C. The tread pattern **must** be a design which provides traction in snow (with soft and

hard packed surfaces), mud, and gravel/dirt, which facilitates movement on steep angles while ascending or descending, on uneven, loose and soft surfaces, which enhances both traction and breaking control, which has an anti print-through bottom design for ascending or descending ladders and vehicles, and which minimizes the clinging and build-up of snow, ice, and mud and prevents the collection and dispersion of small objects (stones, nails, screws, etc) that can contribute to Foreign Object Damage (FOD). The area directly under the foot/heel **must** be finished smooth, free of voids or material, which may collect moisture.

#### 4.2 **Shore Hardness and NBS Abrasion:**

4.2.1 **Shore Hardness:** When slabs are tested in accordance with ASTM D2240, the outsole material **must** have a level of hardness compatible with the expected performance of the boot. The average of the values from the specimens tested **must** be a minimum Shore A Hardness of 50.

4.2.2 **NBS Resistance:** When slabs are tested in accordance with ASTM D1630, the outsole material used **must** have good abrasion resistance to last for the expected life span of the boot. The average of the values from the specimens tested **must** be a minimum NBS Abrasion of 200.

4.3 **Slip resistance:** Whole boots must be tested in accordance with SATRA TM144 using rough ice as the surface under frosted conditions. Each boot (left and right) of two pairs of finished boots **must** be tested. The applied vertical force **must** be 500 Newtons.

4.3.1 Footwear **must** be tested for forward heel slip. When the footwear is tested, the average test results for forward heel slip (first run on a fresh track) completed on two boots **must** be a minimum of 0.35  $\mu$ .

4.4 **Non-Marking:** The bottoming material **should** be non-marking when tested in accordance with SATRA TM223.

4.5 **Lug Depth:** When measured in accordance with the Figure 1, the lug depth or cleat height ( $d_2$ ) for any part of the sole **must** be a minimum of 4.0 mm. The measurement **must** be taken at the widest point in the outsole.

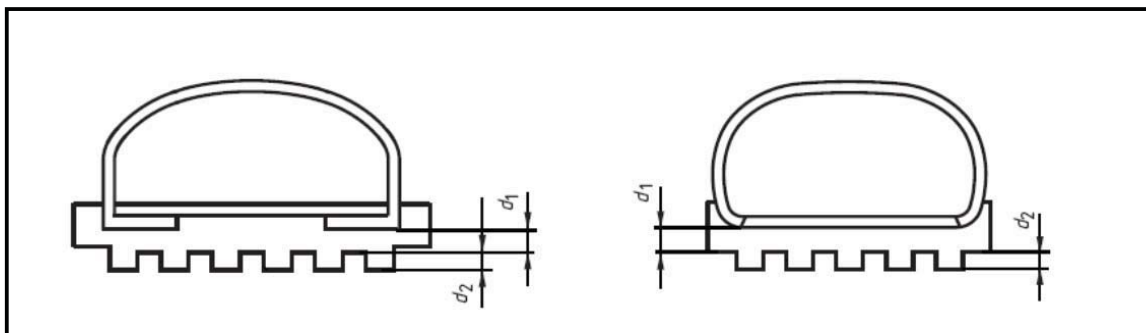


Figure 1 - Lug Depth/Cleat Height

#### 4.6 **Performance Requirements – Footbed**

4.6.1 **General - Footbed**: The footbed is defined as the inner part of the shoe that is located below the foot but not considered the bottoming components or the outsole. For this requirement, the footbed components could consist of (but is not limited to) a combination of ventilating, insulating, or cushioning insoles.

4.6.2 **Performance**: The design and materials used in the footbed **must** provide the following features and performance:

- a. Footbed components **must** allow for the absorption and quick dissipation of any excess perspiration in both liquid and solid (frozen) forms;
- b. The components **must** provide protection from possible heat loss via the bottoming components and outsole; and
- c. Those components that are removable **should** be washable with minimum shrinkage (maximum of five per cent (5%) in either direction) on wetting.

#### 5.0 **PERFORMANCE REQUIREMENTS – REMOVABLE LINER**

5.1 **General – Removable Liner**: The PIECWM Assembly **must** incorporate materials that provide insulation and moisture management to the foot. The removable liner **must** aid in preventing skin maceration, irritation, and blisters on the foot. The foot entrance/openings of the removable liner **must** be large enough to avoid tearing and ensuring easy donning in the dark with limited or no light source. All joints and seams **must** be finished using a method that has high seam strength, however does not cause any discomfort to the user.

5.2 **Performance**: The design and materials used in the removable liner **must** provide the following features and performance:

- a. The removable liner **must** be a two-layer system. Each layer of the removable liner **must** be able to detach from each other. The materials and method used in attaching/detaching system **must** prevent a pressure point in the course of operational issue;
- b. The removable liner **must** be flexible to facilitate packing of a spare set into the limited space of a soldiers' large field pack assembly. The overall measurements of the rucksack portion of the assembly are 27 inches (68.6 cm) in height, 17 inches (43.2 cm) in width, and 10 inches (25.4 cm) in depth;
- c. The removable liner **must** be interchangeable, launderable, and expedite drying under operational field conditions with minimal to no heat sources; and
- d. The use of foam as the material providing thermal resistance is not permitted. Closed cell foam may be used in small quantities as an aid in fitting as long as it does not affect any other performance characteristics.

## 6.0 PERFORMANCE REQUIREMENTS – MANDATORY COMPONENTS / DESIGN ELEMENTS

6.1 **Adjustment:** The PIECWM Assembly **must** include an adjustment/closure system that includes the use of eyelets and laces. The PIECWM Assembly **must** have flat laces of sufficient length to ensure firm closure and easy adjustment. The design of the PIECWM Assembly **must** allow for adjustment to secure the user's foot in place and provide support to the instep, heel, skin, Achilles tendon and ankle joint while not interfering with the range of motion required to complete operational tasks but not create any pressure points on the top of the foot when carrying out normal operations.

6.1.1 All adjustment systems **must** be functional with gloved hands. See paragraph 7.2 for additional information about hand wear.

6.2 **Heel bar.** In order to better secure the strap of the snowshoes at the back of the heel, the PIECWM Shell **must** have a heel bar that provides a secure notch for the heel strap of a snowshoe.

## 7.0 PERFORMANCE REQUIREMENTS - COMPATIBILITY WITH EQUIPMENT AND CLOTHING

7.1 **Extended Combat Sock System:** During the conduct of winter operations, the PIECWM Assembly will be worn as daily footwear in conjunction with the extended Combat Sock System (CSS) consisting of a wicking liner, hot weather sock, temperate sock, and an extreme cold weather sock. Examples and technical information pertaining to the CSS are available upon request.

7.2 **Hand Wear:** Soldiers will be wearing the Extreme Cold Weather Mitten system with the Lightweight Thermal Glove worn as a liner glove. When adjusting the PIECWM Assembly, soldiers will remove the mitten system and wear only the lightweight thermal glove to increase tactility and dexterity. Examples and technical information pertaining to the Extreme Cold Weather Mitten system and Lightweight Thermal Glove are available upon request.

7.3 **Clothing:** The PIECWM Assembly **must** be able to be worn with the following clothing. Technical information pertaining to the garments below is available upon request.

- Worn inside the upper/shaft of the boot:
  - Trousers, Converged Lightweight Combat or Trousers, Enhanced Combat Uniform; or
  - Sweatpants, Fleece, Integrated Clothing Ensemble.
- Worn outside the upper/shaft of the boot:
  - Trousers, Converged Combat Rain Suit;
  - Trousers, Wet Weather, Integrated Clothing Ensemble;
  - Bib Overalls, Extreme Cold Weather, Integrated Clothing Ensemble; and
  - Trousers, Snow Camouflage.

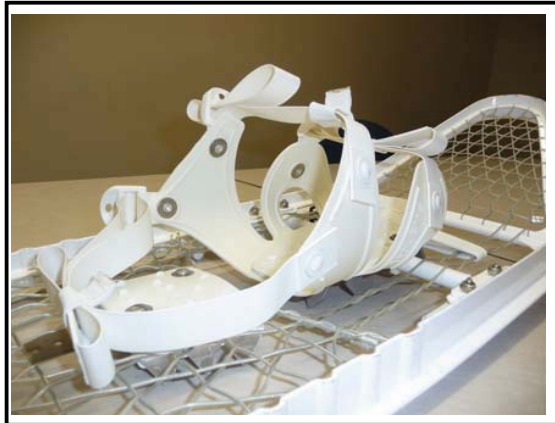
**7.4 In Service Snowshoes and Bindings:** The PIECWM Assembly **must** be compatible with the Canadian Forces in-service snowshoe assemblies. Examples and technical information pertaining to the snowshoes and bindings are available upon request



In-Service Snowshoe and Binding (Left Side View)



In-Service Snowshoe and Binding (Back View)



In-Service Snowshoe Binding (Rear Right Side View)



In-Service Snowshoe and Binding (Top Right Side View)

## 8.0 ADDITIONAL INFORMATION FOR PERFORMANCE TESTS:

**8.1** In addition to the performance testing outlined, the materials used in the PIECWM Assembly **must** be tested as per paragraphs 8.2 to 8.6.

**8.2 Whole Boot Leakage Test:** A whole boot leakage test **must** be performed on one pair of finished boots as outlined in paragraph 8.2.2. As the requirement of the PIECWM Assembly is to prevent the foot (to ankle height) from becoming wet from exterior sources such as slush, wet snow or snow when worn for eighteen (18) hours per day and **must** provide protection from the elements while permitting the transfer of body moisture to the outside of the boot (as stated in paragraph 2.1.3), the top edge of the test piece (see paragraph 8.2.2.1.2) **must** measure at ankle height when the boot is worn. A photograph showing the top edge of the test piece **must** be included in the test report.

8.2.1 A minimum of one per cent (1%) of each lot of finished boots during production must be tested for leakage in accordance with paragraph 8.2.2. It must be demonstrated that a minimum of ninety-five per cent (95%) of the tested boots passed the leakage requirement.

8.2.2 **Apparatus.** A water bath, a supply of compressed air and a rubber collar through which compressed air must be fed via appropriate connections.

8.2.2.1 **Procedure.**

8.2.2.1.1 Carry out the test at a temperature of 23°C (tolerance of  $\pm 2^\circ\text{C}$ ).

8.2.2.1.2 Seal the top edge of the test piece with a rubber collar through which compressed air must be fed via appropriate connections. Immerse the test specimen in a water bath up to the edge and apply a constant internal pressure of  $(10 \pm 1)$  kPa for 30 seconds. Observe the test piece throughout the test and determine whether there is a continued formation of air bubbles, indicating leakage of air.

8.2.2.1.3 **Result.** A “pass” for this test means that no air bubbles have formed.

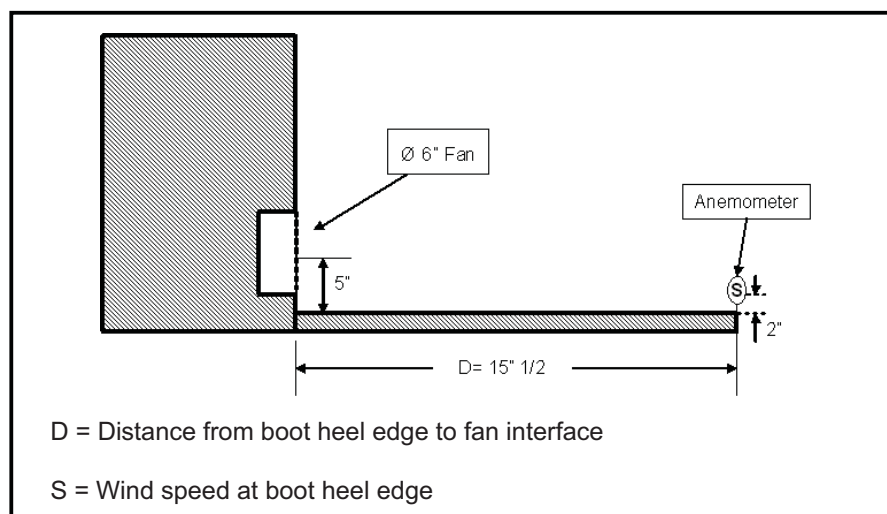
8.3 **Moisture vapour transmission.** Each boot (left and right) of two (2) pairs of finished boots must be tested in accordance with paragraph 8.3.1. One source of this test is: Precision Testing Laboratories (313 Hill Avenue, Nashville, Tennessee, USA 37210, Telephone: (615) 254-3401, Fax: (615) 254-3488, Email: vpsales@precisiontesting.com).

8.3.1 **Moisture vapour transmission rate (MVTR) test.** The boot breathability test must be designed to indicate the Moisture Vapour Transmission Rate (MVTR) through the boot by means of a difference in temperature and concentration of moisture vapour between the interior and the exterior environment.

8.3.1.1 **Apparatus.**

- a. The external test environment control system must be capable of maintaining 23 °C ( $\pm 1^\circ\text{C}$ ) and 50 percent ( $\pm 2$  percent) relative humidity throughout the test duration;
- b. The weight scale must be capable of determining weight of boots filled with water to an accuracy of plus or minus 0.01 gram;
- c. The Water Holding Bootie Insert (WHBI) must be
  - Flexible so that it can be inserted into the boot and conform to the interior contours;
  - It must be thin enough so that folds do not create air gaps;
  - In accordance with ASTM E96 Method B (see Note 1), it must have a MVTR value ranging between 920-990 grams/square meter/24 hours; and
  - It must be waterproof so that only moisture vapor contacts the interior of the footwear product rather than liquid water; and
  - After every five (5) uses of the WHBI it will be disposed of and replaced.

- d. The water circulating bath system for the boot must be capable of controlling the temperature of the water uniformly in the boot to 35 °C ( $\pm 1$  °C) as measured in the toe area of the boot;
- e. The footform assembly used with the water circulating bath system must have a boot plug positioned 12.5 centimeters (5.0 inches) as measured from the bottom of the plug surface to the inside sole in the heel area;
- f. The boot plug must be oval shaped measuring 8.9 cm by 6.3 cm (3.5 in by 2.5 in);
- g. The top of the boot must be sealed to create an impervious barrier to both liquid water and water vapour;
- h. Boots should be laced to the top of the lacing system. Allow for 25.4 mm ( $\pm 12.7$  cm) (1 inch ( $\pm 0.5$  inch)) separation between lateral and medial eyelet stays, with possible exception of the eyelets at the top of boot and boot plug area. Maximize seal security at top of boot;
- i. A stationary 15.2 cm (6.0 in) diameter fan must be used to create the air current past the boot;
- j. The stationary fan must be positioned perpendicular to the test surface and be raised so the center of the fan is 12.7 cm (5.0 in) from the test surface;
- k. The air current origin must be 39.4 cm (15.5 in) from the back heel edge of the boot (D). Refer to Diagram 1;



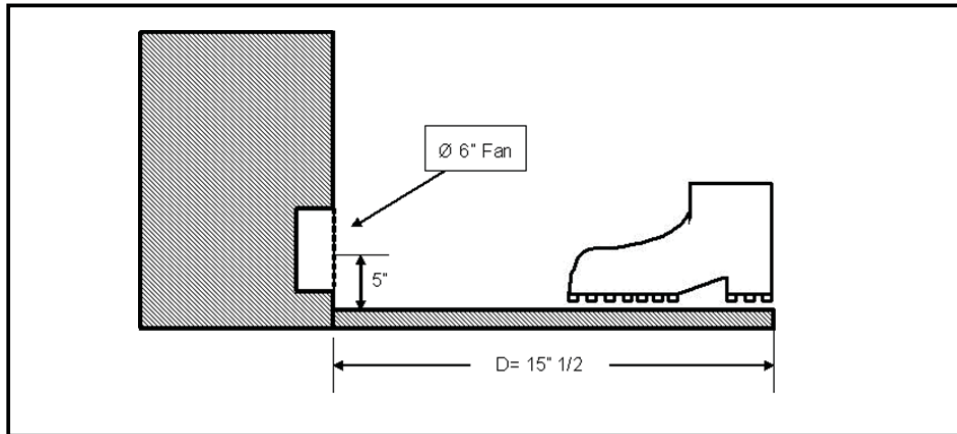
**DIAGRAM 1. Whole Boot Breathability Bench-top Set-Up with Boot**

- i. The air current must be 250 feet/minute ( $\pm 30$  feet/minute) at the heel edge of the boot (S). Measurement must be taken without the boot assembly in place 5.1 cm (2.0 in) up from the test surface at the fan center.

**Note 1:** Determine MVTR in accordance with ASTM E96 Method B with either side of the test membrane facing the water. The free stream air velocity must be 550 feet/minute ( $\pm 50$  feet/minute) as measured 5.1 cm (2.0 in) above the specimen. The airflow must be measured at least 5.1 cm (2.0 in) from any other surface. The test must be run for 24 hours and weight measurements must be taken at only the start and completion of the test. At the start of the 24-hour test period, the air gap between the water surface and the specimen must be 19 mm ( $\pm 1.5$  mm) (0.75 inches ( $\pm 0.06$  inches)).

#### 8.3.1.2 Procedure.

- a. Remove the removable cushion insert from the boot sample;
- b. Weigh boot sample and record (this will be the unconditioned weight);
- c. The boot must be conditioned in the test environment for a minimum of 12 hours before testing;
- d. Insert WHBI and footform assembly into boot opening and fill with water preheated to 35°C ( $\pm 1$  °C) to a height of 12.5 cm (5 in) as measured from the inside sole in the heel area and seal opening with boot plug. The water should be in contact with the bottom of the boot plug;
- e. Regulate water temperature in boot at 35°C ( $\pm 1$  °C);
- f. Disconnect water circulating system and weigh boot assembly and record as  $W_i$ . The water volume in system must be noted at the time of weighing;
- g. After weighing reconnect water circulating system and maintain the temperature in boot at 35°C ( $\pm 1$  °C) for 6 hours ( $\pm 5$  minutes);
- h. The boot assembly must be oriented such that the boot sole lies flat on the testing surface with the heel furthest from the fan interface and in line with the center of the stationary fan (see Diagram 2);



**DIAGRAM 2. Whole Boot Breathability Bench-top Set-Up with Boot**

- i. After 6 hours ( $\pm 5$  minutes), reweigh boot assembly. The water volume in system must match the noted  $W_i$  volume. Record weight as  $W_f$  and test duration as 6 hours;
- j. Compute whole boot MVTR in grams/hour from the equation below:  

$$\text{MVTR} = \frac{W_i - W_f}{6}$$
- k. If test is aborted for any reason, thoroughly dry boot to within 5 grams of original boot weight (Step b). Recondition boot sample in test environment for the required length as outlined, and begin test procedure again.

8.3.1.3 **Result:** The mean whole boot MVTR from the two boots of each test pair must be a minimum of 2.5 grams/hour.

8.4 **Drying Rate:** Components (mukluk shell, removable liner, and insole(s)) of each boot (left and right) of two (2) pairs of finished boots **must** be tested in accordance with CTT Drying Rate Test and paragraph 8.4.1. Manufacturers **must** instruct the test laboratory how the component is intended to be dried by the user in operational conditions. The test laboratory **must** note these instructions on the test report. The source of this test is Group CTT (3000, rue Boullé, St-Hyacinthe, Quebec Tel: (877) 288-8378).

8.4.1 **Procedure:** Pre-condition sample at 21° Celsius and 65% relative humidity. The inside of the mukluk shell **must** be wetted with 20 grams of sprayed, distilled water. The surface of the applicable footbed component and the removable liner that will touch the foot **must** be wetted with 20 grams of sprayed, distilled water.

8.4.2 The removable liner **must** be hung free in climatic chamber while the mukluk shell and footbed components **must** be placed flat on a level surface. The chamber **must** be set at 5 degrees Celsius and 55% relative humidity. Minimum test duration is six (6) hours.

8.4.3 **Results:** The results **must** show the rate of drying (grams/hour) and the percentage of dryness by hour per component set.

**8.5**        **Foot Thermal Rating:** The right boot of two pairs of finished boots **must** be tested in accordance with CTT/PTC-1 and the procedures outlined in paragraph 8.5.1. The source of this test is Group CTT (3000, rue Boullé, St-Hyacinthe, Quebec Tel: (877) 288-8378).

**8.5.1**       **Procedure:** Pressure applied to the foot model must be 35 kg of force. Target specific power must be 250 W/m (+/- 5%). Test duration must be 228 minutes. Starting temperature must be -1 degrees Celsius (+/- 1° Cel.) with air motion. Temperature must increase in steps to -61 degrees Celsius (+/- 1° Cel.). Cells 1 to 6 must be taken into consideration for test results. Cells 7 and 8 must be plugged.

**8.5.2**       **Results:** The average test results must be a minimum -50 degrees Celsius to -60 degrees Celsius.

**8.6**        **Test Procedure For Exposure To Chemicals** . Only materials utilized on the outside of the mukluk shell (including outsole materials) must be tested. Two (2) specimens of each material **must** be tested separately to each chemical. The chemicals **must** be placed on the side of the material that is intended to be the outer face side.

**8.6.1**       Size of the specimens must be 100 mm by 100 mm for the upper material(s) and 25 mm by 50 mm by 2.0 mm (tolerance +/- 0.1 mm) for all polymers. Size of the specimens for the seams must be as specified in CAN/CGSB-4.2 Method 26.5.

**8.6.2**       For all chemicals, four (4) drops each of test chemical **must** be placed on the top of the test specimen. The whole test area **must** then be covered with a glass plate and weighted to a total pressure of 6.895 kPa (1 psi). This weighted cover **must** be left in place for one (1) hour.

**8.6.3**       The material sample **must** then be visually examined for changes resulting in the degradation of materials in accordance with paragraph 2.10.2.

## **9.0        SIZING**

**9.1**        Size requirements for the delivery of PIECWM Assemblies (mukluk shells, removable liner, insole(s), and laces) will be as detailed in the Request for Proposal (RFP) or other contractual or solicitation documentation issued by PWGSC.

**9.2**        The PIECWM must be manufactured using the Mondopoint size system in accordance with ISO 9407.

**9.3**        **Sizing of PIECWM Assembly:** The Contractor must produce the complete PIECWM assembly (mukluk shell, removable liner, and insole(s)) in accordance with the DND size requirement as listed in Table 2.

**Table 2 – Size Range For Product Improved Extreme Cold Weather Mukluk Assembly**

Size	Size	Size
220/86	260/102	290/122
220/94	260/110	300/110
230/90	270/98	300/118
230/98	270/106	300/126
240/94	270/114	310/114
240/102	280/102	310/122
250/90	280/110	320/118
250/98	280/118	320/126
250/106	290/106	
260/94	290/114	

9.4 **Additional Anthropometric Information:** The Department of National Defence (through Defence Research and Development Canada (DRDC)) uses the Anthropometric Survey of the Land Forces 1997 as a guide in helping determine sizing for clothing and equipment. This document is available upon request.

9.4.1 Three measurements found in the Anthropometric Survey of the Land Forces 1997 that may be of interest for the PIECWM assemblies are identified in Table 3. Landmark definitions are identified in the text of the survey.

**Table 3 – Additional Anthropometric Information**

Measurement	Female (5%)	Female (95%)	Male (5%)	Male (95%)
Calf Circumference (mm)	330.00	435.00	345.00	433.25
Calf Height (mm)	300.00	362.70	316.00	386.00
Lateral Malleolus Height (mm)	54.65	71.00	64.00	80.25

9.5 **Tooling:** Patterns, grading, lasts, moulds, dies, and any associated equipment required to manufacture the PIECWM Assembly in accordance with the sizes and quantities designated in the contract **must** be the responsibility of the Contractor.

## 10.0 LABELLING

10.1 On the inside of each mukluk shell, the information prescribed below **must** be provided in English and French, legibly, indelibly, and in a method which does not jeopardize waterproof integrity, cause discoloration, or create any pressure point for the user. NATO Stock Numbers (NSN) will be forwarded at contract award. The marking must give the following information, printed in characters not less than 1/8-inch (3.2 mm) or more than 1/4-inch (6.4 mm) in height, with the exception of the size, which must be twice the size of the other characters:

- Short nomenclature (CF Extreme Cold Weather Mukluk / Mukluk, Froid Extrême, FC);
- NATO Stock Number, Mondopoint Size and corresponding Imperial Size;

- c. Contractors name, initials or recognized trademark;
- d. Contract number and month and Year of manufacture; and
- e. One line designated as "ID" appropriate for the users to write their name.

**Example:**

CF Extreme Cold Weather Mukluk  
Mukluk, pour temps froid extrême, FC  
NSN/NNO: **8430-20-XXX-XXXX**  
**Size/Pointure: 260/102 (9M)**  
Canadian Footwear Manufacturer Inc.  
W1234-567890 Jan 2014  
  
ID: \_\_\_\_\_

**10.2      Marking of removable pieces:** The size **must** be indelibly printed or embossed on the bottom of all components (with the exception of the laces). Printed labels that are glued on or stitched are acceptable as long as it does not create a pressure point for the user.

**10.3      PIECWM Assembly Hang Tag:** With each pair of PIECWM Shells, the manufacturer **must** provide a hang tag that describes design characteristics and care and cleaning instructions for the boot in both English and French.

**10.4      Laces:** Each pair of PIECWM Shells **must** be supplied with a pair of laces. The boots must be laced by threading through the lower portion of the front closure at the very least and loosely tied, joining the boot pairs together.

**10.5      Company Logo:** The manufacturer's logo may be identified on the PIECWM Shells providing it is with subdued colours and in a location approved by the DND Technical Authority.

**11.0      SHELF LIFE**

**11.1**      Warehouse conditions could vary from 0°C to +35°C with a relative humidity level varying from 15% to 90%.

- a. The PIECWM Assembly system (mukluk shell and components) must not require any maintenance during a two-year storage period.
- b. PIECWM Assemblies (mukluk shell and components), packaged in their original conditions, should withstand normal storage for a period of two years without any degradation in performance.

**12.0      PACKAGING**

**12.1**      Packaging must be in accordance with the following guidelines.

**12.1.1 Boot Shell:** Each matched pair (see para 10.4) must be laid flat and packaged in a polyethylene (or other transparent film) bag or envelope, made of material not less than one (1) mil thickness. The bags must be taped or stapled to effect closure.

12.1.1.1 The following must be legibly marked (labelled) on the outside of the bags.

NATO Stock Number (NSN) *	As specified on contract
Nomenclature (including size) **	As specified on contract
Quantity / Unit of Issue	1 pair

**12.1.2 Removable Liners and Insoles:** Items must be bulk packaged in sets of ten (10) pairs. Quantities must be packaged in a polyethylene (or other transparent film) bag or envelope, made of material not less than one (1) mil thickness. The bags must be taped or stapled to effect closure.

12.1.2.1 The following must be legibly marked (labelled) on the outside of the bags:

NATO Stock Number (NSN) *	As specified on contract
Nomenclature (including size) **	As specified on contract
Quantity / Unit of Issue	10 pairs

**12.1.3 Laces:** Items must be bulk packaged in sets of seventy two (72) pairs or one (1) gross. Quantities must be packaged in a polyethylene (or other transparent film) bag or envelope, made of material not less than one (1) mil thickness. The bags must be taped or stapled to effect closure.

12.1.3.1 The following must be legibly marked (labelled) on the outside of the bags:

NATO Stock Number (NSN) *	As specified on contract
Nomenclature (including size) **	As specified on contract
Quantity / Unit of Issue	72 pairs

**12.1.4 General:**

12.1.4.1 A quantity of packages, of the same NSN, must be packed into a corrugated fibreboard box conforming to Canadian General Standards Board (CGSB) specification CAN/CGSB-43.22-2001. Overall inside dimensions (length, width and depth added) must not exceed 1.5 metres (59 inches). The maximum weight of the box and contents must not exceed 18 kilograms (40 pounds). The box size and content quantity must be uniform for the duration of the contract.

12.1.4.2 Closure of the corrugated fibreboard box must be in accordance with CAN/CGSB-43.22-2001 (Appendix B).

12.1.4.3 On one end of each corrugated fibreboard box, stencilling or labelling in figures as large as practicable in relation to the space available must legibly mark the following information:

NATO Stock Number (NSN) *	As specified on contract
Nomenclature (including size) **	As specified on contract
Quantity (per box) / Unit of Issue	As applicable
Contract Serial Number	As specified on contract

12.1.4.4 On one side of each corrugated fibreboard box, stencilling or labelling in figures as large as practicable in relation to the space available must legibly mark the following information:

Consignee: As specified on contract

Consignor: Supplier's name or symbol

Case of cases: As applicable within each shipment

12.1.4.5 The last shipping container of each shipment must have affixed to the side on which the shipping instructions are contained (paragraph 12.1.4.4), an envelope containing the Packing List, Release Note, etc. This water-resistant envelope must be prominently marked "Packing List Enclosed" and must be securely affixed to the outside wall of the container.

12.1.4.6 Shipments must be palletized in uniform loads and strapped/secured on standard 4-way entry, 48-inch by 40-inch wood or fibreboard non-returnable pallets, to be supplied by the contractor. Total height, including pallet, must not exceed 47 inches.

12.1.4.7 NOTES:

\* Marking must be applied using Bar Code Symbolology UCC/EAN-128 with AI 7001, including HRI (in accordance with D-LM-008-002/SF-001)

\*\* Bilingual format - English/French

12.2 Unless otherwise specified, the preparation, packaging, and delivery of the PIECWM Assembly must be in accordance with the terms of the contract.

NOTICE



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

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 (WO)

[CANADIAN DISRUPTIVE PATTERN  
(WINTER OPERATIONS)]

SPÉCIFICATION

DCamC<sup>MC</sup> (H/A)

[DESSIN DE CAMOUFLAGE CANADIEN  
(HIVER/ARCTIQUE)]

1. SCOPE

**1.1 Scope.** This specification covers the technical performance requirements for colour, ultra-violet (UV) and Infra-red Reflectance (IRR) for CADPAT<sup>TM</sup> (WO), Canadian Disruptive Pattern Winter Operations. 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<sup>TM</sup>, with and without extensions, is a registered Trademark belonging to the Department of National Defence. Any of the data contained in this specification, and its associated pattern, may be used only for goods for Canada. The printed textile and any items made therefrom shall be for the sole end use of DND. There shall be no selling or offering for sale of goods incorporating the CADPAT<sup>TM</sup> pattern and colours to any person or entity other than Canada without the Minister's prior written authorization. Explicit in this is that any goods of not first quality produced 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,

1. PORTÉE

**1.1 Portée.** La présente spécification vise les exigences de rendement technique pour la couleur, la réflexion des ultraviolets (UV) et la réflectance dans l'infrarouge (RIR) pour le dessin de camouflage canadien (hiver/arctique) [DCamC<sup>MC</sup> (H/A)]. Elle est destinée à être utilisée, lorsque cela est prescrit, pour tous les tissus employés par les Forces canadiennes dans la confection des vêtements opérationnels et de l'équipement individuel. Tous les écarts autorisés par rapport aux exigences énoncées dans le présent document doivent être clairement définis dans les documents d'achat.

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

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.

## 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.

ISO  
Standards Council of Canada  
270 Albert Street, Suite 200  
Ottawa, ON  
K1P 6N7  
Telephone: 613-238-3222  
Email: [info@scc.ca](mailto:info@scc.ca)  
Website: [www.scc.ca](http://www.scc.ca)

CIE  
International Committee on Illumination (CIE)  
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

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## 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.

ISO  
Conseil canadien des normes  
270, rue Albert, pièce 200  
Ottawa (Ontario) K1P 6N7  
Téléphone : 613-238-3222  
Courriel : [info@scc.ca](mailto:info@scc.ca)  
Site Internet : [www.scc.ca](http://www.scc.ca)

CIE  
Commission internationale de l’éclairage (CIE)  
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

ASTM International  
P.O. Box C700  
West Conshohocken, PA  
19428-2959, USA  
Tel: 610-832-9585  
Email: [service@astm.org](mailto:service@astm.org)  
Internet : <http://www.astm.org/>

ASTM International  
P.O. Box C700  
West Conshohocken, PA 19428-2959  
ÉTATS-UNIS  
Téléphone : 610-832-9585  
Courriel : [service@astm.org](mailto:service@astm.org)  
Site Internet : [www.astm.org](http://www.astm.org)

**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 258-09P  
CADPAT™ (WO), independent of substrate. Sealed for colour guidance only.

#### 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 precedence.

### 3. REQUIREMENTS

**3.1 CADPAT™ (WO) Pattern.** The grey portion of the pattern is achieved by using the print screen for the Dark Brown colour in CADPAT™ (AR).

**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.

**2.3 Modèle réglementaire.** Des modèles réglementaires sont mis à la disposition des soumissionnaires et des entrepreneurs comme guide pour la production. Dans le cas du DCamC<sup>MC</sup>, le modèle réglementaire reflète la conception, le dessin, les motifs, les répétitions et la clarté qui sont requis.

DSSPM 258-09P  
DCamC<sup>MC</sup> (H/A), indépendamment du substrat.  
Modèles réglementaires fournis uniquement pour servir de guide des couleurs.

#### 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 préséance.

### 3. EXIGENCES

**3.1 Motif DCamC<sup>MC</sup> (H/A).** La partie grise du motif est obtenue en utilisant le pochoir d'impression pour la couleur brun foncé du DCamC<sup>MC</sup> (RA).

**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, Ultra-Violet (UV) Reflection and Near Infra-red Reflectance (IRR) Requirements.**

**3.3.1** Minimal flare when viewed under standard daylight, horizon, and fluorescent light for all colours is required.

**3.3.2 Print Quality.** Overall print quality must reflect good commercial standards, including factors such as uniformity of each colour, clarity, definition, evenness, sharpness, etc. Sealed Pattern DSSPM 258-09P reflects the minimum clarity, that is required.

**3.3.3 Colour, Ultra-Violet (UV) Reflection and Near Infra-red Reflectance requirements are stated in Table I.**

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

#### **3.3.5 Measurement Requirements.**

**3.3.5.1** All measurements for **colour** are to be made in accordance with ISO 7724/1,2,3 using CIE Standard Illuminant D 65 and a 10 degree observer, specular component included. These conditions of measurement must be followed and included in all test reports. A standard waveband interval is 10nm.

**3.3.5.2** All measurements for **ultra-violet and infra-red reflectance** are to be made in accordance with CIE publication 15.2 and ASTM E308 using CIE Standard Illuminant D 65 and a 10 degree observer, specular component included. These conditions of measurement must be followed and included in all test reports. A standard waveband interval is 10nm.

**3.3.5.3** 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.

**3.6 Piece Marking.** Unless otherwise specified,

### **3.3 Exigences relatives à la couleur, à la réflexion des ultraviolets (UV) et à la réflectance dans le proche infrarouge (RIR).**

**3.3.1** Les tissus doivent présenter un éclat minimal pour toutes les couleurs lorsqu'on les examine à la lumière du jour, contre l'horizon et sous une lumière fluorescente.

**3.3.2 Qualité d'impression.** La qualité d'impression globale doit refléter les bonnes normes commerciales, y compris les facteurs tels que l'uniformité de chaque couleur, la clarté, la définition, la régularité, la netteté, etc. Le modèle réglementaire DSSPM 258-09P reflète la clarté minimale requise.

**3.3.3 Les exigences relatives à la couleur, à la réflexion des ultraviolets et à la réflectance dans le proche infrarouge sont indiquées au Tableau I.**

**3.3.4 Fini.** Aucun fini ne sera appliqué pour stabiliser le tissu ou obtenir temporairement la couleur ou la RIR souhaitée, à moins qu'un tel fini ne soit prescrit dans la spécification relative au tissu.

#### **3.3.5 Exigences relatives aux mesures.**

**3.3.5.1** Toutes les mesures de couleur doivent être effectuées conformément à la norme ISO 7724/1,2,3 à l'aide de l'illuminant D 65 et d'un observateur à 10° de la CIE, composante spéculaire incluse. Ces conditions de mesure doivent être respectées et incluses dans tous les rapports d'essai. Un intervalle standard de bande de longueur d'onde est de 10 nm.

**3.3.5.2** Toutes les mesures de **réflectance dans l'ultraviolet et dans l'infrarouge** doivent être effectuées conformément aux publications CIE 15-2004 et ASTM E308.2008 à l'aide de l'illuminant standard D 65 et de l'observateur à 10° de la CIE, composante spéculaire incluse. Ces conditions de mesure doivent être respectées et incluses dans tous les rapports d'essai. Un intervalle standard de bande de longueur d'onde est de 10 nm.

**3.3.5.3** La préparation des échantillons pour toutes les mesures de couleur et de RIR doit être réalisée conformément à la procédure de mesure instrumentale n° 6 de l'American Association of Textile Chemists and Colorists (AATCC), A1.3, pour des échantillons non opaques. 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.

**3.6 Marquage des pièces.** Chaque pièce de tissu

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

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

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

#### 4. QUALITY CONTROL/INSPECTION

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

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

**4.3** Any requirement for test data to be presented at pre-contract award or at pre-production will be stated in

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
- (i) Numéro de nomenclature OTAN
- (j) Date de fabrication

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

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

### 6.2 Definition of terms

**6.2.1 Design Authority.** The Design Authority is the Government agency responsible for the technical aspects of the design and for changes to the design. The Design Authority for this requirement is the Directorate of Soldier Systems Programme Management (DSSPM), Department of National Defence.

**6.2.2 Quality Assurance Authority.** The Quality Assurance Authority is the Government agency responsible for providing assurance the materiel and services supplied by the contractor are in accordance with the terms of the contract. The Quality Assurance

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 envois textiles imprimés avec le dessin DCamC<sup>MC</sup> doivent être accompagnés de rapports de laboratoire fournis par le fabricant au sujet des mesures de la couleur et de la 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 contenants 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
- (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 Définition des termes

**6.2.1 Autorité responsable de la conception.** L'autorité responsable de la conception est l'organisme gouvernemental chargé des aspects techniques de la conception et des modifications connexes. Dans le cas des articles visés par la présente spécification, il s'agit de la Direction – Administration du programme de l'équipement du soldat (DAPES).

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

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

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 *exemples conceptuels 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 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 1: For Textiles Only

PROPERTY	TEST METHOD	SPECIFIED REQUIREMENT	MINIMUM ACCEPTABLE	MAXIMUM ACCEPTABLE
Ultra-Violet (UV) reflection <sup>note 1</sup> (at 350 nm)	White	CIE publication 15 and ASTM E308 specular component included	70% at 350 nm	62.5% at 350 nm
	Grey		NONE	77.5% at 350nm
Near Infra-red Reflectance (IRR) <sup>note 2</sup> (800 – 1200 nm)	White	CIE publication 15 and ASTM E308 specular component included	85% 800 - 1200 nm	75% 800 - 1200 nm
	Grey		25% 800 - 1200 nm	95% 800 - 1200nm
Specular Gloss (white and grey)	60°	ISO 2813		5 units
	85°			5 units
Chromaticity Coordinates and Luminance	White	ISO 7724/1,2,3 D65, 10° observer specular component included	L* = 93.88 (max) a* = -0.42 b* = -0.15	$\Delta E \leq 2$
	Grey		L* = 59.89 a* = 0.08 b* = 0.40	$\Delta E \leq 3$

**Note 1:** Use of optical brighteners to obtain the UV reflection is not recommended due to the adverse effect caused in the near infra-red region.

**Note 2:** The grey portion of the pattern is achieved by using the print screens for the dark brown colour in CADPAT<sup>tm</sup> (AR).

Tableau 1 : Pour les textiles seulement

PROPRIÉTÉ		MÉTHODE D'ESSAI	EXIGENCE PRESCRITE	MINIMUM ACCEPTABLE	MAXIMUM ACCEPTABLE
Réflexion des ultraviolets (UV) <sup>note 1</sup> (à 350 nm)	Blanc	Publications CIE 15-2004 et ASTM E308 Composante spéculaire incluse	70 % à 350 nm	62,5 % à 350 nm	77,5 % à 350 nm
	Gris		AUCUN	AUCUN	AUCUN
Réflectance dans le proche infrarouge (RIR) <sup>note 2</sup> (800 – 1200 nm)	Blanc	Publications CIE 15-2004 et ASTM E308 Composante spéculaire incluse	85 % 800 – 1 200 nm	75 % 800 – 1 200 nm	95 % 800 – 1 200 nm
	Gris		25 % 800 – 1200 nm	15 % 800 – 1200 nm	35 % 800 – 1200 nm
Brillant spéculaire (blanc et gris)	60°	ISO 2813			5 unités
	85°				5 unités
Coordonnées trichromatiques et luminance	Blanc	ISO 7724/1,2,3 D65, observateur à 10° Composante spéculaire incluse	L* = 93,88 (max) a* = -0,42 b* = -0,15		$\Delta E \leq 2$
	Gris		L* = 59,89 a* = 0,08 b* = 0,40		$\Delta E \leq 3$

**Note 1:** L'utilisation d'azurants optiques permettant d'obtenir la réflexion UV n'est pas recommandée, car ils affectent négativement la zone du proche infrarouge.

**Note 2:** La partie grise du modèle est réalisée en utilisant le pochoir d'impression pour la couleur brun foncé du DCamC<sup>MC</sup> (RA).



## NOTICE

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

### Pre-Production, and Production Evaluation Plan for the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly

Dated 28 April, 2015

**Pre-Production, and Production Evaluation Plan  
for the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly**

**1.0 General.**

**1.1 Pre-Production Evaluation Plan.** This annex describes how The Department of National Defence (DND) will perform the pre-production evaluation of the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly in terms of evaluating physical samples for the quality of workmanship and for their ability to demonstrate capability to meet requisite technologies, and for conformance to specified materials and measurements outlined in **Annex B**. The pre-production evaluation will be done through a technical verification performed by a team of DND Subject Matter Experts (SMEs) with the exception for the conformance to specified materials which will be proven by the submission from the Contractor with the appropriate test results from accredited independent laboratories or, when stated, Certificate(s) of Compliance (C of C).

**2.0 Pre-Production Samples, Supporting Documentation, and Evaluation.**

**2.1 Pre-Production Samples.** As part of the evaluation, to confirm a Contractor's capability of meeting the technical and performance requirements, the following pre-production samples must be submitted:

**Table I – Physical Samples To Be Submitted At Pre-Production And Production**

Time Period	Requirement
Pre-Production Stage	One (1) pair of Extreme Cold Weather Mukluk Assemblies in the Mondopoint size 260/110.
Pre-Production Stage	One (1) boot cut in half lengthwise (toe to heel) in Mondopoint size 260/110 to demonstrate how the boot is constructed.

**2.1.1 Material Substitutions.** All materials must be strictly in accordance with the technical and performance requirement. Boots manufactured in production quantities must be in strict accordance with those proposed in support of the Request For Proposal (RFP) and trialed by DND as part of the evaluation.

**2.2 Evaluation Of Conformance To Specified Materials And Measurements Outlined In Annex B.**

**2.2.1 Material Testing Information.** As part of the evaluation, to confirm a Contractors' capability of meeting the technical and performance requirements, the test results and/or certificates of compliance outlined in Table II must be submitted at pre-production:

Dated 28 April, 2015

Table II – Mandatory Material Testing Information At Pre-Production

Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Production	
Upper Material(s)	Paragraph 2.2.1.1	<b>COLOUR (CHROMACITY COORDINATES AND LUMINANCE and SPECULAR GLOSS)</b> in accordance with Annex C (DSSPM 2-2-80-502).	Test results must be submitted. Test results done by accredited independent laboratory.	
Upper Material(s)	Paragraph 2.2.1.2	<b>INFRA-RED REFLECTANCE</b> in accordance with Annex C (DSSPM 2-2-80-502).	Test results must be submitted. Test results done by accredited independent laboratory. As this is for information purposes, test results do not have to be compliant.	
Upper Material(s)	Paragraph 2.2.1.3	<b>ULTRA VIOLET REFLECTION</b> in accordance with Annex C (DSSPM 2-2-80-502).	Test results must be submitted. Test results done by accredited independent laboratory. As this is for information purposes, test results do not have to be compliant.	
Whole Boot	Paragraph 2.3	<b>WEIGHT</b> in accordance with Annex B, paragraph 2.3. Weighing <b>must</b> be completed on left and right boots of one pair and the result averaged.	Test results must be submitted. Test results done by accredited independent laboratory.	
Whole Boot	Paragraph 2.5.1	<b>LEAKAGE TEST</b> in accordance with Annex B, paragraph 8.2. A whole boot leakage test <b>must</b> be performed on two pairs (left and right boot) of boots.	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Whole Boot	Paragraph 2.5.3	<b>MOISTURE VAPOUR TRANSMISSION RATE (MVTR)</b> test results in accordance with Annex B, paragraph 8.3. Each boot (left and right) of two (2) pairs of finished boots must be tested in accordance with paragraph 8.3.1.	Test results must be submitted. Test results done by accredited independent laboratory.	

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Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Production	
Removable Liner	Paragraph 2.6.2	<b>DRYING RATE (REMOVABLE LINER ONLY)</b> test results in accordance with Annex B, paragraph 8.4. Two pairs (left and right) of removable liners <b>must</b> be tested.	Test results must be submitted. Test results done by accredited independent laboratory.	
Whole Boot	Paragraph 2.7	<b>FOOT THERMAL RATING</b> test results in accordance with Annex B, paragraph 8.5. The right boot of two pairs of finished boots <b>must</b> be tested in accordance with paragraph 8.5.1.	Test results must be submitted. Test results done by accredited independent laboratory	
Removable Liner	Paragraph 2.8.1	<b>EASE OF IGNITION</b> test results in accordance with Annex B, paragraph 2.8.1	Test results must be submitted. Test results done by accredited independent laboratory	
Microbial Resistance	Paragraph 2.9	<b>MICROBIAL RESISTANCE</b> in accordance with Annex B, paragraph 2.9.	Certificate of Compliance showing applicable information from the source of supply	
Bottoming Components / Outsole	Paragraph 2.10	<b>EXPOSURE TO CHEMICALS</b> test results in accordance with Annex B, paragraph 8.6. Two specimens of each material must be tested.	Test results must be submitted. Test results done by accredited independent laboratory	
Upper Materials	Paragraph 2.10.1	<b>EXPOSURE TO CHEMICALS</b> test results in accordance with Annex B, paragraph 8.6. Two specimens of each material must be tested.	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	

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Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Production	
Seams	Paragraph 2.11	<b>EXPOSURE TO CHEMICALS FOR LEAKAGE</b> test results in accordance with Annex B, paragraph 8.6 and CAN/CGSB-4.2 Method 26.5.  Two specimens of each material must be tested.	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.2	<b>BREAKING STRENGTH</b> test results in accordance with CAN/CGSB-4.2 Method 9.2	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.3	<b>TEARING STRENGTH</b> test results in accordance with CAN/CGSB-4.2 Method 12.1	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.4	<b>WATER REPELLENCE</b> test results in accordance with CAN/CGSB-4.2 Method 26.2	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.5	<b>WATER RESISTANCE</b> test results in accordance with CAN/CGSB-4.2 Method 26.5	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Outsole	Paragraph 4.2.1	<b>SHORE A HARDNESS</b> test results in accordance with ASTM D2240	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Outsole	Paragraph 4.2.2	<b>NBS RESISTANCE</b> test results in accordance with ASTM D1630	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Bottoming Components	Paragraph 4.3	<b>SLIP RESISTANCE</b> test results in accordance with SATRA TM144 and Annex B, paragraph 4.3.1. Each boot (left and right) of two pairs of boots must be tested.	Test results must be submitted. Test results done by accredited independent laboratory.	

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**2.3 Component Information – Pre-Production Stage.** In addition to the physical examples (as outlined in Table I) and the test results (outlined in Table II) to be provided at the Pre-Production Stage, Contractor must submit a written description of the upper material(s), threads, liner, footbed materials (insole(s)), bottoming, and outsole components. The written description must consist of the following:

- Description and product name (if applicable);
- Specification sheets outlining common component information. For example, in the case of leather, information would be type, tannage, thickness, and common chemical and physical properties (stitch tear strength, moisture absorption, etc). Testing for chemical and physical properties can be done via component manufacturers' in-house testing labs;
- Source of supply for the major components; and
- Information on any component or process that may have intellectual property rights.

**2.4 Evaluation of quality of workmanship and ability to demonstrate capability to meet requisite technologies.**

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

**2.4.1.1 Definitions.**

**2.4.1.1.1 Deviation.** A deviation is defined as a non-compliance of an essential performance or design requirement outlined in **Annex B**.

**2.4.1.1.2 Infraction.** An infraction is defined as a workmanship or construction issue evaluated to be non-compliant that directly affects serviceability of the boot.

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

**2.4.1.1.4 Maximum Infractions.** No workmanship and construction deviations will be accepted in any of the pre-production samples. A maximum of three (3) workmanship and construction infractions will be accepted in any of the pre-production samples. Observations will be noted and referenced in the pre-production evaluation to then be corrected in production. Workmanship or construction issues found with the submission not listed in Table III will be deemed as an observation.

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**Table III – Workmanship and Construction Evaluation**

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Paragraph 2.2 (Colour)	The colours must remain consistent before and after any curing or manufacturing process.	X		
Paragraph 2.2 (Colour)	Exterior of footwear, including all fittings and components, not colour as specified.	X		
Paragraph 2.4 (Height)	Height (without height of snow cuff) of a pair of Mondopoint 260/110 sized PIECWM Assemblies exceeds 13-1/2 inches (34.3 cm) or is below 12 inches (30.5 cm).	X		
Paragraph 4.1 (Bottoming Components)	The area directly under the foot/heel must be finished smooth, free of voids or material that may unwontedly collect moisture.	X		
Paragraph 4.5 (Bottoming Components)	The lug depth or cleat height for any part of the sole must be a minimum of 4.0 mm. Measurement must be taken at the widest part in the outsole.	X		
Paragraph 6.1 (Mandatory Components / Design Elements)	The PIECWM Assembly must have flat laces of sufficient length to ensure firm closure and easy adjustment.	X		
Paragraph 6.2 (Mandatory Components / Design Elements)	Heel Bar providing secure notch for snowshoes not used.	X		
Paragraph 10.1 (Labeling)	Labeling omitted, incorrect, illegible, or incomplete.		X	
Paragraph 10.2 (Marking of removable pieces)	Marking omitted, incorrect, illegible, or incomplete.		X	
Paragraph 10.3 (Hang Tag)	Hang tag omitted, incorrect, illegible, or incomplete.		X	
Paragraph 12.0 (Packaging)	Packaging omitted, incorrect, or incomplete.		X	

<sup>1</sup>The classification of “infraction” is for the purposes of evaluation only.

Dated 28 April, 2015

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
	<b>Applicable to all components and assemblies unless otherwise indicated.</b>			
Construction and Assembly - General	Any operation omitted or not properly performed, or any part missing.		X	
Construction and Assembly - General	Incomplete manufacturing process.		X	
Construction and Assembly - General	Cuts, tears, holes, rips, mend, lumps, creases, weak place, or other deficiencies seriously affecting serviceability.		X	
Construction and Assembly - General	Material defects such as, but not limited to, boney, loose, flanky, or otherwise inferior leathers, weak spots or mends, discolouration, etc.		X	
Construction and Assembly - General	Manufacturing defects such as, but not limited to, burns, blooms, staining, discolouration, hazing, blisters, embedded foreign material, pits, air pockets, etc.		X	
Construction and Assembly - General	Incomplete or incorrect bonding of bottoming components.		X	
Construction and Assembly - General	Needle chews likely to develop into a hole.		X	
Construction and Assembly - General	Poor or uneven lasting affecting serviceability.		X	
Construction and Assembly - General	Components missing or wrong size.		X	
Construction and Assembly - General	Noticeable separation of parts		X	
Construction and Assembly - General	Any open seam, any row of stitching missing, stitching uneven tension, appropriate number of stitches per inch for material, loose stitching resulting in loosely secured seam, tight stitch resulting in puckering of fabric or assembly, thread ends not trimmed, or parts caught in an unrelated row of stitching.		X	
Construction and Assembly - General	Grease, oil, or other foreign matter on outside or inside of finished footwear.		X	

Dated 28 April, 2015

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Construction and Assembly - General	Pairs of finished boots not right and left of same size.		X	
Construction and Assembly - General	Pairs of finished boots have significant variation in shade or colour.		X	

**3.0 Production Requirements.**

3.1 To confirm a Contractors' capability of meeting the technical and performance requirements, the test results outlined in Table IV must be submitted during production:

**Table IV – Mandatory Material Testing Information At Production Stage**

Material	Requirement and Reference	Testing Requirements and Frequency	
		Production	
Upper Material(s)	<b>COLOUR</b> (CHROMACITY COORDINATES AND LUMINANCE and SPECULAR GLOSS) in accordance with Annex C (DSSPM 2-2-80-502)	Test results must be submitted. Test results done by accredited independent laboratory.  Testing every 15,000 metres of production or part thereof, or when supplier changes, or when there is more than a period of six months between end and start of production of the textile or the mukluk.	

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Material	Requirement and Reference	Testing Requirements and Frequency	
		Production	
Upper Material(s)	<b>ULTRA VIOLET REFLECTION AND INFRA-RED REFLECTION</b> in accordance with Annex C (DSSPM 2-2-80-502)	Test results must be submitted. Test results done by accredited independent laboratory.  Testing every 15,000 metres of production, or part thereof, or when supplier changes or when there is more than a period of six months between end and start of production of the textile or the mukluk.	
Whole Boot	<b>WEIGHT</b> in accordance with Annex B, paragraph 2.3	Test results must be submitted. Test results done by accredited independent laboratory.  Test results to be submitted upon requested though DND DQA upon supplier changes or when there is more than a period of six months between end and start of production of the mukluk.	
Whole Boot	<b>LEAKAGE TEST</b> in accordance with Annex B, paragraph 8.2	Test results must be submitted. Test results done by in-house laboratory.  Test results to be submitted upon requested though DND DQA upon supplier changes or when there is more than a period of six months between end and start of production of the mukluk.	

Dated 28 April, 2015

Material	Requirement and Reference	Testing Requirements and Frequency	
		Production	
Whole Boot	<b>MOISTURE VAPOUR TRANSMISSION RATE (MVTR)</b> test results in accordance with Annex B, paragraph 8.3	Test results must be submitted. Test results done by accredited independent laboratory.  Test results to be submitted upon requested though DND DQA upon supplier changes or when there is more than a period of six months between end and start of production of the mukluk.	
Removable Liner	<b>DRYING RATE</b> test results in accordance with Annex B, paragraph 8.4	Test results must be submitted. Test results done by accredited independent laboratory.  Test results to be submitted upon requested though DND DQA upon supplier changes or when there is more than a period of six months between end and start of production of the mukluk.	
Whole Boot	<b>FOOT THERMAL RATING</b> test results in accordance with Annex B, paragraph 8.5	Test results must be submitted. Test results done by accredited independent laboratory.  Test results to be submitted upon requested though DND DQA upon supplier changes or when there is more than a period of six months between end and start of production of the mukluk.	
Removable Liner	<b>EASE OF IGNITION</b> test results in accordance with Annex B, paragraph 2.8.1	Test results to be submitted <b>only</b> when supplier changes.  Test results done by accredited independent laboratory	

Dated 28 April, 2015

Material	Requirement and Reference	Testing Requirements and Frequency	
		Production	
Microbial Resistance - Removable Liner and Footbed Components	<b>MICROBIAL RESISTANCE</b> in accordance with Annex B, paragraph 2.9.	Certificate of Compliance (CofC) from the source(s) of supply showing compliance to be submitted <b>only</b> when supplier changes.	
Bottoming Components / Outsole	<b>EXPOSURE TO CHEMICALS</b> test results in accordance with Annex B, paragraph 8.6.	Testing to be submitted <b>only</b> when supplier changes. Two specimens of each material requested must be tested separately for exposure to each chemical.  Test results done by accredited independent laboratory.	
Whole Boot	<b>LEAKAGE TEST</b> in accordance with Annex B, paragraph 8.2	Test results must be submitted. Test results done by in-house laboratory.  One (1) per cent of each lot of finished boots must be tested for leakage in accordance with Annex B, paragraph 8.2. It must be demonstrated that a minimum of ninety-five (95) per cent of tested boots passed the leakage requirement.	



## NOTICE

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

### Phase II – Point Rated Technical Criteria

28 April 2015

Stage II - Point Rated Technical Criteria				
Attribute		Details		
CHROMACITY COORDINATES AND LUMINANCE PROPERTIES OF THE WHITE COLOUR USED FOR THE UPPER MATERIAL in accordance with Annex B, para 2.2.1	Chromaticity coordinates and luminance of white and grey must be within tolerances in order to obtain points. Test results for a decrease in Delta E values for the white colour will be determined and allocated the applicable points.	Chromaticity Coordinates and Luminance of Upper Materials	Points	Multiplier
		First Place	1.0	15
		Second Place	0.8	
		Third Place	0.6	
		Fourth Place	0.4	
		Fifth Place	0.2	
DRYING RATE (OF REMOVABLE LINER) in accordance with Annex B, paragraph 2.6.2	Average Drying Rate: The average drying rate of two (2) tests completed on the Removable Liner will be determined and allocated the applicable points.	Drying Rate (percentage of dryness in six (6) hours)	Points	Multiplier
		First Place	1.0	30
		Second Place	0.8	
		Third Place	0.6	
		Fourth Place	0.4	
		Fifth Place	0.2	
MOISTURE VAPOUR TRANSMISSION RATE (MVTR) in accordance with Annex B, paragraph 2.5.3	Average MVTR: The average Moisture Vapour Transmission Rate (MVTR) of two (2) pairs will be determined and allocated the applicable points.	Average MVTR (grams/hour)	Points	Multiplier
		First Place	1.0	25
		Second Place	0.8	
		Third Place	0.6	
		Fourth Place	0.4	
		Fifth Place	0.2	
EASE OF IGNITION (REMOVABLE LINER) in accordance with Annex B, paragraph 2.8.1	Ease of Ignition: The mean ignition time of the removable liner will be determined and allocated the applicable points.	Mean Ignition Time of Upper Materials (seconds)	Points	Multiplier
		First Place	1.0	20
		Second Place	0.8	
		Third Place	0.6	
		Fourth Place	0.4	
		Fifth Place	0.2	
SLIP RESISTANCE in accordance with Annex B, paragraph 4.3	Slip Resistance: Average test results for slip resistance (forward heel slip) will be determined and allocated the applicable points.	Average Forward Heel Slip Resistance	Points	Multiplier
		First Place	1.0	10
		Second Place	0.8	
		Third Place	0.6	
		Fourth Place	0.4	
		Fifth Place	0.2	
NOTE: Weighted score will be determined by multiplying the points obtained for each attribute by the multiplier indicated in the evaluation grid.				

BIDDER:											
Stage I		Pre-Award Technical Evaluation				Compliant		Non-Compliant			
Stage II	Point Rated Technical Criteria - Stage II										
	Attribute		Points Allocated		Multiplier		Sub-Total				
	Chromacity Coordinate and Luminance (White): place		0		15		0				
	Average Dying Rate: place		0		30		0				
	Average MVTR: place		0		25		0				
	Ease Of Ignition: place		0		20		0				
	Slip Resistance: place		0		10		0				
	Stage II		Total Points/100:				0				
	Price:										
	Cost-Per-Point:										
Results			Lowest Cost Per Point Ranking:								
			Submission eligible for trial.		Evaluation Completed						
Stage III		User Acceptance Trial				Suitable for Service OR Unsuitable for Service		Ranking in trial			
Trial											
FINAL RESULT:		CONTRACT AWARDED FOR FIRM AND OPTION QUANTITIES / CONTRACT NOT AWARDED								Contract	
BIDDER A											
Stage I		Pre-Award Technical Evaluation				Compliant					
Stage II	Point Rated Technical Criteria - Stage II										
	Attribute		Points Allocated		Multiplier		Sub-Total				
	Chromacity Coordinate and Luminance (White): Fourth place		0.4		15		6				
	Average Dying Rate: Second place		0.8		30		24				
	Average MVTR: First place		1.0		25		25				
	Ease Of Ignition: Third place		0.6		20		12				
	Slip Resistance: Second place		0.8		10		8				
	Stage II		Total Points/100:				75				
	Price:		\$215.00								
	Cost-Per-Point:		\$2.87								
Results			Lowest Cost Per Point Ranking:		Second						
			Submission eligible for trial								
Stage III		User Acceptance Trial				Suitable for Service		FIRST PLACE IN TRIAL			
Trial				87%							
FINAL RESULT:		AWARDED CONTRACT FOR FIRM AND OPTION QUANTITIES								Contract	

BIDDER B										
Stage I	Pre-Award Technical Evaluation				Compliant					
Stage II	Point Rated Technical Criteria - Stage II									
	Attribute	Points Allocated	Multiplier	Sub-Total						
	Chromacity Coordinate and Luminance (White): Second place	0.8	15	12						
	Average Drying Rate: Third place	0.6	30	18						
	Average MVTR: Third place	0.6	25	15						
	Ease Of Ignition: Second place	0.8	20	16						
	Slip Resistance: First place	1.0	10	10						
	Stage II			Total Points/100:			71			
	Price:		\$225.00							
	Cost-Per-Point:		\$3.17							
Results	Lowest Cost Per Point Ranking: Fourth Evaluation complete.									
BIDDER C										
Stage III	User Acceptance Trial				Suitable for Service		Unsuitable for Service			
FINAL RESULT:	User Acceptance Rate:				CONTRACT NOT AWARDED					
BIDDER C										
Stage I	Pre-Award Technical Evaluation				Compliant					
Stage II	Point Rated Technical Criteria - Stage II									
	Attribute	Points Allocated	Multiplier	Sub-Total						
	Chromacity Coordinate and Luminance (White): First place	1.0	15	15						
	Average Drying Rate: Fourth place	0.4	30	12						
	Average MVTR: Fourth place	0.4	25	10						
	Ease Of Ignition: First place	1.0	20	20						
	Slip Resistance: Third place	0.6	10	6						
	Stage II			Total Points/100:			63			
	Price:		\$175.00							
	Cost-Per-Point:		\$2.78							
Results	Lowest Cost Per Point Ranking:				First Submission eligible for trial					
BIDDER D										
Stage III	User Acceptance Trial				Suitable for Service		THIRD PLACE IN TRIAL			
FINAL RESULT:	User Acceptance Rate:				CONTRACT NOT AWARDED					
BIDDER E										
Stage I	Pre-Award Technical Evaluation				Compliant					
Stage II	Point Rated Technical Criteria - Stage II									
	Attribute	Points Allocated	Multiplier	Sub-Total						
	Chromacity Coordinate and Luminance (White): Second place	0.8	15	12						
	Average Drying Rate: Third place	0.6	30	18						
	Average MVTR: Third place	0.6	25	15						
	Ease Of Ignition: Second place	0.8	20	16						
	Slip Resistance: First place	1.0	10	10						
	Stage II			Total Points/100:			71			
	Price:		\$225.00							
	Cost-Per-Point:		\$3.17							
Results	Lowest Cost Per Point Ranking: Fourth Evaluation complete.									
BIDDER F										
Stage III	User Acceptance Trial				Suitable for Service		Unsuitable for Service			
FINAL RESULT:	User Acceptance Rate:				CONTRACT NOT AWARDED					

BIDDER D				
Stage I	Pre-Award Technical Evaluation		Compliant	
Stage II	Point Rated Technical Criteria - Stage II			
	Attribute	Points Allocated	Multiplier	Sub-Total
	Chromaticity Coordinate and Luminance (White): Third place	0.6	15	9
	Average Drying Rate: First place	1.0	30	30
	Average MVTR: Second place	0.8	25	20
	Ease Of Ignition: Fourth place	0.4	20	8
	Slip Resistance: Second place	0.8	10	8
	Stage II	Total Points/100:		75
Price: \$225.00				
Cost-Per-Point: \$3.00				
Results	Lowest Cost Per Point Ranking: Third Place			
	Submission eligible for trial			
Stage III	User Acceptance Trial			
	User Acceptance Rate:	85	Suitable for Service	SECOND PLACE IN TRIAL
FINAL RESULT:	CONTRACT NOT AWARDED			Contract



## NOTICE

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

### Pre-Trial Technical Evaluation Plan for the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly

Dated 28 April, 2015

**Pre-Trial Technical Evaluation Plan for the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly**

**1.0 General.**

**1.1 Evaluation Plan.** This annex describes how The Department of National Defence (DND) is to perform the pre-trial technical evaluation of the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly in terms of evaluating physical samples for the quality of workmanship and construction, for their ability to demonstrate capability to meet requisite technologies outlined in **Annex B**. The pre-trial workmanship and construction evaluation will be performed by a team of DND Subject Matter Experts (SMEs).

**1.2 Trial Stage Submission.**

**1.2.1 Trial Quantities.** The following trial quantities outlined in Table I must be submitted:

**Table I – Physical Samples To Be Submitted For Trial**

Time Period	Requirement
Trial Quantities	<b>Mukluk Shells:</b> Fifty (50) pairs of Mukluk Shells in nine (9) sizes in accordance with <b>Annex I</b> . <b>Note:</b> No other information except size is required on the label.
Trial Quantities	<b>Removable Components:</b> Two (2) pairs of each of the removable components in accordance with <b>Annex I</b> .

**1.2.2 Technical Information.** No technical information is required to be submitted with the trial quantities.

**1.3 Workmanship and Construction Evaluation.** A workmanship and construction evaluation will be completed on all trial submissions to confirm a Bidders' submission for the quality of workmanship and for the ability to demonstrate capability to meet requisite technologies. This evaluation will be a pass (compliant) or fail (non-compliant) scenario.

**1.3.1 Definitions.**

**1.3.1.1 Deviation.** A deviation is defined as a non-compliance of an essential performance or design requirement outlined in **Annex B** (DSSPM 2-3-87-PIECWM).

**1.3.1.2 Infraction.** An infraction is defined as a workmanship or construction issue evaluated to be non-compliant that directly affects serviceability of the boot or affects overall quality assurance.

Dated 28 April, 2015

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

**1.3.1.4 Maximum Infractions.** No workmanship and construction deviations will be accepted in any of the trial samples. A maximum of three (3) workmanship and construction infractions will be accepted in any of the trial samples. Observations will be noted and referenced in the pre-award evaluation to then be corrected in production. Workmanship or construction issues found with the submission not listed in Table II will be deemed as an observation.

**Table II – Workmanship and Construction Evaluation**

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Paragraph 2.2 (Colour)	The colours must remain consistent before and after any curing or manufacturing process.		X	
Paragraph 2.2 (Colour)	Exterior of footwear, including all fittings and components, not colour as specified.		X	
Paragraph 2.4 (Height)	Height (without height of snow cuff) of a pair of Mondopoint 260/110 sized PIECWM Assemblies exceeds 13-1/2 inches (34.3 cm) or is below 12 inches (30.5 cm).	X		
Paragraph 4.1 (Bottoming Components)	The area directly under the foot/heel must be finished smooth, free of voids or material that may unwontedly collect moisture.		X	
Paragraph 4.5 (Bottoming Components)	The lug depth or cleat height for any part of the sole must be a minimum of 4.0 mm. Measurement must be taken at the widest part in the outsole.	X		
Paragraph 6.1 (Mandatory Components / Design Elements)	The PIECWM Assembly must have flat laces of sufficient length to ensure firm closure and easy adjustment.	X		
Paragraph 6.2 (Mandatory Components / Design Elements)	Heel Bar providing secure notch for snowshoes not used.	X		

<sup>1</sup>The classification of "infraction" is for the purposes of evaluation only.

Dated 28 April, 2015

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Paragraph 10.1 (Labeling)	Labeling omitted, incorrect, illegible, or incomplete.			X
Paragraph 10.2 (Marking of removable pieces)	Marking omitted, incorrect, illegible, or incomplete.			X
Paragraph 10.3 (Hang Tag)	Hang tag omitted, incorrect, illegible, or incomplete.			X
Paragraph 12.0 (Packaging)	Packaging omitted, incorrect, or incomplete.			X
Construction and Assembly - General	<b>Applicable to all components and assemblies unless otherwise indicated.</b>			
Construction and Assembly - General	Any operation omitted or not properly performed, or any part missing.			X
Construction and Assembly - General	Incomplete manufacturing process.			X
Construction and Assembly - General	Cuts, tears, holes, rips, mend, lumps, creases, weak place, or other deficiencies seriously affecting serviceability.			X
Construction and Assembly - General	Material defects such as, but not limited to, boney, loose, flanky, or otherwise inferior leathers, weak spots or mends, discolouration, etc.			X
Construction and Assembly - General	Manufacturing defects such as, but not limited to, burns, blooms, staining, discolouration, hazing, blisters, embedded foreign material, pits, air pockets, etc.			X
Construction and Assembly - General	Incomplete or incorrect bonding of bottoming components.			X
Construction and Assembly - General	Needle chews likely to develop into a hole.			X
Construction and Assembly - General	Poor or uneven lasting affecting serviceability.			X
Construction and Assembly - General	Components missing or wrong size.			X

Dated 28 April, 2015

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Construction and Assembly - General	Noticeable separation of parts			X
Construction and Assembly - General	Any open seam, any row of stitching missing, stitching uneven tension, appropriate number of stitches per inch for material, loose stitching resulting in loosely secured seam, tight stitch resulting in puckering of fabric or assembly, thread ends not trimmed, or parts caught in an unrelated row of stitching,			X
Construction and Assembly - General	Grease, oil, or other foreign matter on outside or inside of finished footwear.			X
Construction and Assembly - General	Pairs of finished boots not right and left of same size.			X
Construction and Assembly - General	Pairs of finished boots have significant variation in shade or colour.			X

Dated 28 April 2015



## NOTICE

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

# User Evaluation for the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly

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



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Dated 28 April 2015

**User Evaluation for the Product Improved  
Extreme Cold Weather Mukluk (PIECWM) Assembly**

**1.0 General.**

- 1.1 This annex describes how The Department of National Defence (DND) will perform a user evaluation of footwear submitted in response to Annex B (DSSPM 2-3-87-PIECWM Performance Specification for the Canadian Forces Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly). The user evaluation will confirm if proposed mukluk assemblies meet the identified performance requirements for Canadian Armed Forces personnel.
- 1.2 The PIECWM must meet the requirements of men and women of the Canadian Forces, including Regular Forces and Reserve Forces, operating in varying terrain and environmental conditions including those found in the sub and high arctic regions. The PIECWM must be suitable for use in temperatures that range from 0°C to -51°C under mild to extreme wind conditions and humidity (tending to saturation).

**1.3 User Evaluation.**

- 1.3.1 The user evaluation will consist of a representative group of trained regular force, Canadian Army (CA) soldiers conducting both static and dynamic tasks that are representative of how the CA operates in winter conditions.
- 1.3.2 The performance of the current in-service mukluk assembly will be used as the basis of comparison for proposed mukluk assemblies.
- 1.3.3 The user evaluation will consist of approximately four weeks total of user evaluation, depending on weather and number of bid products received. Soldiers will be given approximately one week of evaluation familiarization and training using the in-service mukluk assembly to ensure they understand the tasks and measurements to be done, followed by up to 3 weeks of concurrent evaluation of proposed mukluk assemblies.
- 1.3.4 The user evaluation will be structured such that all reasonable efforts to reduce bias will be taken to ensure fairness between all bid systems. Finally, the user evaluation will be conducted by DND personnel with expertise and training in this area.

**1.4 Evaluation Activities.**

- 1.4.1 **Fitting Exercise.** In order to control variables in socks worn during the evaluation, Trials Officers (TO) will give all evaluation participants quantities of the Extended Combat Sock System (see Annex B, paragraph 7.1). TOs will observe and control fitting the participants with assigned socks and candidate PIECWMS corresponding to their length and width, as measured with a foot measuring device for Mondopoint sizing. Boots varying by one size in length, width, or both length and width will be available as well. Each participant will walk a specified distance to confirm their sizing and, if applicable, retry additional sizes in order to obtain a proper fit. Any discrepancies between measured and fitted sizes will be recorded.
- 1.4.2 **Compatibility.** The TOs will confirm that participants will wear the proposed mukluk assemblies with applicable, in-service CAF clothing and equipment for the duration of the evaluation to assess compatibility.

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**1.4.3 Static and Dynamic Tasks.** Static and dynamic tasks that are representative of how the Canadian Army operates in winter conditions will be completed under the supervision of TOs. These tasks will provide the evaluators with a chance to experience the performance of the in-service mukluk assemblies and the proposed mukluk assemblies under operationally representative conditions.

**1.4.4** The current in-service mukluk assembly and proposed mukluk assemblies will be evaluated by answering questions based on the following mandatory performance requirements and/or design criteria:

- i. Thermal protection;
- ii. Performance during tasks/activities such as marching (no load, with full fighting order, and with marching order), running, and operating Canadian Army vehicles;
- iii. Moisture management;
- iv. Performance of adjustable snow cuff;
- v. Drying rate;
- vi. Slip resistance;
- vii. Dissipation of excess perspiration;
- viii. Physical comfort;
- ix. Donning and doffing;
- x. Liner bulk when packing in rucksack;
- xi. Performance of lacing system;
- xii. Support to foot;
- xiii. Range of motion of foot;
- xiv. Ease of use with gloved hands;
- xv. Compatibility with snowshoes;
- xvi. Compatibility with clothing; and
- xvii. Fit assessment.

**1.5 Final Evaluation.** The final user evaluation will consist of questionnaire designed to allow participants to rate the performance of the proposed mukluk assemblies for each of the criteria above. Each question will have equal weighing. Ratings will be done using a seven (7) point scale (see Figure 1).




Totally Unacceptable 	Unacceptable	Slightly Unacceptable	Neutral 	Slightly Acceptable	Acceptable	Perfectly Acceptable 
1	2	3	4	5	6	7

Figure 1 – Example of a Seven Point Scale to be used during the user evaluation

**1.6 User Evaluation Calculation.** The User Evaluation results will be scored as follows:

**1.6.1** All evaluation participants will rate all mukluk assemblies (current in-service mukluk assembly plus all proposed mukluk assemblies) by providing a rating on a 7-point Likert-type scale for each of the 17 questions based on the mandatory performance requirements and/or design criteria (see para 1.4.4). A questionnaire score will be calculated by simply adding the rating value for each of the 17 questions. See Figure 2 for an example.

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**Figure 2: Participant 1 - Ratings of Proposed Mukluk Assembly A**

Participant ID	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 15	Question 16	Question 17	Questionnaire Score
1	7	5	7	6	7	6	3	3	5	5	4	5	5	5	6	3	6	88

1.6.2 An Average Score will be calculated by adding all questionnaire scores for that proposed mukluk assembly and dividing by the number of participants. See Figure 3 for an example.

**Figure 3: All Participant Ratings With Average Score - Proposed Mukluk Assembly A**

Participant ID	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 15	Question 16	Question 17	Questionnaire Score
1	3	3	5	4	6	3	3	6	4	3	6	6	3	3	4	4	3	69
2	3	4	4	5	4	6	3	3	5	3	3	3	5	5	4	4	6	70
3	3	3	6	6	3	3	6	3	6	4	3	5	6	3	5	4	4	73
4	5	3	5	4	6	5	6	6	3	5	6	4	5	5	3	5	5	81
5	5	4	4	5	5	4	4	5	5	4	3	3	4	3	6	3	3	70
6	5	5	5	5	5	6	6	4	5	4	4	6	5	4	5	3	4	81
7	4	3	3	6	6	3	3	3	5	6	4	3	6	4	4	6	5	74
8	5	4	5	6	6	4	6	4	3	6	3	3	5	3	5	3	6	77
9	3	3	5	3	3	3	5	6	4	4	3	5	4	3	3	4	3	64
10	6	5	5	6	5	5	5	5	5	6	3	6	5	6	3	3	5	84
11	5	6	6	6	6	5	4	5	5	4	3	4	6	3	3	4	3	78
12	6	5	3	3	5	5	4	3	5	4	6	4	5	4	3	3	6	74
13	6	4	4	4	4	6	5	4	4	4	3	5	6	5	3	5	6	78
14	6	5	3	5	3	4	4	6	6	4	5	5	3	6	5	3	4	77
15	4	3	4	3	5	4	5	4	4	4	4	6	4	5	6	5	3	73
16	6	4	3	3	6	3	3	5	5	3	3	5	5	3	3	5	6	71
17	4	3	4	6	3	5	6	6	4	5	4	4	6	5	6	6	6	83
18	5	3	4	6	5	6	3	4	4	3	5	4	5	5	4	5	3	74
19	5	4	4	4	4	4	3	5	5	5	5	6	4	3	5	3	4	73
20	3	4	5	4	6	3	3	4	3	3	6	6	6	5	5	5	6	77
21	5	4	6	6	5	5	6	3	5	4	4	4	3	5	3	6	3	77
22	3	5	3	6	6	6	3	3	6	3	5	4	3	5	3	4	4	72
23	3	4	3	5	4	6	3	5	3	4	4	4	6	6	5	6	6	77
24	3	3	3	5	6	5	3	6	3	6	4	5	3	6	4	3	5	73
25	5	3	6	6	4	6	4	6	6	6	5	6	5	3	3	4	5	83
26	3	6	4	3	5	3	3	5	5	6	3	3	6	5	5	4	3	72
27	5	4	5	3	5	6	5	6	3	5	3	4	4	4	6	4	4	76

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Participant ID	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 15	Question 16	Question 17	Questionnaire Score
28	6	3	3	5	5	3	3	3	6	4	3	6	4	3	4	3	6	70
29	5	3	3	4	4	5	5	4	4	3	5	5	4	4	3	3	4	68
30	6	5	4	3	3	3	3	6	5	4	5	4	3	5	4	5	6	74
31	4	4	4	3	4	4	4	5	6	3	4	3	5	5	5	5	5	73
32	5	5	5	4	5	5	6	5	4	4	6	4	5	4	5	3	3	78
33	5	3	5	5	6	5	4	5	3	6	3	5	4	3	6	5	3	76
34	3	3	6	6	5	3	3	3	6	5	6	3	5	4	5	6	6	78
35	5	3	3	3	4	6	4	3	3	5	6	3	6	3	5	4	4	70
36	6	3	6	3	5	5	6	6	3	5	3	3	3	6	6	3	3	75
37	6	3	4	5	6	5	6	3	4	6	3	5	3	4	5	5	4	77
38	6	5	5	3	5	5	5	3	6	3	6	5	3	4	3	3	6	76
39	5	4	6	3	3	3	5	6	3	6	4	5	3	5	4	5	3	73
40	5	6	5	5	5	6	4	6	3	4	4	6	5	6	3	4	4	81
Questionnaire Score Sum																		3000
Average Score For Proposed Mukluk Assembly A																		75

1.6.3 To confirm if proposed mukluk assemblies meet the identified performance requirements for Canadian Armed Forces personnel, proposed mukluk assemblies **must** achieve all of the following criteria to be considered compliant:

- a. The average score for the proposed mukluk assembly must be greater than the average score of the current in-service mukluk; and
- b. The average score for the proposed mukluk assembly must be equal to or greater than 57% of the Maximum Possible Score of 119 (7 points x 17 questions).

Annex H  
To: W8486-151946  
Dated 28 Apr 2015



## NOTICE

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

### Size Roll - Trial Quantities and Production Quantities

SIZE ROLL - FOR USER ACCEPTANCE PERFORMANCE EVALUATION		
MUKLUK SHELLS (+ 1 PAIR OF LACES)	MONDOPOINT SIZE	QUANTITY (PAIRS)
	260/94	3
	260/102	9
	260/110	3
	270/98	6
	270/106	8
	270/114	3
	280/102	8
	280/110	6
	280/118	4
	TOTAL:	50
REMOVABLE LINER	MONDOPOINT SIZE	QUANTITY (PAIRS)
	260/94	6
	260/102	18
	260/110	6
	270/98	12
	270/106	16
	270/114	6
	280/102	16
	280/110	12
	280/118	8
	TOTAL:	100
INSOLES	MONDOPOINT SIZE	QUANTITY (PAIRS)
	260/94	6
	260/102	18
	260/110	6
	270/98	12
	270/106	16
	270/114	6
	280/102	16
	280/110	12
	280/118	8
	TOTAL:	100
LACES	MONDOPOINT SIZE	QUANTITY (PAIRS)
	260/94	6
	260/102	18
	260/110	6
	270/98	12
	270/106	16
	270/114	6
	280/102	16
	280/110	12
	280/118	8
	TOTAL:	100

	PSC/NSN	DESCRIPTION	MONDOPOINT SIZE	UNIT OF ISSUE	QUANTITY - A601 (MTL)	QUANTITY - A402 (EDM)	TOTAL
0	TO BE FORWARDED UPON CONTRACT AWARD	Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	A/A				
1		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	220/86	PR	90	60	150
2		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	220/94	PR	30	20	50
3		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	230/90	PR	0	0	0
4		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	230/98	PR	300	200	500
5		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	240/94	PR	0	0	0
6		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	240/102	PR	330	220	550
7		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	250/90	PR	0	0	0
8		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	250/98	PR	60	40	100
9		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	250/106	PR	480	320	800
10		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	260/94	PR	105	70	175
11		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	260/102	PR	720	480	1200
12		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	260/110	PR	840	560	1400
13		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	270/98	PR	30	20	50
14		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	270/106	PR	1320	880	2200
15		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	270/114	PR	120	80	200
16		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	280/102	PR	120	80	200
17		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	280/110	PR	720	480	1200
18		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	280/118	PR	360	240	600
19		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	290/106	PR	30	20	50
20		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	290/114	PR	900	600	1500
21		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	290/122	PR	120	80	200
22		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	300/110	PR	240	160	400
23		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	300/118	PR	120	80	200
24		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	300/126	PR	60	40	100
25		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	310/114	PR	45	30	75
26		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	310/122	PR	30	20	50
27		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	320/118	PR	15	10	25
28		Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	320/126	PR	15	10	25
29	Boot, Extreme Cold Weather. Shell; Mukluk Style (+ 1 pr laces)	Special	PR			0	
TOTAL:					7200	4800	12000

	PSC/NSN	DESCRIPTION	MONDOPOINT SIZE	UNIT OF ISSUE	QUANTITY - A601 (MTL)	QUANTITY - A402 (EDM)	TOTAL
0		Liner, Removable. Extreme Cold Weather Boot	A/A				
1		Liner, Removable. Extreme Cold Weather Boot	220/86	PR	270	180	450
2		Liner, Removable. Extreme Cold Weather Boot	220/94	PR	90	60	150
3		Liner, Removable. Extreme Cold Weather Boot	230/90	PR	0	0	0
4		Liner, Removable. Extreme Cold Weather Boot	230/98	PR	900	600	1500
5		Liner, Removable. Extreme Cold Weather Boot	240/94	PR	0	0	0
6		Liner, Removable. Extreme Cold Weather Boot	240/102	PR	990	660	1650
7		Liner, Removable. Extreme Cold Weather Boot	250/90	PR	0	0	0
8		Liner, Removable. Extreme Cold Weather Boot	250/98	PR	180	120	300
9		Liner, Removable. Extreme Cold Weather Boot	250/106	PR	1440	960	2400
10		Liner, Removable. Extreme Cold Weather Boot	260/94	PR	315	210	525
11		Liner, Removable. Extreme Cold Weather Boot	260/102	PR	2160	1440	3600
12		Liner, Removable. Extreme Cold Weather Boot	260/110	PR	2520	1680	4200
13		Liner, Removable. Extreme Cold Weather Boot	270/98	PR	90	60	150
14		Liner, Removable. Extreme Cold Weather Boot	270/106	PR	3960	2640	6600
15		Liner, Removable. Extreme Cold Weather Boot	270/114	PR	360	240	600
16		Liner, Removable. Extreme Cold Weather Boot	280/102	PR	360	240	600
17		Liner, Removable. Extreme Cold Weather Boot	280/110	PR	2160	1440	3600
18		Liner, Removable. Extreme Cold Weather Boot	280/118	PR	1080	720	1800
19		Liner, Removable. Extreme Cold Weather Boot	290/106	PR	90	60	150
20		Liner, Removable. Extreme Cold Weather Boot	290/114	PR	2700	1800	4500
21		Liner, Removable. Extreme Cold Weather Boot	290/122	PR	360	240	600
22		Liner, Removable. Extreme Cold Weather Boot	300/110	PR	720	480	1200
23		Liner, Removable. Extreme Cold Weather Boot	300/118	PR	360	240	600
24		Liner, Removable. Extreme Cold Weather Boot	300/126	PR	180	120	300
25		Liner, Removable. Extreme Cold Weather Boot	310/114	PR	135	90	225
26		Liner, Removable. Extreme Cold Weather Boot	310/122	PR	90	60	150
27		Liner, Removable. Extreme Cold Weather Boot	320/118	PR	45	30	75
28		Liner, Removable. Extreme Cold Weather Boot	320/126	PR	45	30	75
29		Liner, Removable. Extreme Cold Weather Boot	Special	PR			
				TOTAL:	21600	14400	36000

	PSC/NSN	DESCRIPTION	MONDOPOINT SIZE	UNIT OF ISSUE	QUANTITY - A601 (MTL)	QUANTITY - A402 (EDM)	TOTAL
0		Insoles, Removable. Extreme Cold Weather Boot	A/A				
1		Insoles, Removable. Extreme Cold Weather Boot	220/86	PR	270	180	450
2		Insoles, Removable. Extreme Cold Weather Boot	220/94	PR	90	60	150
3		Insoles, Removable. Extreme Cold Weather Boot	230/90	PR	0	0	0
4		Insoles, Removable. Extreme Cold Weather Boot	230/98	PR	900	600	1500
5		Insoles, Removable. Extreme Cold Weather Boot	240/94	PR	0	0	0
6		Insoles, Removable. Extreme Cold Weather Boot	240/102	PR	990	660	1650
7		Insoles, Removable. Extreme Cold Weather Boot	250/90	PR	0	0	0
8		Insoles, Removable. Extreme Cold Weather Boot	250/98	PR	180	120	300
9		Insoles, Removable. Extreme Cold Weather Boot	250/106	PR	1440	960	2400
10		Insoles, Removable. Extreme Cold Weather Boot	260/94	PR	315	210	525
11		Insoles, Removable. Extreme Cold Weather Boot	260/102	PR	2160	1440	3600
12		Insoles, Removable. Extreme Cold Weather Boot	260/110	PR	2520	1680	4200
13		Insoles, Removable. Extreme Cold Weather Boot	270/98	PR	90	60	150
14		Insoles, Removable. Extreme Cold Weather Boot	270/106	PR	3960	2640	6600
15		Insoles, Removable. Extreme Cold Weather Boot	270/114	PR	360	240	600
16		Insoles, Removable. Extreme Cold Weather Boot	280/102	PR	360	240	600
17		Insoles, Removable. Extreme Cold Weather Boot	280/110	PR	2160	1440	3600
18		Insoles, Removable. Extreme Cold Weather Boot	280/118	PR	1080	720	1800
19		Insoles, Removable. Extreme Cold Weather Boot	290/106	PR	90	60	150
20		Insoles, Removable. Extreme Cold Weather Boot	290/114	PR	2700	1800	4500
21		Insoles, Removable. Extreme Cold Weather Boot	290/122	PR	360	240	600
22		Insoles, Removable. Extreme Cold Weather Boot	300/110	PR	720	480	1200
23		Insoles, Removable. Extreme Cold Weather Boot	300/118	PR	360	240	600
24		Insoles, Removable. Extreme Cold Weather Boot	300/126	PR	180	120	300
25		Insoles, Removable. Extreme Cold Weather Boot	310/114	PR	135	90	225
26		Insoles, Removable. Extreme Cold Weather Boot	310/122	PR	90	60	150
27		Insoles, Removable. Extreme Cold Weather Boot	320/118	PR	45	30	75
28		Insoles, Removable. Extreme Cold Weather Boot	320/126	PR	45	30	75
29		Insoles, Removable. Extreme Cold Weather Boot	Special	PR			
				TOTAL:	21600	14400	36000

	PSC/NSN	DESCRIPTION	MONDOPOINT SIZE	UNIT OF ISSUE	QUANTITY - A601 (MTL)	QUANTITY - A402 (EDM)	TOTAL
0		Laces, Replacement. Extreme Cold Weather Boot	A/A				
1		Laces, Replacement. Extreme Cold Weather Boot	220/86	PR	180	120	300
2		Laces, Replacement. Extreme Cold Weather Boot	220/94	PR	60	40	100
3		Laces, Replacement. Extreme Cold Weather Boot	230/90	PR	0	0	0
4		Laces, Replacement. Extreme Cold Weather Boot	230/98	PR	600	400	1000
5		Laces, Replacement. Extreme Cold Weather Boot	240/94	PR	0	0	0
6		Laces, Replacement. Extreme Cold Weather Boot	240/102	PR	660	440	1100
7		Laces, Replacement. Extreme Cold Weather Boot	250/90	PR	0	0	0
8		Laces, Replacement. Extreme Cold Weather Boot	250/98	PR	120	80	200
9		Laces, Replacement. Extreme Cold Weather Boot	250/106	PR	960	640	1600
10		Laces, Replacement. Extreme Cold Weather Boot	260/94	PR	210	140	350
11		Laces, Replacement. Extreme Cold Weather Boot	260/102	PR	1440	960	2400
12		Laces, Replacement. Extreme Cold Weather Boot	260/110	PR	1680	1120	2800
13		Laces, Replacement. Extreme Cold Weather Boot	270/98	PR	60	40	100
14		Laces, Replacement. Extreme Cold Weather Boot	270/106	PR	2640	1760	4400
15		Laces, Replacement. Extreme Cold Weather Boot	270/114	PR	240	160	400
16		Laces, Replacement. Extreme Cold Weather Boot	280/102	PR	240	160	400
17		Laces, Replacement. Extreme Cold Weather Boot	280/110	PR	1440	960	2400
18		Laces, Replacement. Extreme Cold Weather Boot	280/118	PR	720	480	1200
19		Laces, Replacement. Extreme Cold Weather Boot	290/106	PR	60	40	100
20		Laces, Replacement. Extreme Cold Weather Boot	290/114	PR	1800	1200	3000
21		Laces, Replacement. Extreme Cold Weather Boot	290/122	PR	240	160	400
22		Laces, Replacement. Extreme Cold Weather Boot	300/110	PR	480	320	800
23		Laces, Replacement. Extreme Cold Weather Boot	300/118	PR	240	160	400
24		Laces, Replacement. Extreme Cold Weather Boot	300/126	PR	120	80	200
25		Laces, Replacement. Extreme Cold Weather Boot	310/114	PR	90	60	150
26		Laces, Replacement. Extreme Cold Weather Boot	310/122	PR	60	40	100
27		Laces, Replacement. Extreme Cold Weather Boot	320/118	PR	30	20	50
28		Laces, Replacement. Extreme Cold Weather Boot	320/126	PR	30	20	50
29		Laces, Replacement. Extreme Cold Weather Boot	Special	PR			
				TOTAL:	14400	9600	24000



## NOTICE

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

### Pre-Award Technical Evaluation Plan for the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly

Dated 28 April, 2015

**Pre-Award Technical Evaluation Plan for the  
Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly**

**1.0 General.**

**1.1 Evaluation Plan.** This annex describes how The Department of National Defence (DND) is to perform the pre-award technical evaluation of the Product Improved Extreme Cold Weather Mukluk (PIECWM) Assembly submissions in terms of evaluating physical samples for the quality of workmanship and for their ability to demonstrate capability to meet requisite technologies, and for conformance to specified materials and measurements outlined in Annex B (DSSPM 2-3-87-PIECWM). The technical portion of the pre-award evaluation plan will be done through a technical verification performed by a team of DND Subject Matter Experts (SMEs) with the exception for the conformance to specified materials which will be proven by the submission from the Bidder with the appropriate test results from accredited independent laboratories or, when stated, Certificate(s) of Compliance (C of C).

**1.1.1 Stages.** There are two (2) stages to the pre-award technical evaluation:

- **Stage I (Mandatory Technical Criteria)** will be completed on all bid submissions to determine technical compliance through the examination of the physical examples, mandatory test results, C of C's, and supporting information outlined in paragraphs 1.2 to 1.4. Stage I will be a pass (compliant) or fail (non-compliant) scenario; and
- **Stage II (Point Rated Technical Criteria)** will be completed solely on bid submissions deemed compliant in Stage I. Refer to **Annex E** (Point Rated Technical Criteria) for details.
  - Each compliant bid will be rated against each other in terms of Chromacity Coordinates and Luminance (White), Drying Rate (of Removable Liner only), Moisture Vapour Transmission Rate (MVTR), Ease of Ignition (of Removable Liner only), and Slip Resistance. Points will be assigned to each submission based on results ranking.
  - Tiebreaker: In selecting the top three technical boots, if a tie (total points) were to occur, the tiebreak would be done by first choosing the boot with the highest rank in drying rate (of removable liner). If still tied, then the boot with the highest rank in moisture vapour transmission rate will be used. Should there still continue to be a tie, the final tiebreaker will be the highest ease of ignition rate of the removable liner.

**1.2 Pre-Award Samples.** As part of the evaluation, to confirm a Bidders' capability of meeting the technical and performance requirements, the pre-award samples outlined in Table I must be submitted:

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**Table I – Physical Samples To Be Submitted At Pre-Award**

Time Period	Requirement
Pre-Award Stage (at bid closing)	One (1) pair of Extreme Cold Weather Mukluks in the Mondopoint size 260/110.
Pre-Award Stage (at bid closing)	One (1) boot cut in half lengthwise (toe to heel) in Mondopoint size 260/110 to demonstrate how the boot is constructed.

**1.3 Evaluation of Conformance To Specified Materials And Measurements Outlined In Annex B.**

**1.3.1 Mandatory Material Testing Information.** As part of the evaluation, to confirm a Bidders' capability of meeting the technical and performance requirements, the test results or certificates of compliance outlined in Table II must be submitted.

**Table II – Mandatory Material Testing Information At Pre-Award**

Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Award	
Upper Material(s)	Paragraph 2.2.1.1	<b>COLOUR (CHROMACITY COORDINATES AND LUMINANCE and SPECULAR GLOSS)</b> in accordance with <b>Annex C</b> (DSSPM 2-2-80-502).	Test results must be submitted. Test results done by accredited independent laboratory.	
Whole Boot	Paragraph 2.3	<b>WEIGHT</b> in accordance with Annex B, paragraph 2.3. Weighing <b>must</b> be completed on left and right boots of one pair and the result averaged.	Test results must be submitted. Test results done by accredited independent laboratory.	
Whole Boot	Paragraph 2.5.1	<b>LEAKAGE TEST</b> in accordance with Annex B, paragraph 8.2. A whole boot leakage test <b>must</b> be performed on two pairs (left and right boot) of boots.	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	

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Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Award	
Whole Boot	Paragraph 2.5.3	<b>MOISTURE VAPOUR TRANSMISSION RATE (MVTR)</b> test results in accordance with Annex B, paragraph 8.3.  Each boot (left and right) of two (2) pairs of finished boots must be tested in accordance with Annex B, paragraph 8.3.	Test results must be submitted. Test results done by accredited independent laboratory.	
Removable Liner	Paragraph 2.6.2	<b>DRYING RATE (REMOVABLE LINER ONLY)</b> test results in accordance with Annex B, paragraph 8.4.  Two pairs (left and right) of removable liners <b>must</b> be tested in accordance with Annex B, paragraph 8.4.	Test results must be submitted. Test results done by accredited independent laboratory.	
Whole Boot	Paragraph 2.7	<b>FOOT THERMAL RATING</b> test results in accordance with Annex B, paragraph 8.5.  The right boot of two pairs of finished boots <b>must</b> be tested in accordance with Annex B, paragraph 8.5.	Test results must be submitted. Test results done by accredited independent laboratory	
Removable Liner	Paragraph 2.8.1	<b>EASE OF IGNITION (REMOVABLE LINER)</b> test results in accordance with Annex B, paragraph 2.8.1.	Test results must be submitted. Test results done by accredited independent laboratory	
Microbial Resistance	Paragraph 2.9	<b>MICROBIAL RESISTANCE</b> in accordance with Annex B, paragraph 2.9.	Certificate of Compliance must be submitted showing applicable information from the source of supply	

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Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Award	
Bottoming Components / Outsole	Paragraph 2.10	<b>EXPOSURE TO CHEMICALS</b> test results in accordance with Annex B, paragraph 8.6. Two specimens of each material must be tested separately for exposure to each chemical.	Test results must be submitted. Test results done by accredited independent laboratory	
Upper Materials	Paragraph 2.10.1	<b>EXPOSURE TO CHEMICALS</b> test results in accordance with Annex B, paragraph 8.6. Two specimens of each material must be tested separately for exposure to each chemical.	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Seams	Paragraph 2.11	<b>EXPOSURE TO CHEMICALS FOR LEAKAGE</b> test results in accordance with Annex B, paragraph 2.11 and paragraph 8.6. Two specimens of each material must be tested separately for exposure to each chemical.	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.2	<b>BREAKING STRENGTH</b> test results in accordance with CAN/CGSB-4.2 Method 9.2	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.3	<b>TEARING STRENGTH</b> test results in accordance with CAN/CGSB-4.2 Method 12.1	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.4	<b>WATER REPELLENCE</b> test results in accordance with CAN/CGSB-4.2 Method 26.2	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Upper Materials	Paragraph 3.1.5	<b>WATER RESISTANCE</b> test results in accordance with CAN/CGSB-4.2 Method 26.5	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	

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Material	Reference in Annex B	Requirement and Reference	Testing Requirements and Frequency	
			Pre-Award	
Outsole	Paragraph 4.2.1	<b>SHORE A HARDNESS</b> test results in accordance with ASTM D2240	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Outsole	Paragraph 4.2.2	<b>NBS RESISTANCE</b> test results in accordance with ASTM D1630	Test results must be submitted. Test results done by accredited independent laboratory or in-house facilities.	
Bottoming Components	Paragraph 4.3	<b>SLIP RESISTANCE</b> test results in accordance with SATRA TM144 and Annex B, paragraph 4.3.1.  Each boot (left and right) of two pairs of boots must be tested in accordance with Annex B, paragraph 4.3.1.	Test results must be submitted. Test results done by accredited independent laboratory.	

1.3.2 **Component, Design, and Manufacturing Process Information.** In addition to the physical examples (as outlined in Table I) and the test results (outlined in Table II) to be provided at the Pre-Award Stage, Bidders must submit a written description of the overall component, design, and manufacturing process features. Any innovations must be described in general terms.

1.4 **Evaluation of quality of workmanship and ability to demonstrate capability to meet requisite technologies .**

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

1.4.1.1 **Definitions.**

1.4.1.1.1 **Deviation.** A deviation is defined as a non-compliance of an essential performance or design requirement outlined in **Annex B**.

1.4.1.1.2 **Infraction.** An infraction is defined as a workmanship or construction issue evaluated to be non-compliant that directly affects serviceability of the boot.

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- 1.4.1.1.3 **Observation.** An observation is defined as a workmanship or construction issue evaluated to be non-compliant that does not necessarily affect serviceability of the boot but affects overall quality assurance.
- 1.3.1.1.4 **Maximum Infractions.** No workmanship and construction infractions will be accepted in any of the pre-award samples. A maximum of three (3) workmanship and construction infractions will be accepted in any of the pre-award samples. Observations will be noted and referenced in the pre-award evaluation to then be corrected in trial quantities and production. Workmanship or construction issues found with the submission not listed in Table III will be deemed as an observation.

**Table III – Workmanship and Construction Evaluation**

Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Paragraph 2.2 (Colour)	The colours must remain consistent before and after any curing or manufacturing process.		X	
Paragraph 2.2 (Colour)	Exterior of footwear, including all fittings and components, not colour as specified.		X	
Paragraph 2.4 (Height)	Height (without height of snow cuff) of a pair of Mondopoint 260/110 sized PIECWM Assemblies exceeds 13-1/2 inches (34.3 cm) or is below 12 inches (30.5 cm).	X		
Paragraph 4.1 (Bottoming Components)	The area directly under the foot/heel must be finished smooth, free of voids or material that may unwontedly collect moisture.		X	
Paragraph 4.5 (Bottoming Components)	The lug depth or cleat height for any part of the sole must be a minimum of 4.0 mm. Measurement must be taken at the widest part in the outsole.	X		
Paragraph 6.1 (Mandatory Components / Design Elements)	The PIECWM Assembly must have flat laces of sufficient length to ensure firm closure and easy adjustment.	X		
Paragraph 6.2 (Mandatory Components / Design Elements)	Heel Bar providing secure notch for snowshoes not used.	X		

<sup>1</sup>The classification of “infraction” is for the purposes of evaluation only.

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Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Paragraph 10.1 (Labeling)	Labeling omitted, incorrect, illegible, or incomplete.			X
Paragraph 10.2 (Marking of removable pieces)	Marking omitted, incorrect, illegible, or incomplete.			X
Paragraph 10.2 (Hang Tag)	Hang tag omitted, incorrect, illegible, or incomplete.			X
Paragraph 12.0 (Packaging)	Packaging omitted, incorrect, or incomplete.			X
Construction and Assembly - General	<b>Applicable to all components and assemblies unless otherwise indicated.</b>			
Construction and Assembly - General	Any operation omitted or not properly performed, or any part missing.			X
Construction and Assembly - General	Incomplete manufacturing process.			X
Construction and Assembly - General	Cuts, tears, holes, rips, mend, lumps, creases, weak place, or other deficiencies seriously affecting serviceability.			X
Construction and Assembly - General	Material defects such as, but not limited to, boney, loose, flanky, or otherwise inferior leathers, weak spots or mends, discolouration, etc.			X
Construction and Assembly - General	Manufacturing defects such as, but not limited to, burns, blooms, staining, discolouration, hazing, blisters, embedded foreign material, pits, air pockets, etc.			X
Construction and Assembly - General	Incomplete or incorrect bonding of bottoming components.			X
Construction and Assembly - General	Needle chews likely to develop into a hole.			X
Construction and Assembly - General	Poor or uneven lasting affecting serviceability.			X
Construction and Assembly - General	Components missing or wrong size.			X

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Reference in Annex B	Criteria	Classification of Infraction <sup>1</sup>		
		Deviation	Infraction	Observation
Construction and Assembly - General	Noticeable separation of parts			X
Construction and Assembly - General	Any open seam, any row of stitching missing, stitching uneven tension, appropriate number of stitches per inch for material, loose stitching resulting in loosely secured seam, tight stitch resulting in puckering of fabric or assembly, thread ends not trimmed, or parts caught in an unrelated row of stitching,			X
Construction and Assembly - General	Grease, oil, or other foreign matter on outside or inside of finished footwear.			X
Construction and Assembly - General	Pairs of finished boots not right and left of same size.			X
Construction and Assembly - General	Pairs of finished boots have significant variation in shade or colour.			X



National    Défense  
Defence    nationale

D-LM-008-002/SF-001  
1991-08-01  
SUPERSEDES/REPLACE  
D-LM-008-002/SF-001  
1987-09-30

**SPECIFICATION  
FOR  
MARKING  
FOR  
STORAGE AND SHIPMENT**

**SPÉCIFICATION  
POUR  
MARQUAGE DES ARTICLES  
À ENTREPOSER OU À EXPÉDIER**

**1. SCOPE**

**1.1 Scope.** This specification covers the requirements of the Canadian Forces for the uniform marking for storage and shipment of all military supplies and equipment except petroleum products, explosives, and items of subsistence. It supplements but does not supersede any markings contained in commodity specifications or required by regulations governing carriers. Exterior colour, code or other markings not contained herein shall be as specified in packaging specifications or contract.

**1.2 Marking.** Marking in accordance with U.S. Military Standard MIL-STD-129 for items marked in the United States, or in accordance with U.K. Ministry of Defence Specification DEF 1234 for items marked in the United Kingdom, is acceptable in lieu of the requirements of this specification provided that the full NATO stock number, including country of origin of the stock number is used. However, marking in accordance with this specification is acceptable, irrespective of country of origin.

**1. PORTÉE**

**1.1 Portée.** Cette norme présente les exigences des Forces canadiennes en ce qui a trait au marquage des fournitures et du matériel militaires qui doivent être entreposés ou expédiés, exception faite des produits pétroliers, des explosifs et des vivres. Les marques prescrites ici s'ajoutent à celles que prévoient les spécifications des produits ou les règlements de transport; elles ne s'y substituent pas. Les couleurs extérieures, les codes ou les autres marques non décrits ici seront conformes aux normes d'emballage ou aux dispositions du contrat.

**1.2 Marquage.** Les marques faites aux États-Unis en conformité avec la norme militaire américaine MIL-STD-129 et les marques faites au Royaume-Uni en conformité avec la norme DEF 1234 du ministère de la Défense du Royaume-Uni pourront être acceptées pourvu que le numéro de nomenclature OTAN soit indiqué au long, pays d'origine compris. Les marques prévues ici sont cependant partout acceptables, quel que soit le pays d'origine des articles.

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**OPI/BPR: DSRO/DA(RE)**

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Publiée avec l'autorisation du Chef d'état-major de la Défense**

**Canada**

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**1.2.1 Unauthorized markings.** No markings, other than those specified or permitted in this specification, shall be placed on any container unless authorization is obtained from the Quality Assurance/Inspection Authority designated on the contract. Unauthorized markings may be obliterated using paint conforming to Canadian Government Specifications Board (CGSB) Specification 1.47-M89.

**1.2.2 Standard symbology for bar coding.** Appendix 3 outlines the requirements for bar coding.

**1.2.3 Dangerous goods.** Interior packages and shipping containers enclosing materials defined as dangerous goods in accordance with the Transportation of Dangerous Goods Act, the Transportation of Dangerous Goods Regulations, Part 1 and/or the Hazardous Products Act, shall be marked in accordance with these acts and regulations.

**1.2.4 Classified material.** Marking shall be as specified on the contract when classified material is being shipped.

**1.3 Abbreviations.** Abbreviations authorized for use in this specification are listed in Appendix 1.

## **1.4 Materials**

**1.4.1 Supplementary specifications.** Any material or method used in connection with this specification shall conform to the requirements of the relevant specification for the material or method as listed in applicable documents. Specifications or information about these materials may be obtained from the Quality Assurance/Inspection Authority.

**1.4.2 Non-specification materials.** Any material may be used when permitted by the Quality Assurance/Inspection Authority designated on the contract.

## **2. APPLICABLE DOCUMENTS**

**2.1 Applicable documents.** The following documents form part of this specification to the extent specified herein.

**1.2.1 Marques non autorisées.** À moins d'autorisation expresse des instances d'inspection désignées au contrat, nulle autre marque que celles que prévoit ou autorise cette norme ne doit figurer sur un contenant. Les marques non autorisées peuvent être masquées avec une peinture conforme à la norme 1.47-M89 de l'Office des normes générales du Canada (ONGC).

**1.2.2 Codes à bâtonnets standard.** Les exigences relatives aux codes à bâtonnets sont présentées à l'appendice 3.

**1.2.3 Marchandises dangereuses.** Les contenants intérieurs et les contenants d'expédition qui renferment des marchandises dangereuses, au sens qu'en donnent la Loi sur le transport des marchandises dangereuses, le Règlement sur le transport des marchandises dangereuses et la Loi sur les produits dangereux, doivent être marqués en conformité avec les dispositions de ces textes législatifs.

**1.2.4 Matériel classifié.** Les contenants d'expédition du matériel classifié doivent être marqués conformément aux dispositions des contrats.

**1.3 Abréviations.** Les abréviations autorisées en vertu de cette norme sont présentées à l'appendice 1.

## **1.4 Matériaux**

**1.4.1 Autres normes.** Les matériaux ou les méthodes utilisés dans l'application des exigences de cette norme doivent être conformes aux normes données dans les documents utiles. On pourra obtenir ces normes ainsi que des renseignements sur les matériaux utilisés auprès des instances d'inspection.

**1.4.2 Matériaux ne faisant pas l'objet de normes.** Les matériaux peuvent tous être utilisés, pourvu qu'ils aient été autorisés par les instances d'inspection désignées au contrat.

## **2. DOCUMENTS PERTINENTS**

**2.1 Documents pertinents.** Les documents suivants font partie de la présente description dans la mesure indiquée dans les présentes.

## **SPECIFICATIONS AND STANDARDS**

D-LM-008-001/SF-001 Methods of Packaging

MIL-STD-129 Marking for Shipment and Storage

FED-STD-123 Marking for Domestic Shipment (Civil Agencies)

### **2.2 Government documents**

Transportation of Dangerous Goods Act and Transport of Dangerous Goods Regulations, Part 1

Hazardous Products Act

A-A-208 Ink, Marking, Stencil Opaque

A-A-1588 Paint, Stencil

MMM-A-179 Adhesive, Label, Paper

TT-L-26 Lacquer, Clear, Interior and Exterior

49CFR Code of Federal Regulations (Transportation)

Copies of this specification and the above documents may be obtained from the Department of National Defence, Ottawa, Ontario, K1A 0K2, Attention: DPGS 3-6.

**2.3 Other publications.** The following documents form part of this specification to the extent specified herein.

**Canadian Standards Association,  
178 Rexdale Boulevard,  
Rexdale, Ontario, M9W 1R3**

CAN/CGSB-1.47-M89 Paint, Obliterating

1-GP-71 Methods of Testing Paints and Pigments

## **SPÉCIFICATIONS ET NORMES**

D-LM-008-001/SF-001 Méthodes d'emballage

MIL-STD-129 Marquage des articles à expédier ou à entreposer

FED-STD-123 Marquage à des fins de transport intérieur (organismes civils)

### **2.2 Documents du gouvernement**

Loi sur le transport des marchandises dangereuses et règlement sur le transport des marchandises dangereuses

Loi sur les produits dangereux

A-A-208 Encre opaque de marquage au pochoir

A-A-1588 Peinture à pochoir

MMM-A-179 Étiquettes de papier adhésives

TT-L-26 Laque, clair, intérieur et extérieur

49CFR Code de la législation fédérale (transports)

On peut obtenir des copies de la présente description ainsi que les documents cités ci-dessus auprès du ministère de la Défense nationale, Ottawa (Ontario) K1A 0K2, à l'attention de: DSEG 3-6.

**2.3 Autres publications.** Les documents suivants font partie de la présente description dans la mesure indiquée dans les présentes.

**Canadian Standards Association,  
178 Rexdale Boulevard,  
Rexdale, Ontario, M9W 1R3**

CAN/ONGC-1.47-M89 Peinture de masquage

1-GP-71 Méthodes d'essai des peintures et des pigments

6.15M Tags  
Shipping/Identification

43-GP-3 Tape, Adhesive,  
Pressure Sensitive,  
Water Resistant

6.15M Étiquettes volantes  
d'expédition et  
d'identification

43-GP-3 Ruban autocollant  
imperméable

### 3. REQUIREMENTS

#### 3.1 Methods of marking

**3.2 Bar code.** Markings in the standard bar code symbology, as described at Appendix 3, shall be applied to unit, intermediate and shipping containers, where required by container marking requirements of this specification.

#### 3.3 Legibility

**3.3.1** All markings shall be as large as possible, consistent with the space available, but lettering shall not be over 76 mm (3.0 in.) in height.

**3.3.2** Marking shall be accomplished by the use of labels, stamping, stencilling, mechanical printing, typing, or tagging, dependent upon the size of space available.

**3.3.3** Lettering shall be applied by stencilling, mechanical printing or typing, dependent upon the size of space available.

**3.3.4** When authorized, hand printing in capital letters may be permitted provided that the lettering is uniform and legible.

**3.3.5** Printing inks and dyes shall be fade resistant. Markings applied by means of printing inks and dyes shall be clearly legible after 48-hours exposure in a weatherometer, in accordance with Method 122.2 of Specification 1-GP-71.

**3.3.6** Colour of markings shall be black except that on surfaces where black is not legible, the colour shall be one which provides a definite contrast. Yellow or white lettering shall be applied over lustreless olive drab colour on metal drums.

### 3. EXIGENCES

#### 3.1 Méthodes de marquage

**3.2 Code à bâtonnets.** Quand cette norme l'exige, les contenants unitaires, les contenants intermédiaires et les contenants d'expédition doivent porter un code à bâtonnets standard conforme à la description qui en est donnée à l'appendice 3.

#### 3.3 Lisibilité

**3.3.1** Les marques doivent être aussi grandes que possible, compte tenu de l'espace disponible. Les lettres ne doivent cependant pas faire plus de 76 mm (3 po) de hauteur.

**3.3.2** Le marquage doit se faire à l'aide d'étiquettes ou de timbres, au pochoir, par impression mécanique ou à la machine à écrire, compte tenu de l'espace disponible.

**3.3.3** Le lettrage doit se faire au pochoir, par impression mécanique ou à la machine à écrire, compte tenu de l'espace disponible.

**3.3.4** On pourra également tracer des lettres majuscules à la main pourvu qu'elles soient uniformes et lisibles et qu'on en ait obtenu l'autorisation.

**3.3.5** Les teintures et les encres d'imprimerie doivent résister à la lumière. Les marques faites avec des teintures et des encres d'imprimerie doivent être clairement lisibles après avoir été traitées pendant 48 heures avec un appareil d'exposition aux agents atmosphériques, conformément à la méthode 122.2 de la norme 1-GP-71.

**3.3.6** Les marques doivent être de couleur noire, sauf sur les surfaces où le noir ne serait pas lisible, auquel cas on choisira des couleurs contrastées. Sur les barils de métal, le lettrage sera jaune ou blanc, sur fond gris olivâtre mat.

3.3.7 Printing may be utilized at the option of the contractor. Printed markings may be applied on all interior and exterior containers.

3.3.8 Old markings which are not applicable may be obliterated using paint conforming to CAN/CGSB-1.47-M89.

#### 3.4 Labels

3.4.1 Markings shall be applied to the label by machine printing, typing or stencilling. Carbon paper impressions will not be permitted.

3.4.2 Labels shall be secured by means of water resistant adhesive conforming to MMM-A-179. Pressure-sensitive labels may be used on containers other than wood.

3.4.3 When labels are secured to scrim-backed materials by means of pressure-sensitive water-resistant transparent tape conforming to 43-GP-3, the tape shall completely encircle the packed item.

#### 3.5 Stencils

3.5.1 Stencilling of porous or nonporous surfaces shall be accomplished by brushing, rolling, or spraying a sharply cut stencil with stencilling ink. Surfaces shall be clean and smooth so that the markings will stand out clearly.

3.5.2 Unless otherwise specified, black stencilling ink shall be used for light-coloured surfaces and white stencilling ink for dark-coloured surfaces. Ink shall conform to A-A-208 for porous and nonporous surfaces. Stencil lacquer shall conform to TT-L-26.

#### 3.6 Tags

3.6.1 Tags shall conform to 6.15M and shall be mechanically printed or typed.

3.6.2 Tags shall be securely affixed to wooden surfaces by stapling, tacking, or nailing. A minimum of four fasteners shall be used. Staples, tacks, or nails shall not protrude through the container walls.

3.3.7 L'entrepreneur peut également choisir d'imprimer les marques; celles-ci peuvent l'être sur tous les contenants intérieurs et extérieurs.

3.3.8 Les anciennes marques qui sont devenues inutiles peuvent être masquées avec une peinture conforme à la norme CAN/ONGC-1.47-M89.

#### 3.4 Étiquettes

3.4.1 Les étiquettes doivent être imprimées mécaniquement ou marquées à la machine à écrire ou au pochoir. L'utilisation de papier carbone n'est pas autorisée.

3.4.2 Les étiquettes doivent être fixées à l'aide d'un adhésif imperméable, conforme à la norme MMM-A-179. Les étiquettes autocollantes ne doivent pas être appliquées sur les contenants de bois.

3.4.3 Si une étiquette est apposée sur un matériau à dos de canevas léger à l'aide d'un ruban autocollant, transparent et imperméable qui est conforme à la norme 43-GP-3, le ruban doit encercler complètement l'article emballé.

#### 3.5 Pochoirs

3.5.1 Le marquage au pochoir des surfaces poreuses ou non poreuses doit se faire à la brosse, au rouleau ou au pulvérisateur, avec un pochoir bien découpé et de l'encre à pochoir. La surface doit être propre et lisse, de manière que les marques ressortent bien.

3.5.2 À moins d'indication contraire, on utilisera de l'encre à pochoir noire sur les surfaces pâles et de l'encre à pochoir blanche sur les surfaces foncées. L'encre appliquée sur les surfaces poreuses et non poreuses doit être conforme à la norme A-A-208, et la laque à pochoir, à la norme TT-L-26.

#### 3.6 Étiquettes volantes

3.6.1 Les étiquettes volantes doivent être conformes à la norme 6.15M et imprimées mécaniquement ou dactylographiées.

3.6.2 Les étiquettes volantes qui sont appliquées à une surface de bois doivent être fixées avec au moins quatre attaches (agrafes, punaises ou clous). Les attaches ne doivent pas traverser la paroi du contenant.

**3.6.3** When the method of affixing tags by stapling, tacking, or nailing is impracticable, tags shall be secured as follows:

- (a) Wire ties shall be used when the wires will not cause damage to the item.
- (b) Strong twine ties may be used when possible damage to the items would result from the use of wire.
- (c) Twine may be used for small identification tags in interior packs.
- (d) Tags used in the marking of shipping containers shall be waterproofed after markings have been applied, by spraying or brushing with water-resistant label adhesive or clear lacquer conforming to TT-L-26.

**3.7 Marking of interior containers.** There are four types of required markings:

- (a) Identification markings.
- (b) Preservation markings.
- (c) Shelf life markings.
- (d) Special markings.

**3.7.1 Identification markings.** Unless otherwise specified, the following information shall appear on the interior packages (unit packs and intermediate containers) in the order listed (see Figures 1 and 2):

- (a) NATO stock number (in standard bar code symbology as per Appendix 3).
- (b) Nomenclature, including serial number when applicable.
- (c) Quantity/Unit of Issue.
- (d) Protection and date markings.
- (e) Contract serial number (as shown on the contract; see Appendix 2).
- (f) Special markings.

**Note:** When specified or permitted, identification markings may be omitted from commercially identified items in dispensing containers, eg, shoe polish, baking soda, cleaner.

**3.6.3** S'il n'est pas possible de fixer une étiquette volante à un contenant au moyen d'agrafes, de punaises ou de clous, on procédera comme suit:

- (a) Utiliser un lien de métal si celui-ci ne risque pas d'endommager l'article.
- (b) Utiliser de la ficelle forte si un lien de métal risque d'endommager l'article.
- (c) Les petites étiquettes d'identification d'articles protégés par un contenant intérieur peuvent être attachées avec de la simple ficelle.
- (d) Les étiquettes volantes utilisées dans le marquage des contenants d'expédition doivent être imperméabilisées, une fois le marquage fait, par pulvérisation ou par application à la brosse d'un adhésif imperméable ou d'une laque transparente, conforme à la norme TT-L-26.

**3.7 Marquage des contenants intérieurs.** Quatre types de marquages requis:

- (a) Marquages d'identification.
- (b) Marques de préservation.
- (c) Durée de conservation.
- (d) Marques spéciales.

**3.7.1 Marquages d'identification.** À moins d'indication contraire, les renseignements suivants doivent paraître sur les contenants intérieurs (contenants unitaires et intermédiaires), dans l'ordre indiqué (voir figures 1 et 2):

- (a) Numéro de nomenclature OTAN (utiliser un code à bâtonnets standard conforme aux prescriptions de l'appendice 3).
- (b) Description et, s'il y a lieu, numéro de série.
- (c) Quantité/unité de distribution.
- (d) Protection et date.
- (e) Numéro de série du contrat (numéro indiqué au contrat, voir l'appendice 2).
- (f) Marques spéciales.

**Nota:** Sur demande ou après avoir obtenu l'autorisation, on pourra omettre de faire le marquage d'identification des articles commerciaux qui sont déjà identifiés (cirage à chaussures, bicarbonate de soude, produits de nettoyage, etc).

**3.7.2 Bar code requirement (NATO stock number).** The NATO stock number (NSN), in the standard bar code symbology described in Appendix 3, shall be applied to all unit packs and intermediate containers. The NSN shall be the exact NSN specified on the procurement document. When no NSN is shown on the procurement document, the manufacturer's part number (MFR/PN) or other identification number shall be applied to the package but shall not be bar coded. Space shall be provided immediately above the identification number for the subsequent marking of the NSN. The bar coded NSN shall consist of the basic thirteen data characters. Prefixes and suffixes to the NSN as well as spaces and dashes shall not be bar coded. The human readable interpretation (HRI) of the bar coded NSN shall be located preferably below the bar code marking or optionally above the bar code marking. The HRI shall be an exact interpretation of the bar coded data and will not contain spaces or dashes (see Appendix 3, Figure 15). Bar code markings may be applied either by labels or by direct printing on the package or container, other than wood containers. On wood containers, the bar code markings shall be applied only by the use of labels. On surfaces that absorb, smudge or otherwise distort integrity of printed bar code symbology (eg, a porous material) labels only shall be applied.

**3.7.3 Nomenclature.** The nomenclature shall be the exact nomenclature of the item specified in the contract or order. The serial number, when applicable, shall be shown as part of the nomenclature.

**3.7.4 Quantity/unit of issue.** Quantity shall be the number of items contained in each interior package. The abbreviation QTY shall not be used. The unit of issue, as specified in the procurement document, shall be included and shall be abbreviated, eg, 1 ea (see Figure 2).

**3.7.5 Protection and date markings.** The level, method and date (month and year) of interior packaging shall be shown in that order, eg, A-1A8-12/89 indicates a Level A interior package, Method 1A8 interior packaging, applied in December 1989. Where a level of interior packaging is not shown on the contract or order, the method and date only shall be shown, eg, 1A8-12/89 (see Figure 2).

**3.7.2 Code à bâtonnets (numéro de nomenclature OTAN).** Le numéro de nomenclature OTAN (NNO) doit être appliqué sur tous les contenants unitaires et intermédiaires, sous la forme d'un code à bâtonnets standard conforme aux prescriptions de l'appendice 3. Le NNO doit être celui qui figure dans le document d'acquisition. Si le document d'acquisition ne donne pas le NNO de l'article, on utilisera le numéro de pièce du fabricant (N° DE PIÈCE DU FAB.) ou un autre numéro d'identification, mais non un code à bâtonnets. On veillera à laisser au-dessus du numéro d'identification l'espace voulu pour que le NNO puisse être ajouté plus tard. Le code à bâtonnets du NNO doit comporter les 13 caractères de base voulus. Les préfixes et les suffixes du NNO ainsi que les espaces et les traits d'union ne doivent pas être codés. L'explication en clair du code à bâtonnets du NNO doit se trouver de préférence sous le code à bâtonnets; sinon, on l'indiquera au-dessus. Elle doit correspondre exactement aux données du code à bâtonnets et ne comporter ni espace ni trait d'union (voir appendice 3, figure 15). Le code à bâtonnets peut être indiqué avec une étiquette ou imprimé directement sur l'emballage ou le contenant, à moins que celui-ci ne soit fait de bois, auquel cas on utilisera une étiquette. De même, on n'utilisera que des étiquettes sur les surfaces où le code risque d'être absorbé, étalé ou déformé (sur les matériaux poreux, par exemple).

**3.7.3 Description.** La description doit être la description exacte de l'article indiquée dans le contrat ou la commande. S'il y a lieu, le numéro de série de l'article sera indiqué.

**3.7.4 Quantité/unité de distribution.** La quantité indiquée doit correspondre au nombre d'articles de chaque contenant intérieur. Ne pas utiliser l'abréviation QUANT. Indiquer l'unité de distribution prévue dans le document d'approvisionnement et l'abréger — 1 CH., par exemple (voir figure 2).

**3.7.5 Protection et date.** Le niveau, la méthode et la date (mois et année) d'emballage du contenant intérieur doivent être donnés dans cet ordre; par exemple, A-1A8-12/89 correspond à un contenant intérieur de niveau A et à un emballage intérieur fait suivant la méthode 1A8 en décembre 1989. Si le niveau du contenant intérieur ne figure pas dans le contrat ou la commande, on indiquera uniquement la méthode d'emballage et la date — 1A8-12/89, par exemple (voir figure 2).

**Note:** The words NATO Stock Number, Nomenclature, Quantity/Unit of Issue, Protection and Date Markings, and Special Markings, shall not be made part of the markings.

### 3.8 Preservation markings

**3.8.1 Method II packages.** Each basic or intermediate package, packaged in accordance with Method II of D-LM-008-001/SF-001 shall have the cautionary markings METHOD II PACKAGED — DO NOT OPEN EXCEPT FOR USE OR INSPECTION applied in red letters on the flexible water vapour resistant barrier and on each subsequent wrap or container. The markings may be stencilled on scrim back materials in letters not less than 12 mm (0.50 in.) high. When sufficient space is not available, or the barrier is a metal container, a label conforming to Figure 3 shall be used.

### 3.9 Shelf life markings

**3.9.1** There are two types of shelf life, consisting of those items which are considered no longer serviceable after the expiration date has been reached, and those items for which the prescribed storage life can be extended, provided they are inspected and/or repaired in accordance with the pertinent technical specifications and other directives. The following examples of shelf life markings shall be applied where required:

(a) Example I — Non-relifeable items:

Date (manufactured, cured, assembled, packed) \_\_\_\_\_  
(apply one as applicable)

Expires or expiration date \_\_\_\_\_

(b) Example II — Relifeable items:

Date (manufactured, cured, assembled, packed) \_\_\_\_\_  
(apply one as applicable)

Inspection/test date \_\_\_\_\_

**Nota:** Les mots numéro de nomenclature OTAN, description, quantité/unité de distribution, protection et date et marques spéciales ne doivent pas être eux-mêmes marqués.

### 3.8 Marques de préservation

**3.8.1 Emballages faits suivant la méthode II.** Les contenants intérieurs ou intermédiaires qui ont été emballés suivant la méthode II exposée dans le document D-LM-008-001/SF-001 doivent porter l'avertissement EMBALLE SUIVANT LA MÉTHODE II — NE PAS OUVRIR SAUF POUR USAGE OU INSPECTION, qu'on appliquera en lettres rouges sur la barrière souple et imperméable et sur chaque emballage ou contenant ultérieur. Les marques peuvent également être faites au pochoir sur les matériaux à dos de canevas léger, en lettres d'au moins 12 mm (0,5 po) de hauteur. Si l'espace manque ou si la barrière est un contenant de métal, on utilisera une étiquette conforme à la figure 3.

### 3.9 Durée de conservation

**3.9.1** Sur le plan de la durée de conservation, on distingue deux types d'articles: ceux qu'on considère inutilisables une fois que la date d'expiration a été atteinte et ceux dont la durée d'entreposage peut être prolongée pourvu qu'ils soient inspectés ou réparés conformément aux normes techniques utiles ou à d'autres directives. On utilisera donc l'un des modèles suivants pour indiquer la durée de conservation:

(a) Exemple I — Articles dont la durée d'entreposage ne peut pas être prolongée:

Date (de fabrication, de vulcanisation, d'assemblage, d'emballage) \_\_\_\_\_  
(utiliser la mention utile)

Date d'expiration \_\_\_\_\_

(b) Exemple II — Articles dont la durée d'entreposage peut être prolongée:

Date (de fabrication, de vulcanisation, d'assemblage, d'emballage) \_\_\_\_\_  
(utiliser la mention utile)

Date d'inspection ou d'essai \_\_\_\_\_

3.9.2 When specified (as in contracts, purchase orders or other documents) shelf life markings, date of manufacture, cure, assembly or pack, as applicable, shall be applied to unit packs, intermediate packs and exterior containers or unpacked items.

3.9.3 For all items required to be marked with the date of manufacture, the date shall be applied. For medical items having an expiration date, the date of manufacture shall not be shown. When two or more unit packs of identical items bear different dates of manufacture, the earliest date shall be shown on the shipping container.

3.9.4 For all rubber (or synthetic elastomers) items required to be marked with the cure date, the markings shall be applied using the calendar quarter and year eg, 2Q90 (represents second quarter 1990). When two or more units packs of identical items bear different cure dates the earliest date shall be shown on the shipping container.

3.9.5 For all items required to be marked with the date of assembly, the date shall be applied. When more than one shelf life item is packed in an assembly, the expiration date of the item with the earliest expiration date shall be shown and applied.

3.9.6 For all items required to be marked with the date of pack, the date shall be applied. When two or more packs of identical items bear different dates of pack, the earliest date shall be shown on the shipping container.

3.9.7 The expiration date is only required for non-relifeable shelf life items (an item of supply with a definite nonextendable period of shelf life). For drugs and biological items (potency-dated materials), the expiration date shall be as required by statutes or contract. When the date of the month is included in the expiration date, the month will be designated by the name of the month and **not** by the numerical designation of the month. Cure dated items shall have the expiration date shown by quarter and calendar year eg, 1Q90.

3.9.8 For items of supply with an assigned shelf life which may be extended after completion of prescribed inspection/test/restorative action, the manufacturer or supplier shall apply an inspection/test date, the date shall be shown

3.9.2 Si le contrat, le bon d'achat ou d'autres documents le prévoient, on indiquera la durée de conservation et, selon le cas, la date de fabrication, de vulcanisation, d'assemblage ou d'emballage, selon le cas, sur les contenants unitaires, les contenants intermédiaires, les contenants extérieurs ou les articles non emballés.

3.9.3 Indiquer la date de fabrication de tous les articles dont la date de fabrication doit être indiquée, à moins qu'il ne s'agisse de fournitures médicales comportant une date d'expiration. Si des contenants unitaires d'articles identiques portent des dates de fabrication différentes, indiquer la plus reculée sur le contenant d'expédition.

3.9.4 Indiquer le trimestre et l'année (2T90 pour désigner le deuxième trimestre de 1990, par exemple) de vulcanisation de tous les articles de caoutchouc (ou d'élastomères) dont la date de vulcanisation doit être indiquée. Si des emballages unitaires d'articles identiques portent des dates de vulcanisation différentes, indiquer la plus reculée sur le contenant d'expédition.

3.9.5 Indiquer la date d'assemblage de tous les articles dont la date d'assemblage doit être indiquée. Si les éléments d'un assemblage n'ont pas tous la même durée de conservation, indiquer la date d'expiration de l'article dont la durée de conservation expire en premier.

3.9.6 Indiquer la date d'emballage de tous les articles dont la date d'emballage doit être indiquée. Si des emballages contenant des articles identiques portent des dates d'emballage différentes, indiquer la plus reculée sur le contenant d'expédition.

3.9.7 N'indiquer la date d'expiration que si la durée de conservation d'un article ne peut pas être prolongée. Dans le cas des drogues ou des fournitures biologiques qui portent une date d'efficacité, la date d'expiration doit être celle que prévoit la loi ou le contrat. Si le mois figure dans la date d'expiration, il sera désigné par son nom et **non** par un chiffre. La date d'expiration des articles vulcanisés doit prendre la forme trimestre/année civile (1T90, par exemple).

3.9.8 Les articles d'approvisionnement dont la durée de conservation peut être prolongée une fois que les mesures d'inspection, d'essai ou de remise en état prévues ont été prises doivent porter la date d'inspection/essai prévue

by month and calendar year eg, 12/90. This indicates the date on which shelf life shall expire (unless extended as a result of inspection/test). The manufacturer or supplier shall provide space for additional inspection/test dates. The space shall be used when the initial date is lined out and subsequent inspection/test dates are applied. When two or more unit packs of identical items bear different inspection/test dates, only the earliest date shall be shown on the shipping container.

**Note:** Items that are nondeteriorative shall not require shelf life markings.

### 3.10 Special markings

3.10.1 Subject to the nature of the material packaged, cautionary markings such as FRAGILE, GLASS, POISON, PERISHABLE, KEEP FROM FREEZING (maintain at temperatures above ...degrees Celsius), or other special handling markings of a similar nature, shall appear on the unit and intermediate containers, as applicable.

3.10.2 When specified, the following additional special markings shall be applied:

- (a) Year of manufacture.
- (b) Specification number (type, grade, class) of item.
- (c) Manufacturer's name.
- (d) Manufacturer's part or drawing number.
- (e) Manufacturer's batch number.
- (f) Qualification number.
- (g) Cure date of rubber components.
- (h) Date of repair or overhaul.
- (j) Name of repair or overhaul contractor.
- (k) Modification status.
- (m) Other data required by contract or commodity specification.

par le fabricant ou le fournisseur, celle-ci étant indiquée sous la forme mois/année civile (12/90, par exemple). Cette marque correspond à la date à laquelle la durée de conservation de l'article expire (à moins qu'elle n'ait été prolongée par suite d'une inspection ou d'un essai). Le fabricant ou le fournisseur doit laisser l'espace voulu pour qu'on puisse ajouter d'autres dates d'inspection ou d'essai. On utilisera cet espace après avoir biffé la date initiale, pour indiquer des dates d'inspection/essai subséquentes. Si des contenants unitaires d'articles identiques portent des dates d'inspection/essai différentes, on indiquera la plus reculée sur le contenant d'expédition.

**Note:** Les articles qui ne se détériorent pas n'ont pas à porter de date de durée de conservation.

### 3.10 Marques spéciales

3.10.1 Compte tenu de la nature des articles emballés, on mettra sur les contenants unitaires et intermédiaires les mentions d'avertissement utiles: FRAGILE, VERRE, POISON, PÉRISSABLE, PROTÉGER CONTRE LE GEL (garder à au moins degrés Celsius), par exemple.

3.10.2 S'il y a lieu, on pourra ajouter les marques spéciales suivantes:

- (a) Année de fabrication.
- (b) Numéro de spécification (type, qualité, classe) de l'article.
- (c) Nom du fabricant.
- (d) Numéro de pièce ou de dessin du fabricant.
- (e) Numéro de lot du fabricant.
- (f) Numéro d'acceptation.
- (g) Date de vulcanisation des éléments de caoutchouc.
- (h) Date de réparation ou de révision.
- (j) Nom de l'entrepreneur en réparation ou révision.
- (k) Statut de modification.
- (m) Autres données requises en vertu du contrat ou des spécifications du produit.

**3.10.3 Electrostatic discharge sensitive (ESDS) material.** Unit packs containing ESDS electronic components and devices shall be marked with a warning label as shown in Figure 10. The symbol and lettering of each label shall be printed in black on a yellow background.

**3.10.4 Positioning and application of markings.** Position and application of markings shall be as follows:

(a) Rectangular containers shall have markings positioned as illustrated in Figure 4.

(b) Cylindrical containers shall have markings positioned as illustrated in Figure 5.

**3.10.5** Markings shall be stencilled or printed directly on the container, or where this is not possible, shall be applied by means of stencilled, printed, or typed labels or tags firmly affixed to containers or unboxed items.

**3.10.6** Labels shall be affixed on sealed transparent or opaque barrier bags or wraps in such a manner that they adhere firmly to the exterior surface of the bag or wrap.

### **3.11 Marking of shipping containers**

**3.11.1 Identification markings.** The following information shall appear on all shipping containers, palletized unit loads, and unpacked items:

(a) Description of contents, unless otherwise specified, shall show the following information in the order listed:

- i NATO stock number.
- ii Nomenclature.
- iii Quantity/Unit of Issue.
- iv Protection and date markings (see 3.11.1(b)).
- v Contract serial number (as shown on the contract; see Appendix 2).
- vi Special markings (see 3.11.9).

**3.10.3 Articles sensibles aux décharges électrostatiques.** Les contenants unitaires qui contiennent des articles électroniques sensibles aux décharges électrostatiques doivent porter une étiquette d'avertissement conforme au modèle de la figure 10. Le symbole d'avertissement et le message seront imprimés en noir sur fond jaune.

**3.10.4 Position et application des marques:**

(a) Sur les contenants rectangulaires, la position des marques sera conforme à celle de la figure 4.

(b) Sur les contenants cylindriques, la position des marques sera conforme à celle de la figure 5.

**3.10.5** Les marques doivent être tracées au pochoir ou imprimées directement sur le contenant; si cela n'est pas possible, elles seront faites au pochoir, imprimées ou dactylographiées sur une étiquette qu'on veillera à bien apposer ou à attacher solidement aux contenants ou aux articles non mis sous boîte.

**3.10.6** Les étiquettes apposées sur un sac ou un emballage barrière scellé (transparent ou non) doivent bien adhérer à la surface extérieure du sac ou de l'emballage.

### **3.11 Marquage des contenants d'expédition**

**3.11.1 Marques d'identification.** Les contenants d'expédition, les charges unitaires sur palette et les articles non emballés doivent porter les renseignements suivants:

(a) À moins d'indication contraire, la description du contenu doit présenter, dans l'ordre, les renseignements suivants:

- i Numéro de nomenclature OTAN.
- ii Description.
- iii Quantité/unité de distribution.
- iv Protection et date (voir 3.11.1(b)).
- v Numéro de série du contrat (numéro indiqué au contrat, voir l'appendice 2).
- vi Marques spéciales (voir 3.11.9).

**Note:** All shipping containers enclosing like items of material in both unit packages or intermediate containers shall have the NATO stock number, contract number, quantity/unit of issue, protection and date markings, and quality assurance code applied in the standard bar code symbology described in Appendix 3 (see Figure 18). Shipping containers enclosing mixed items of material shall be marked in accordance with 3.11.1(c).

(b) The level of interior packaging, the level of packing, the method and date of interior packaging (month and year) shall be shown in that order, eg, A B-1A8-12/90 indicates a Level A interior package, a Level B pack, Method 1A8 interior packaging applied in December 1990. Where levels of interior packaging and packaging are not shown on the contract or order, the method and date only shall be shown, eg, 1A8-12/90.

(c) All items shall be identified and the shipping container marked MIXED CONTENTS when unlike items are packed together in a shipping container.

**3.11.2 Shipping instructions.** Shipping instructions shall consist of the following:

(a) Consignee (see note).

(b) Consignor.

(c) Case No. \_\_\_\_ of \_\_\_\_ (Total number cases in shipment.)

**Note:** If shipment is consigned to a consignee for trans-shipment to ultimate destination, the shipping container shall indicate after consignee FOR (ultimate recipient).

**3.11.3 Contract identification.** Contract identification shall include the contract serial number (see Appendix 2).

**3.11.4 Set or assembly markings.** Set or assembly markings are shown in Figure 6.

**3.11.5** When sets or assemblies are packed into two or more shipping containers, each container shall bear a 51 mm (2.04 in.) solid black circle conspicuously placed on the same face of the container as the description of contents markings.

**Nota:** Les contenants d'expédition qui renferment des contenants unitaires et des contenants intermédiaires d'articles semblables doivent porter le numéro de nomenclature OTAN, le numéro du contrat, la quantité ou l'unité de distribution, les mesures de protection requises et la date ainsi que le code d'assurance de la qualité en code à bâtonnets standard (voir la figure 18 de l'appendice 3). Les contenants d'expédition qui renferment des articles divers doivent être marqués en conformité avec les dispositions du 3.11.1(c).

(b) Le niveau du contenant intérieur, le niveau d'emballage ainsi que la méthode et la date d'emballage intérieur (mois et année) doivent être indiqués dans l'ordre; par exemple, l'inscription A B-1A8-12/90 correspond à un contenant intérieur de niveau A, un emballage de niveau B, un emballage intérieur fait suivant la méthode 1A8, en décembre 1990. Si le niveau du contenant intérieur ou le niveau d'emballage n'est pas prévu dans le contrat ou la commande, indiquer seulement la méthode et la date d'emballage (1A8- 12/90, par exemple).

(c) Si des articles disparates sont réunis dans un contenant d'expédition, on s'assurera que chacun est identifié et que le contenant d'expédition porte l'indication ARTICLES DIVERS.

**3.11.2 Instructions d'expédition.** Les instructions d'expédition doivent présenter les renseignements suivants:

(a) Destinataire.

(b) Expéditeur (voir note).

(c) Boîte \_\_\_\_ de \_\_\_\_ (nombre total de boîtes de l'envoi).

**Nota:** Si des articles sont envoyés à un destinataire qui doit les faire suivre, on indiquera sur le contenant d'expédition, après le nom du destinataire, le terme POUR (destinataire final).

**3.11.3 Identification du contrat.** L'identification du contrat doit comporter le numéro de série du contrat (voir l'appendice 2).

**3.11.4 Marques de jeu ou d'ensemble.** Les marques de jeu ou d'ensemble sont représentées à la figure 6.

**3.11.5** Si des jeux ou des ensembles d'articles sont mis dans plusieurs contenants d'expédition, on prévoira sur chaque contenant un cercle noir de 51 mm (2,4 po), sur la face portant la description du contenu.

3.11.6 The word SET should be stencilled directly under the black circle, followed by the number of the set.

3.11.7 If specified, the serial number of the main equipment will be used instead of the set number.

3.11.8 Two numbers, in the form of a fraction, shall be stencilled under the set number or serial number. The numerator will be the serial number of the container in that particular set, and the denominator will be the total number of containers making up the set.

3.11.9 **Special markings (other than preservation markings)**

3.11.10 Each reusable exterior container shall have the following markings prominently displayed in bilingual English/French format:

**REUSABLE CONTAINER DO NOT DESTROY/CONTENANT RÉUTILISABLE, NE PAS DÉTRUIRE**

3.11.11 Reusable metal containers of 18 L (4 gal) capacity or greater, and face exceeding 0.28 M<sup>3</sup> (10 cu ft) shall be clearly marked in bilingual English/French format with the additional marking:

**CANADIAN FORCES PROPERTY/PROPRIÉTÉ DES FORCES CANADIENNES**

3.11.12 If specified, the following additional markings shall be applied on the face of the container bearing the description of contents markings:

- (a) Specification number (type, grade, class) of item.
- (b) Manufacturer's name.
- (c) Manufacturer's part number or drawing number.
- (d) Manufacturer's batch number.
- (e) Qualification number.
- (f) Cure date of rubber components.
- (g) Other data required by contract or commodity specification.
- (h) Date of repair or overhaul.

3.11.6 Immédiatement sous le cercle noir, on inscrira au pochoir le mot JEU qu'on fera suivre du numéro du jeu.

3.11.7 S'il y a lieu, on utilisera le numéro de série de l'équipement principal au lieu du numéro du jeu.

3.11.8 Deux chiffres seront en outre inscrits au pochoir sous le numéro du jeu ou le numéro de série, sous la forme d'une fraction. Le numérateur correspondra au numéro du contenant du jeu en question, et le dénominateur, au nombre total de contenants formant le jeu.

3.11.9 **Marques spéciales (sauf marques de préservation)**

3.11.10 Les contenants extérieurs réutilisables doivent tous porter la mention suivante, en évidence, sous forme bilingue:

**REUSABLE CONTAINER DO NOT DESTROY/CONTENANT RÉUTILISABLE, NE PAS DÉTRUIRE**

3.11.11 Les contenants de métal réutilisables d'une capacité d'au moins 18 L (4 gal) et dont la surface fait au moins 0,28 m<sup>3</sup> (10 pi<sup>3</sup>) doivent en outre porter, en évidence, la mention suivante, sous forme bilingue:

**CANADIAN FORCES PROPERTY/PROPRIÉTÉ DES FORCES CANADIENNES**

3.11.12 S'il y a lieu, on ajoutera les marques suivantes sur la face du contenant qui porte la description du contenu:

- (a) Numéro de spécification (type, qualité, classe) de l'article.
- (b) Nom du fabricant.
- (c) Numéro de pièce ou de dessin du fabricant.
- (d) Numéro de lot du fabricant.
- (e) Numéro d'acceptation.
- (f) Date de vulcanisation des éléments de caoutchouc.
- (g) Autres données requises en vertu du contrat ou des spécifications du produit.
- (h) Date de réparation ou de révision.

(j) Name of repair or overhaul contractor.

(k) Modification status.

(m) Year of manufacture.

**3.11.13 Preservation markings.** When specified, containers with items packaged to any of the methods of unit protection, other than Method III in D-LM-008-001/SF-001, shall have the following markings applied in bilingual English/French format:

**CONTAINS METHODS (as applicable) PACK(S)/  
CONTIENT DES ARTICLES EMBALLÉS  
SUIVANT LA MÉTHODE**

**3.11.14 Method II packages.** Each shipping container containing one or more Method II packages shall have the following markings applied in bilingual English/French format:

**CONTAINS METHOD II PACK(S)/CONTIENT  
DES ARTICLES EMBALLÉS SUIVANT LA  
MÉTHODE II**

**3.11.15** If the shipping container is an integral part of the Method II package, the following markings shall be applied in bilingual English/French format:

**METHOD II PACKAGE DO NOT OPEN EXCEPT  
FOR USE OR INSPECTION/MÉTHODE II —  
NE PAS OUVRIR SAUF POUR USAGE OU  
INSPECTION**

**3.11.16 Handling markings.** The handling markings shall be applied in bilingual English/French format (see Figure 7).

**3.11.17 Cautionary markings.** The cautionary markings shall be applied in bilingual English/French format (see Figure 7).

**3.11.18** Weight, cube and dimensional data areas follows:

(a) **Outside dimensions.** The outside dimensions shall be shown on all shipping containers, bundles, or palletized unit loads having any single dimension 183 cm (72 inches) or more. Outside dimensions shall be shown in the order of length, width, and height, and shall appear directly under weight and cube markings in addition to the cube.

(j) Nom de l'entrepreneur en réparation ou révision.

(k) Statut de modification.

(m) Année de fabrication.

**3.11.13 Marques de préservation.** Les contenants qui renferment des articles qui ont été protégés suivant une méthode d'emballage autre que la méthode III exposée dans le document D-LM-008-001/SF-001 doivent porter la mention suivante, sous forme bilingue:

**CONTAINS METHODS (as applicable) PACK(S)/  
CONTIENT DES ARTICLES EMBALLÉS  
SUIVANT LA MÉTHODE**

**3.11.14 Articles emballés suivant la méthode II.** Les contenants d'expédition qui contiennent un ou plusieurs articles emballés suivant la méthode II doivent porter la mention suivante, sous forme bilingue:

**CONTAINS METHOD II PACK(S)/CONTIENT  
DES ARTICLES EMBALLÉS SUIVANT LA  
MÉTHODE II**

**3.11.15** Si un contenant d'expédition forme lui-même un emballage conforme à la méthode II, on y indiquera la mention suivante, sous forme bilingue:

**METHOD II PACKAGE DO NOT OPEN EXCEPT  
FOR USE OR INSPECTION/MÉTHODE II —  
NE PAS OUVRIR SAUF POUR USAGE OU  
INSPECTION**

**3.11.16 Marques de manutention.** Les marques de manutention doivent être faites sous forme bilingue (voir la figure 7).

**3.11.17 Marques d'avertissement.** Les marques d'avertissement doivent être faites sous forme bilingue (voir figure 7).

**3.11.18** Poids, volume et dimensions:

(a) **Dimensions extérieures.** Les dimensions extérieures doivent être indiquées sur les contenants extérieurs, les ballots ou les charges unitaires sur palette dont l'une des dimensions est supérieure à 183 cm (72 po). Les dimensions extérieures doivent être indiquées dans l'ordre longueur-largeur-hauteur et paraître directement sous le poids et le volume.

(b) **Gross weight.** The weight shown on the shipping containers shall be the gross weight, indicated to the nearest kilogram (2.2 lb). The abbreviation WT shall be used.

(c) **Cube.** The cube shall be the cubic displacement of the shipping container, bundle, pallet load, or the item, whichever is the greater, calculated from the extreme overall length, width, and height dimensions. It shall be shown in cubic feet to the nearest 0.003 M<sup>3</sup> (1/10 cu ft), expressed decimally. Irregular, cylindrical, and round items shall be considered as rectangular. The abbreviation CU shall be used.

### 3.12 Special markings

3.12.1 Subject to the nature of the material packed, cautionary markings such as FRAGILE, GLASS, POISON, PERISHABLE, KEEP FROM FREEZING or other cautionary or handling markings of a similar nature, shall appear on the shipping container. Such markings shall not interfere with or obscure other container markings.

3.12.2 Other handling markings shall be applied as required by container or commodity specifications.

3.12.3 **Foreign language markings.** When specified, material packaged for export or air shipment to Service establishments in Europe shall bear (for information of carriers) such markings as weight, handling and storage instructions in whichever of the following languages is deemed appropriate. Suitable precautionary words and phrases are as follows:

#### ENGLISH

Weight  
Top  
Glass  
Fragile  
Open Here  
Keep Dry  
Handle with Care  
This Side Up  
Use No Hooks

#### FRENCH/FRANCAIS

Poids  
Dessus  
Verre  
Fragile  
Ouvrir ici  
Garder au sec  
Manipuler avec soin  
Cette face en haut  
Maniers sans crampons

#### GERMAN/ALLEMAND

Gewicht  
Oberseite  
Glas  
Zerbrechlich  
Hier Oeffnen  
Vor Nasse Schuetzen  
Vorsicht  
Diesse Seite Oben  
Ohne Haken Aufheben

(b) **Poids brut.** Le poids donné sur un contenant d'expédition doit être le poids brut; il sera indiqué au kilogramme (2,2 lb) près.

(c) **Volume.** Le volume correspond au déplacement cubique du contenant, du ballot, de la charge palettisée ou de l'article, la valeur la plus importante étant à retenir. Il se calcule à l'aide des dimensions hors tout. L'indiquer en pieds cubes, à 0,1 pi<sup>3</sup> près (0,003 m<sup>3</sup>), en décimales. Les articles de forme irrégulière, cylindriques ou ronds seront assimilés à des articles rectangulaires. Utiliser l'abréviation VOL.

### 3.12 Marques spéciales

3.12.1 Compte tenu de la nature des produits emballés, on mettra sur le contenant d'expédition des mentions d'avertissement suivantes: FRA-GILE, VERRE, POISON, PÉRISSABLE, PROTÉGER CONTRE LE GEL, etc. Ces marques ne doivent pas masquer ni couvrir les autres marques.

3.12.2 Les autres marques de manutention seront appliquées en conformité avec les normes relatives au contenant ou les spécifications du produit.

3.12.3 **Marques en langue étrangère.** Les produits qui doivent être exportés ou envoyés par avion à des établissements militaires situés en Europe porteront, s'il y a lieu, des indications (à l'intention des transporteurs) touchant, par exemple, le poids ou les conditions de manutention et d'entreposage, dans les langues jugées utiles. On utilisera à cette fin les mentions suivantes:

**3.13 Positioning and application.** Positioning and application of markings shall be as follows.

**3.13.1** Containers with a volume of up to 0.28 m<sup>3</sup> (10 cu ft) shall have markings positioned as illustrated in Figure 8.

**3.13.2** Containers with a volume of 0.28 m<sup>3</sup> (10 cu ft) or more shall have markings positioned as illustrated in Figure 9.

**3.13.3** Markings shall be stencilled or printed directly on the shipping container, or, when the design of the container does not permit this, markings shall be applied by means of stencilled, printed or typed labels or tags. Labels shall be securely affixed in place with water-resistant adhesive.

**3.13.4** Reusable metal containers marked by means of labelling shall have labels affixed with pressure-sensitive adhesive.

**3.13.5** Neat and legible hand printing is acceptable as a means of marking, subject to the approval of the Quality Assurance/Inspection Authority.

### **3.14 Size of markings**

**3.14.1 Size of lettering.** As specified herein, lettering for all markings shall be capital letters of equal height, proportional to the available space of the container, and shall not exceed 76 mm (3.0 in.) in height:

(a) **Markings, other than the address on shipping containers.** Lettering for markings other than the address should be not less than 12 mm (0.50 in.) nor more than 25 mm (1.0 in.) in height on interrupted stencil letters and not less than 13 mm (0.52 in.) nor more than 25 mm (1.0 in.) on solid letters. The lettering may be reduced to 6 mm (0.24 in.) in height when the total area, or the available space of the panel to be marked, is not sufficient for the larger size lettering.

(b) **Address.** Lettering for the overseas address shall be not less than 12 mm (0.50 in.) nor more than 76 mm (3.0 in.) except when tags or labels are utilized. When address marking is applied by stencilling, it will be the most conspicuous marking on the container and as large as available space permits.

**3.13 Position et application.** Les marques doivent être placées et appliquées de la manière décrite ci-dessous.

**3.13.1** Contenants d'un volume inférieur à 0,28 m<sup>3</sup> (10 pi<sup>3</sup>): placer les marques de la manière indiquée à la figure 8.

**3.13.2** Contenants d'un volume de 0,28 m<sup>3</sup> (10 pi<sup>3</sup>) et plus: placer les marques de la manière indiquée à la figure 9.

**3.13.3** Les marques doivent être faites au pochoir ou imprimées directement sur le contenant d'expédition; si la forme du contenant ne le permet pas, les marques seront appliquées au pochoir, imprimées ou dactylographiées sur une étiquette qu'on collera au contenant avec un adhésif imperméable.

**3.13.4** Les contenants de métal réutilisables qui sont marqués à l'aide d'étiquettes doivent porter des étiquettes autocollantes.

**3.13.5** Les marques peuvent être tracées à la main si les instances d'inspection y consentent et pourvu qu'elles soient claires et lisibles.

### **3.14 Taille des marques**

**3.14.1 Taille du lettrage.** Le lettrage doit se faire en majuscules d'égale hauteur et proportionnelles à l'espace disponible sur le contenant. Les lettres ne doivent pas faire plus de 76 mm (3 po) de hauteur:

(a) **Marques autres que l'adresse sur les contenants d'expédition.** Le lettrage des marques autres que l'adresse ne doit pas faire moins de 12 mm (0,5 po) ni plus de 25 mm (1 po) de hauteur s'il est fait au pochoir en lettres brisées, ni moins de 13 mm (0,52 po) et plus de 25 mm (1 po) s'il est fait en lettres pleines. Les lettres peuvent être réduites à une hauteur de 6 mm (0,24 po) si la superficie totale ou l'espace disponible ne conviennent pas à l'utilisation de plus grandes lettres.

(b) **Adresse.** Le lettrage des adresses à l'étranger ne doit pas faire moins de 12 mm (0,5 po) ni plus de 76 mm (3 po), à moins qu'on utilise une étiquette. Si l'adresse est écrite au pochoir, elle devra constituer l'inscription la plus évidente du contenant et occuper le plus d'espace possible.

3.15 Handling and Cautionary markings (see 3.11.16 and 3.11.17) shall be applied in a conspicuous position.

3.16 The contract supply voucher, release note, packing list, etc, shall be enclosed in a water-resistant envelope which shall be securely affixed to one end of the last container in each shipment.

3.16.1 Other documents which may accompany the shipment shall be placed on top of the packed stores in the last container in the shipment and the container shall be marked to indicate the enclosure. The markings shall be on the same face as the envelope referred to 3.16.

3.16.2 **Unboxed and uncrated items.** Identification and contractual information shall be stencilled directly on the base of the item when the design of the item is such as to permit this. Otherwise, markings shall be applied by means of tags which shall be securely attached to a suitable part of the item.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Quality conformance inspection shall consist of a visual inspection of the markings for storage and shipment to ensure adherence to the requirements of this specification and that required markings are not omitted, incorrect or illegible.

#### 5. PACKAGING

Not applicable.

#### 6. NOTES

Not applicable.

3.15 Les marques d'avertissement (voir 3.11.16 et 3.11 17) doivent être placées bien en évidence.

3.16 Le bon de commande, le bon de livraison, le bordereau d'expédition, etc. doivent être mis dans une enveloppe imperméable qu'on apposera sur l'une des extrémités du dernier contenant de chaque envoi.

3.16.1 Les autres documents qui peuvent accompagner l'envoi seront mis sur les articles expédiés, dans le dernier contenant de l'envoi, et le contenant sera marqué en conséquence. Les marques doivent être faites sur la face du contenant où a été apposée l'enveloppe dont il est question au paragraphe 3.16.

3.16.2 **Articles non mis sous boîte ou sous caisse.** La désignation de l'article et les renseignements prévus au contrat doivent dans ce cas être marqués directement au pochoir, sur la base de l'article. Si la forme de l'article ne le permet pas, les marques utiles seront portées sur des étiquettes qu'on attachera solidement à l'article.

#### 4. CONTRÔLE DE LA QUALITÉ

4.1 L'inspection de conformité à la qualité doit consister d'une inspection visuelle des marques, d'entreposage et d'expédition afin de confirmer l'adhérence aux exigences de cette spécification et de s'assurer que les marques requis ne sont pas oubliées, incorrectes ou illisibles.

#### 5. EMBALLAGE

Sans objet.

#### 6. REMARQUES

Sans objet.

NATO STOCK NUMBER/ NUMÉRO DE NOMENCLATURE DE L'OTAN	(or other identification marking)/ (ou toute autre marque d'identification)
DESCRIPTION/ NOMENCLATURE	(including serial number when applicable)/ (y compris le numéro de série, s'il y a lieu)
QUANTITY/ QUANTITÉ	
PROTECTION AND DATE MARKINGS/ DATE ET PROTECTION REQUISE	
CONTRACT SERIAL NUMBER/ NUMÉRO DE SÉRIE DU CONTRAT	(as shown on the contract: see Annex C) (tel qu'il figure sur le contrat: voir l'annexe C)
SPECIAL MARKINGS/ MARQUES SPÉCIALES	

Figure 1 Identification Label — Marking Requirements

Figure 1 Étiquette d'identification — marques requises

 <p>5925218769219</p> <p>CIRCUIT BREAKER /DISJONCTEUR</p> <p>1 EA /1 CH.</p> <p>A-1A8-12-90</p> <p>W8463-9-DA3W/01-BG</p> <p>1990 (YR. OF MFR.) /(ANNÉE DE FABRICATION)</p>
--

Figure 2 Identification Label — Complete

Figure 2 Étiquette d'identification — forme réelle

## APPENDIX 1

### 10. ABBREVIATIONS

**10.1 Scope.** This annex lists the authorized abbreviations.

**10.2 Abbreviations.** The following terms for units of issue, quantitative and weights and measures units, cross-referenced to Codes in abbreviated format, are authorized for use. The codes shall be utilized where the requirements for abbreviated markings are specified in this document. Miscellaneous marking and provincial abbreviations are also included. Abbreviations of items description not indicated herein may be permitted when approved by the inspection authority designated in the procurement document.

(a) Terms and applicable Codes are as follows:

## APPENDICE 1

### 10. ABRÉVIATIONS

**10.1 Portée.** Cette appendice présente la liste des abréviations autorisées.

**10.2 Abréviations.** Les termes abrégés des unités de dotation suivant concernant les unités quantitative, de poids, et de mesure qui sont référées aux codes selon la formule abrégée établie sont autorisés à être utilisés. Ces codes devront être utilisés lorsque le document exige l'utilisation des marques abrégées. Différentes indications et abréviations provinciales aussi inclus peuvent être utilisées selon le besoin. Par ailleurs, les abréviations de certaines nomenclature qui ne sont pas établies officiellement pourront être utilisées lorsque permise par l'autorité d'inspection désignée dans le document d'achat.

(a) Les termes et les codes applicable sont détaillés comme suit:

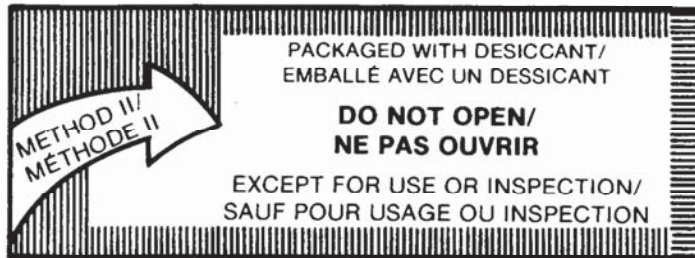


Figure 3 Method II Label

Figure 3 Étiquette de méthode II

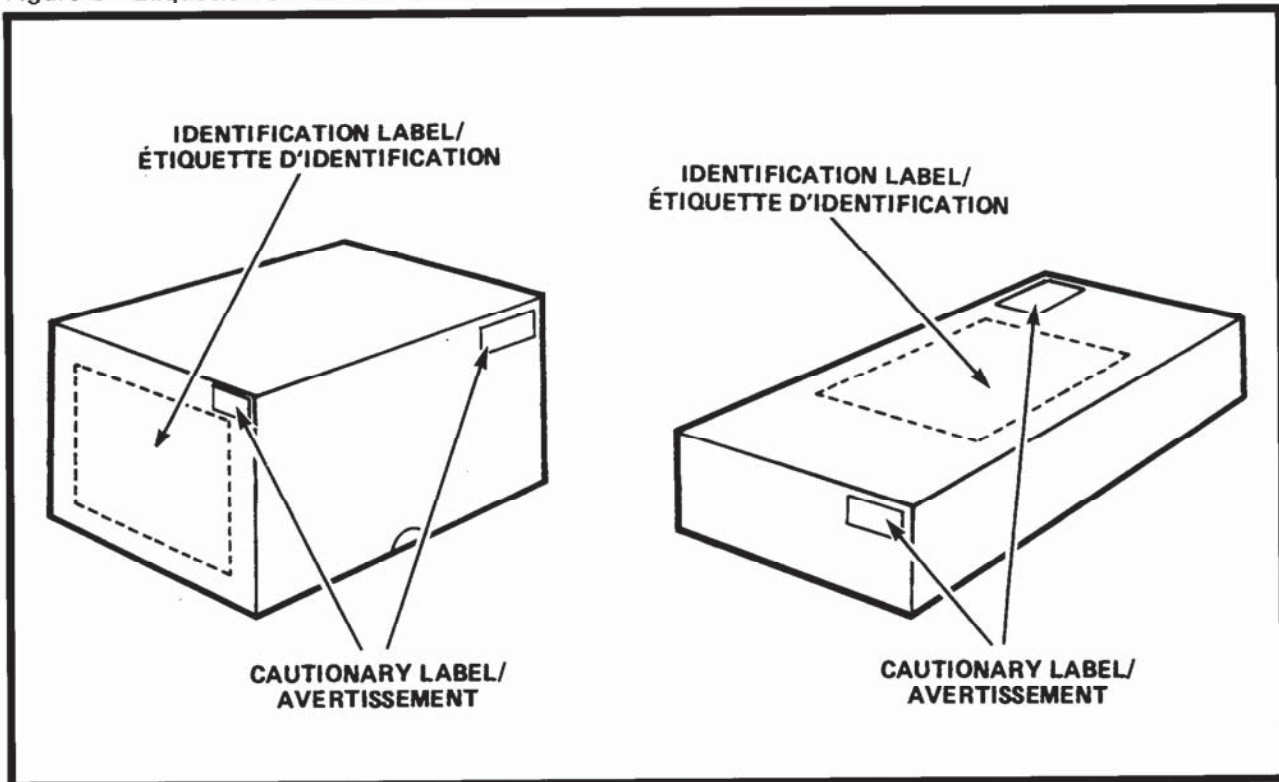


Figure 4 Interior Cartons

Figure 4 Boîtes intérieures

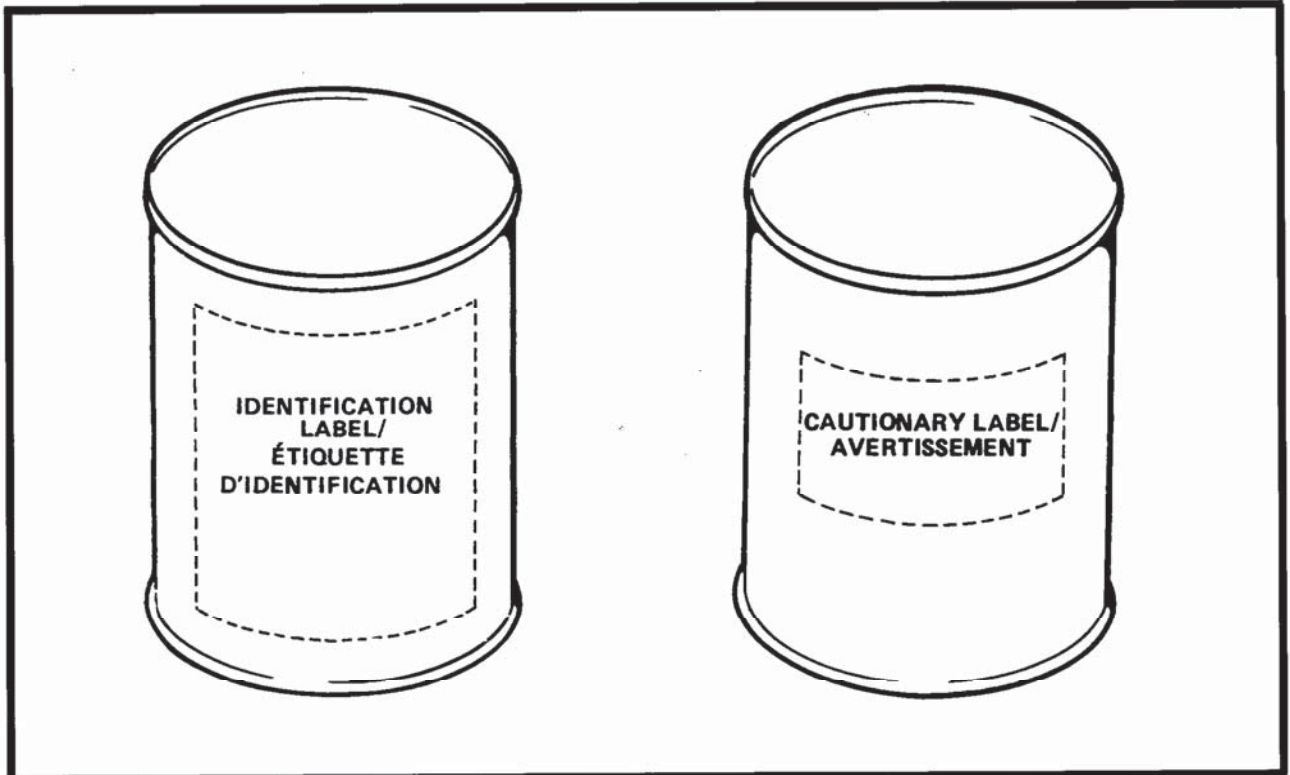


Figure 5 Cans (Interior Packs)  
Figure 5 Boîtes de conserve (contenants intérieurs)

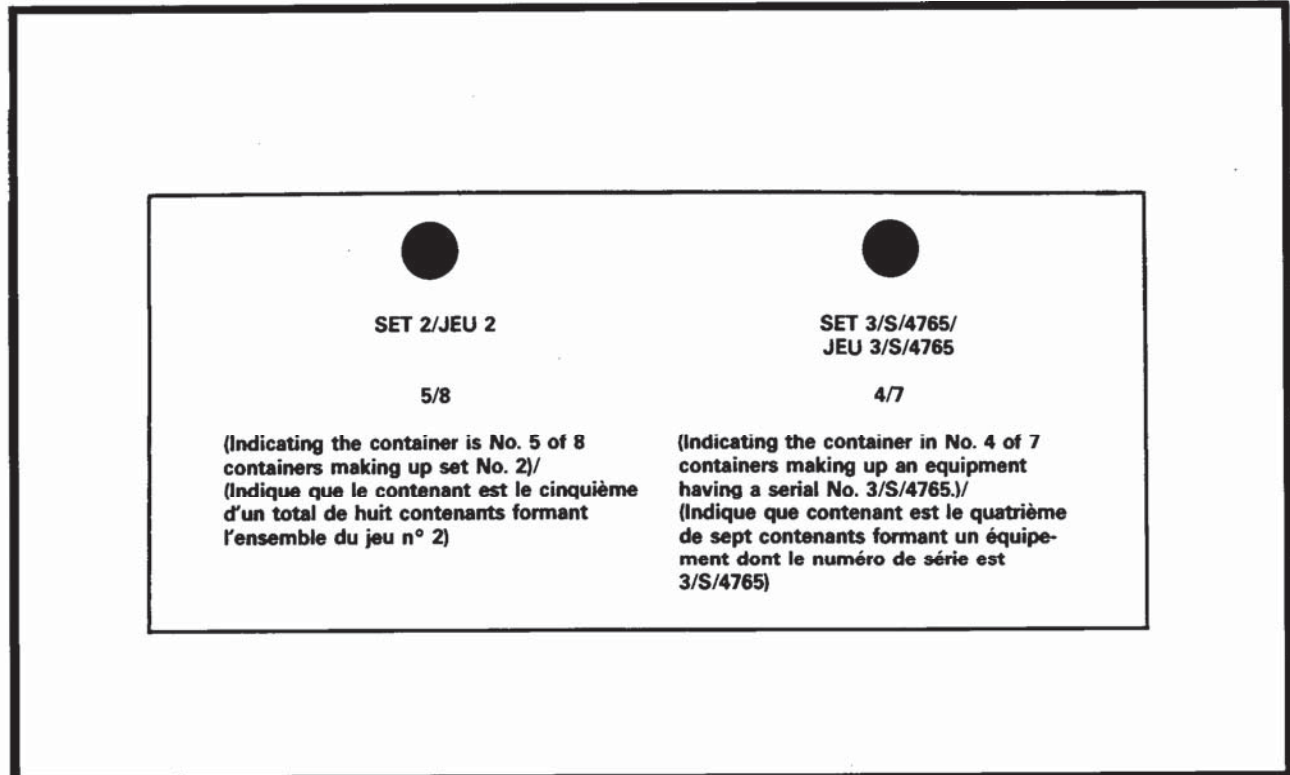


Figure 6 Set or Assembly Markings  
Figure 6 Marques de jeu ou d'ensemble

**FRAGILE  
HANDLE WITH CARE  
FRAGILE  
MANIPULEZ AVEC SOIN**



TO INDICATE THAT THE CONTENTS OF THE SHIPPING CONTAINER ARE FRAGILE AND THAT IT HAS TO BE HANDLED WITH CARE. SYMBOL TO BE LOCATED NEAR THE UPPER LEFT HAND CORNER OF THE SHIPPING CONTAINER.

SERT À INDIQUER QUE LE CONTENANT RENFERME DES MARCHANDISES FRAGILES ET QU'IL FAUT, PAR CONSÉQUENT, LE MANIPULER AVEC SOIN. LE SYMBOLE DOIT ÊTRE PLACÉ DANS LE COIN SUPÉRIEUR GAUCHE DU CONTENANT.

**USE NO HOOKS  
MANIEZ  
SANS CRAMpons**



TO INDICATE THAT HOOKS ARE PROHIBITED FOR LIFTING THE SHIPPING CONTAINER.

SERT À INDIQUER QU'IL NE FAUT PAS SOULEVER LE CONTENANT À L'AIDE DE CRAMpons.

**THIS WAY UP  
CETTE FACE  
EN HAUT**



TO INDICATE THE CORRECT UPRIGHT POSITION OF THE SHIPPING CONTAINER.

SERT À INDIQUER QUE, DANS LA POSITION INDICUÉE PAR LES FLÈCHES, LE CONTENANT EST À L'ENDROIT.

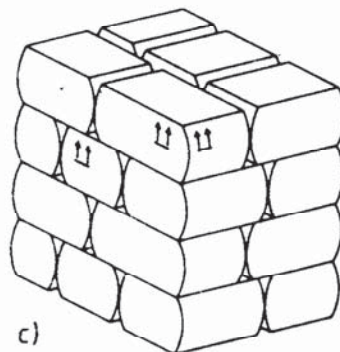
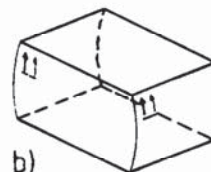
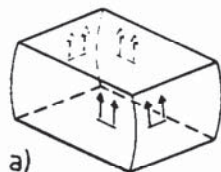


Figure 7 (Sheet 1 of 4) Handling and Cautionary Markings

Figure 7 (Page 1 de 4) Margues de manutention et d'avertissement

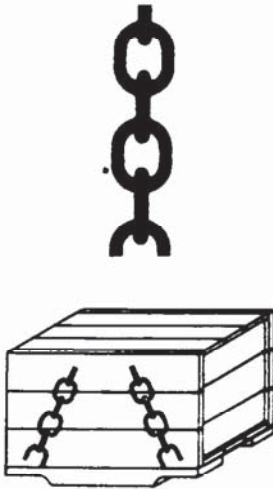
**KEEP AWAY  
FROM HEAT  
ÉVITER SOURCE  
DE CHALEUR**



TO INDICATE THAT THE SHIPPING CONTAINER SHALL BE KEPT AWAY FROM HEAT.

SERT À INDIQUER QU'IL FAUT SE GARDER DE DÉPOSER LE CONTENANT PRÈS D'UNE SOURCE DE CHALEUR.

**SLING HERE  
ATTACHER ICI**



TO INDICATE WHERE THE SLINGS ARE TO BE PLACED FOR LIFTING THE SHIPPING CONTAINER. SYMBOL TO BE SHOWN ON AT LEAST TWO OPPOSITE FACES.

SERT À INDIQUER OÙ PLACER LES ATTACHES POUR SOULEVER LE CONTENANT. LE SYMBOLE DOIT FIGURER SUR AU MOINS DEUX FACES OPPOSÉES DU CONTENANT.

**KEEP DRY  
GARDER AU SEC**

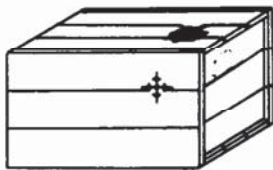


TO INDICATE THAT THE SHIPPING CONTAINER SHALL BE KEPT IN A DRY ENVIRONMENT.

SERT À INDIQUER QUE LE CONTENANT D'EXPÉDITION DOIT ÊTRE GARDÉ DANS UN ENDROIT SEC.

Figure 7 (Sheet 2 of 4) Handling and Cautionary Markings

Figure 7 (Page 2 de 4) Margues de manutention et d'avertissement

**CENTRE OF GRAVITY  
CENTRE DE GRAVITÉ**

TO INDICATE THE CENTRE OF GRAVITY OF THE SHIPPING CONTAINER. THE SYMBOL TO BE PLACED ON ALL NORMALLY UPRIGHT SIDES, AND SHALL BE APPLIED IN THE CORRECT POSITION IN ORDER TO ENSURE THE MEANING IS UNDERSTOOD. REQUIRED ON ALL SHIPPING CONTAINERS OVER 3.0M OR ANY CONTAINER WHICH IS UNBALANCED.

SERT À INDiquer LE CENTRE DE GRAVITÉ DU CONTENANT D'EXPÉDITION. LE SYMBOLE DOIT ÊTRE APPOSÉ SUR TOUS LES CÔTÉS DU CONTENANT, EN POSITION DEBOUT NORMALE, ET AU BON ENDROIT SUR CHAQUE FACE AFIN QUE LE SYMBOLE SOIT BIEN COMPRIS. INDiquer CE SYMBOLE SUR TOUS LES CONTENANTS DE PLUS DE 3.0 M OU SUR TOUS LES CONTENANTS QUI NE SONT PAS ÉQUILIBRÉS.

**DO NOT ROLL  
NE PAS ROULER**

TO INDICATE THAT THE SHIPPING CONTAINER SHALL NOT BE ROLLED.

SERT À INDiquer QUE LE CONTENANT NE DOIT PAS ÊTRE ROULÉ.

**NO HAND TRUCK HERE  
PAS DE CHARIOT  
DE CE CÔTÉ**

TO INDICATE WHERE HAND TRUCKS OR DOLLIES SHALL NOT BE PLACED WHEN HANDLING THE SHIPPING CONTAINER.

SERT À INDiquer À QUEL ENDROIT NE PAS PLACER LE DIABLE OU LE CHARIOT POUR DÉPLACER LE CONTENANT.

Figure 7 (Sheet 3 of 4) Handling and Cautionary Markings

Figure 7 (Page 3 de 4) Margues de manutention et d'avertissement



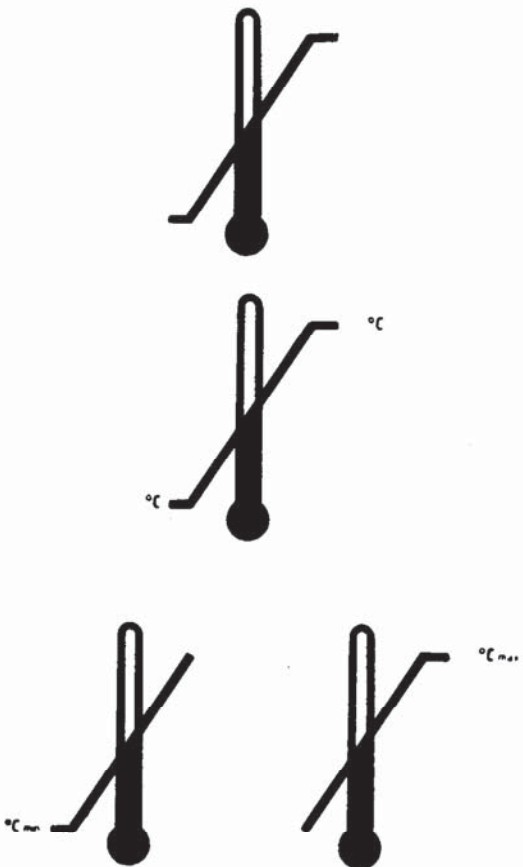
<p><b>STACKING LIMITATION</b> <b>LIMITE D'EMPILAGE</b></p> 	<p>TO INDICATE THE LIMITED STACKING POSSIBILITIES OF THE SHIPPING CONTAINERS.</p> <p>SERT À INDIQUER LA LIMITE D'EMPILAGE QUE LES CONTENANTS PEUVENT SUPPORTER.</p>
<p><b>CLAMP HERE</b> <b>METTRE SERRES ICI</b></p> 	<p>TO INDICATE WHERE CLAMPS SHALL BE PLACED FOR HANDLING THE SHIPPING CONTAINER.</p> <p>SERT À INDIQUER OÙ METTRE LES SERRES POUR MANIPULER LE CONTENANT.</p>
<p><b>TEMPERATURE LIMITATIONS</b> <b>LIMITES DE TEMPÉRATURE</b></p> 	<p>TO INDICATE THE TEMPERATURE LIMITATIONS WITHIN WHICH THE SHIPPING CONTAINER SHALL BE KEPT AND HANDLED.</p> <p>SERT À INDIQUER LES LIMITES DE TEMPÉRATURE À OBSERVER POUR L'ENTREPOSAGE ET LE TRANSPORT DU CONTENANT.</p>

Figure 7 (Sheet 4 of 4) Handling and Cautionary Markings  
Figure 7 (Page 4 de 4) Margues de manutention et d'avertissement

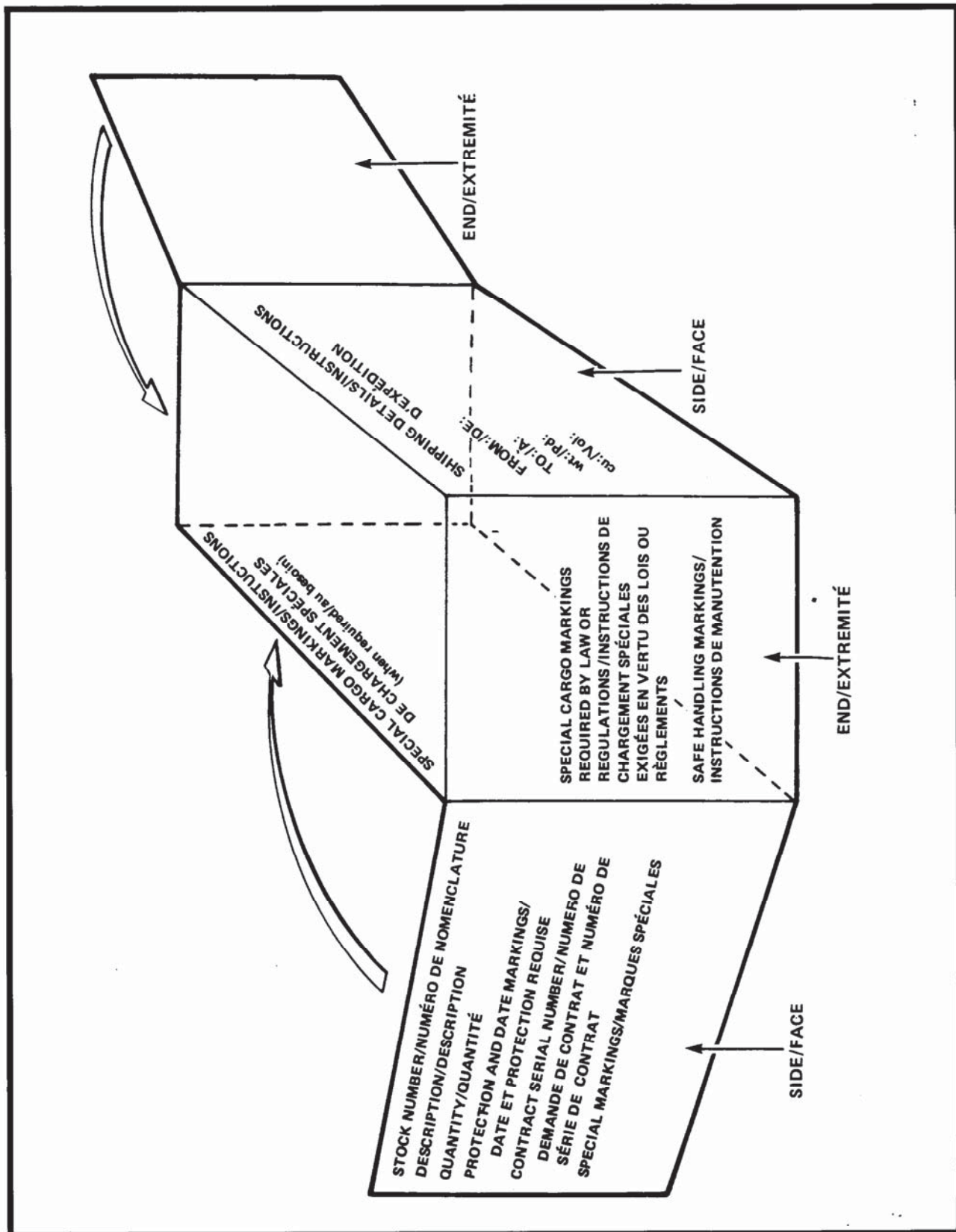


Figure 8 Shipping Container Markings — Volume under 0.28 m³ (10 cu ft)  
 Figure 8 Marquage des contenants d'expédition de moins de 0,28m³ (10 pi³)

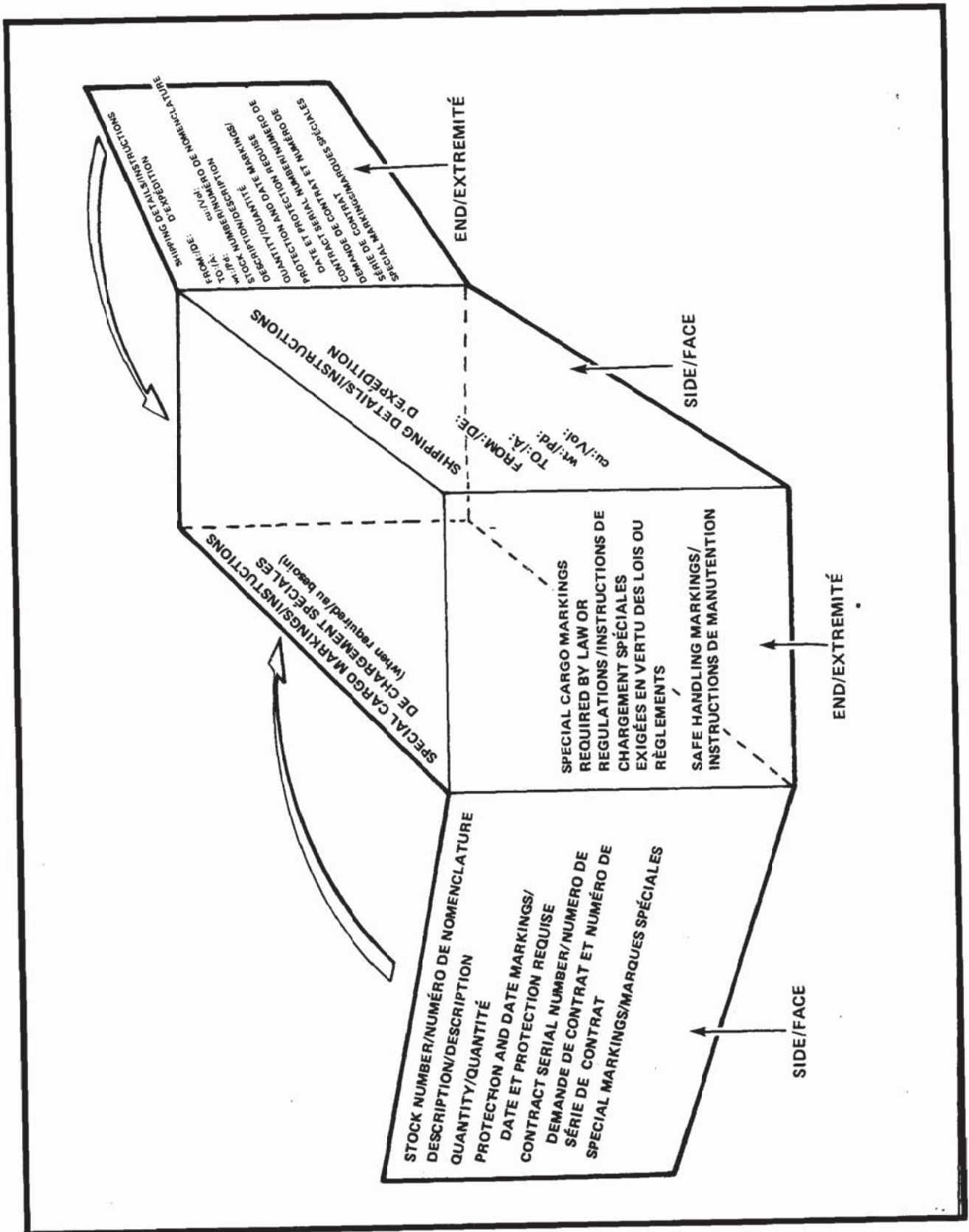
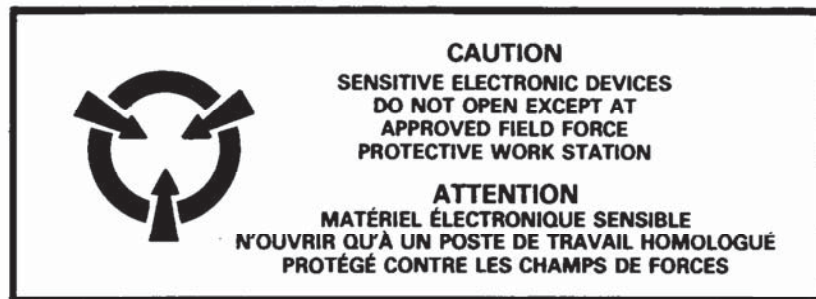


Figure 9 Shipping Container Markings — Volume over 0.28 m³ (10 cu ft)  
Figure 9 Marquage des contenants d'expédition de 0,28 m³ (10 pi³) et plus



**SENSITIVE ELECTRONIC DEVICE UNIT PACK LABEL.**

**ÉTIQUETTE APPOSÉE SUR UN EMBALLAGE UNITAIRE  
RENFERMANT DU MATÉRIEL ÉLECTRONIQUE SENSIBLE.**



**SENSITIVE ELECTRONIC DEVICE CAUTION LABEL (INTERMEDIATE AND EXTERIOR PACKS).**

**ÉTIQUETTE APPOSÉE SUR LES EMBALLAGES INTERMÉDIAIRES  
ET EXTÉRIEURS RENFERMANT DU MATÉRIEL ÉLECTRONIQUE SENSIBLE.**

Figure 10 Sensitive Electronic Device Caution Label

Figure 10 Étiquette d'avertissement — Matériel électronique sensible

TERM	CODE	TERME	CODE
Ampoule	AM	Ampoule	AM
Assembly	AY	Anneau	HK
Assortment	AT	Assortiment	AT
Bag	BG	Balle	BA
Bale	BE	Ballot	BE
Ball	BA	Bande	SP
Bar	BR	Baril	DR
Barrel	BL	Barre	BR
Board Feet	BF	Baton	SX
Bolt	BO	Bidon	TI
Book	BK	Bobine	CL
Bottle	BT	Bobine	RL
Box	BX	Boisseau (Impérial)	BM
Bundle	BD	Boite	BX
Bushel, Imperial (2219.23 cu in)	BM	Bonbonne	CB
Cake	CK	Boulon	BO
Can	CN	Bouteille	BT
Carboy	CB	Brasse	FM
Cubic Yard	CD	Cannette	CN
Cartridge	CA	Cartouche	CA
Centigramme	CG	Cent	HD
Centimetre	CM	Centimètre	CM
Coil	CL	Centimètre Cube	CC
Cone	CE	Centigramme	CG
Container	CO	Chacun	EA
Cubic Centimetre	CC	Chopine (Impérial)	PI
Cubic Foot	CF	Chopine (Américaine)	PT
Cubic Inch	CI	Cone	CE
Cubic Metre	CZ	Conteneur	CO
Cylinder	CY	Cylindre	CY
Decagramme	DC	Décagramme	DC
Decigramme	DG	Décigramme	DG

<b>TERM</b>	<b>CODE</b>	<b>TERME</b>	<b>CODE</b>
Decilitre	DL	Décilitre	DL
Decimetre	DE	Décimètre	DE
Dozen	DZ	Dévidoir	SL
Drum	DR	Douzaine	DZ
Each	EA	Écheveau	SK
Fathom	FM	Emballage	PG
Foot	FT	Ensemble	SE
Gallon, Imperial	GB	Équipement	OT
Gallon, US	GL	Feuille	SH
Grain	GN	Fiole	VI
Gramme	GM	Gallon (Impérial)	GB
Gross	GR	Gallon (Américain)	GL
Group	GP	Grain	GN
Hank	HK	Gramme	GM
Hundred	HD	Grosse	GR
Hundredweight, Imperial (112 lb)	HI	Group	GP
Inch	IN	Jarre	JR
Jar	JR	Kilogramme	KG
Kilogramme	KG	Kilomètre	LM
Kilometre	KM	Litre	LI
Kit	KT	Livre	BK
Length	LG	Longueur	LG
Litre	LI	Mètre	MR
Long Ton (2240 lb)	LT	Microgramme	MC
Meal	ME	Mille	MX
Metre	MR	Milligramme	MG
Microgramme	MC	Millilitre	ML
Milligramme	MG	Millimètre	MM
Millilitre	ML	Once	OZ
Millimetre	MM	Once Troy	TO
Ounce	OZ	Pain	CK
Outfit	OT	Paire	PR
Package	PG	Patin	SD

TERM	CODE	TERME	CODE
Packet	PZ	Paquet	BD
Pad	PD	Paquet	PZ
Pair	PR	Pied	FT
Phial (see Vial)	VI	Pied Carré	SF
Pint, Imperial	PI	Pied Cube	CF
Pint, US	PT	Pied Planche	BF
Plate	PM	Plaque	PM
Pound	LB	Pinte (Impériale)	QI
Quart, Imperial	QI	Pinte (Américaine)	QT
Quart, US	QT	Pouce	IN
Ration	RA	Pouce Carré	SI
Ream	RM	Pouce Cube	CI
Roll	RO	Projectilé	SO
Reel	RL	Quintal (Impériale)	HI
Set	SE	Rame	RM
Sheet	SH	Ration	RA
Shot	SO	Repas	ME
Skein	SK	Rouleau	RO
Skid	SD	Sac	BG
Spool	SL	Tampon	PD
Square Foot	SF	Tonneau	BL
Square Inch	SI	Tonne	TN
Square Yard	SY	Tonne Mètrique	TM
Short Ton	ST	Tonne Torte	LT
Stick	SX	Trousse	KT
Strip	SP	Tube	TU
Thousand	MX	Verge	YD
Tin	TI	Verge Carrée	SY
Ton (2000 lb)	TN	Verge Cube	CD
Ton, Metric (2204.6 lb)	TM		
Troy Ounce	TO		
Tube	TU		

TERM	CODE	TERME	CODE
Vial (see Phial)	VI		
Yard	YD		
(b) <b>Miscellaneous abbreviations.</b> Miscellaneous abbreviations are as follows:		(b) <b>Abréviations diverses.</b> Les abréviations employées sont les suivantes:	
Aircraft on ground	AOG	Aéronef au sol	AOG
Bill of Lading	B/L	Connaissance	B/L
Catalogue	CAT	Catalogue	CAT
Supply and Services Canada	SSC	Approvisionnements et Services Canada SSC	
Dimensions	DIM	Dimensions	DIM
Engine	ENG	Moteur	ENG
Express	EXP	Express	EXP
Federal Stock Number	FSN	Numéro de nomenclature fédéral	FSN
Financial Encumbrance	FE/EF	Consignation de fonds	FE/EF
Freight	FRT	Fret	FRT
Government Bill of Lading	GBL	Connaissance du gouvernement ÉTAT	CONN
Hi Value	HV	Valeur élevée	HV
Invoice	INV	Facture	INV
Less than carload	LCL	Chargement partiel (wagon)	LCL
Less than truckload	LTL	Chargement partiel (camion)	LTL
Manufactured	MFD	Fabriqué	MFD
Mark	MK	Marque	MK
NATO Stock Number	NSN	Numéro de nomenclature de l'OTAN	NNO
Net Weight	Net/WT	Poids net	NET/WT
Number	NO	Numéro	NO
Ocean Bill of Lading	OBL	Connaissance maritime	OBL
Parcel Post	PP	Colis postal	PP
Prepaid	PPD	Port payé	PPD
Station	STN	Station	STN
Tare Weight	T/WT	Poids à vide	T/WT
Urgent Repair Requirement	URR	Réparation requise d'urgence	URR

TERM	CODE	TERME	CODE
(c) <b>Provinces.</b> Provinces are abbreviated as follows:		(c) <b>Provinces.</b> Les abréviations employées sont les suivantes:	
Province of British Columbia	BC	Colombie-Britannique	BC
Province of Alberta	AB	Alberta	AB
Province of Saskatchewan	SK	Saskatchewan	SK
Province of Manitoba	MB	Manitoba	MB
Province of Ontario	ON	Ontario	ON
Province of Quebec	PQ or QC	Québec	PQ/QC
Province of New Brunswick	NB	Nouveau-Brunswick	NB
Province of Nova Scotia	NS	Nouvelle-Écosse	NS
Province of Prince Edward Island	PE	Île-du-Prince-Édouard	PE
Province of Newfoundland	NF	Terre-Neuve	NF
Yukon Territory	YT	Yukon	YT
North West Territory	NT	Territoires du Nord-Ouest	NT



**20. GUIDE TO CONTRACT IDENTIFICATION MARKINGS**

**20.1 Scope.** This appendix shows an example of contract serial numbers which must be given to meet the requirements of 3.7.1(e) and 3.11.1(a)v.

**20. GUIDE DES MARQUES D'IDENTIFICATION DES CONTRATS**

**20.1 Portée.** Cette appendice présente un exemple des numéros qui doivent être donnés pour que soient satisfaites les exigences des paragraphes 3.7.1(e) et 3.11.1(a)v.





 <b>Supply and Services Canada</b> Scientific Elect. Mechanical & Construction Products Br. - DF 7811 Place du Portage Phase III Hull, Que. FAX NO: 819-997-9776		<b>CONTRACT - CONTRAT</b>		Page 1 of 12	
SSC file No. - N° de référence d'ASC <b>014DF.W8463-0-DA6F</b>		Date of Contract - Date du contrat <b>08 Apr/avr 1991</b>		Contract No. - N° du contrat <b>W8463-0-DA6F/02-DF</b>	
Requisition No. - N° de la demande Order office Bureau demandeur <b>W8463 0 DA6F</b>		Yr An <b>0</b>		Serial No. N° de série <b>DA6F</b>	
Financial Code(s) - Code(s) financier(s) <b>02D 846390EDA6F 8463DA 02DP</b> <b>07243 GOODS</b> <b>2302-AP-35TX--81710 GST</b>		Duty - Droits <b>Included</b> <b>Compris</b>		F.O.B. - F.A.B.	
Destination <b>see herein/voir ci-inclus</b>		Goods and Services Tax - Taxe sur les produits et services <b>see herein/voir ci-inclus</b>		Destination <b>SEE HEREIN</b>	
Invoices - original and two copies are to be made out and sent to: Factures - remplir et envoyer l'original et deux copies à: <b>SEE HEREIN</b>		Address enquiries to: - Adresser toute demande de renseignements à: <b>B. Larocque</b>		Area code code régional <b>819</b>	
Telephone No. N° de téléphone <b>956-3590</b>		Extension Poste <b>053-3703</b>		Telex No. N° de télex <b>053-3703</b>	
Total est. cost - Coût total est <b>\$164,454.78</b>		For the Minister / Pour le Ministre 		DSS-MAS 9400-9 (10/90)	

Figure 11 Contract Identification Markings

Figure 11 Marques d'identification d'un contrat

### 30. STANDARD SYMBOLOGY FOR BAR CODING

**30.1 Scope.** The purpose of this standard is to define the standard symbology for marking unit packs, outer containers, and selected documents by means of bar coding.

**30.2 Application.** The standard symbology shall be used whenever bar code marking/reading operations are employed within logistics operations.

**30.3 Definitions.** For the purpose of this publication:

**bar**  
means a single dark element of a bar code;

**bar code**  
means an array of rectangular marks and spaces in a predetermined pattern;

**bar width**  
means the perpendicular distance across a bar measured from a point on one edge to the opposite edge; each edge will be defined as having a reflectance that is 50 per cent of the difference between the lighter background and the bar reflectances;

**bearer bar**  
means a rectangular bar pattern circumscribing the bar code, particularly a bar code directly printed on corrugated fibre-board;

**bidirectional code**  
means a bar code format which permits reading in complementary (opposite) directions across the bars and spaces;

**binary**  
pertains to a characteristic or property involving a selection, choice, or condition in which there are two possibilities;

**binary code**  
means a code which makes use of exactly two distinct characters, usually 0 and 1;

### 30. CODE À BATONNETS STANDARD

**30.1 Portée.** Cette appendice présente les normes de marquage des contenants unitaires, des contenants extérieurs et de certains documents au moyen du code à bâtonnets standard.

**30.2 Domaines d'application.** Le code à bâtonnets standard doit être utilisé dans les opérations de logistique.

**30.3 Définitions.** Les principaux termes utilisés dans cette publication sont définis ci-dessous:

**bâtonnet**  
élément foncé d'un code à bâtonnets;

**code à bâtonnets**  
ensemble rectangulaire de traits et d'espaces placés d'une manière ordonnée;

**largeur d'un bâtonnet**  
plus petite dimension d'un bâtonnet, mesurée transversalement d'un point d'une bordure à un point de la bordure opposée; chaque bordure doit avoir une réflectance égale à 50% de la différence entre la réflectance du fond (plus pâle) et celle du bâtonnet;

**cadre**  
élément rectangulaire entourant le code à bâtonnets, particulièrement quand celui-ci est imprimé directement sur du carton ondulé;

**code bidirectionnel**  
code à bâtonnets dont la lecture peut se faire dans les deux sens;

**binaire**  
se dit d'une caractéristique ou d'une propriété d'un choix ou d'un état offrant deux possibilités;

**code binaire**  
code faisant appel à deux caractères distincts, généralement 0 et 1;

## APPENDIX 3

**certificate of conformance (COC)**

means contractors signed certification that the supplies provided to the government (under contract) comply with stated contract requirements and specifications; the COC does not waive the government's right to inspect supplies under other inspection provisions of a contract;

**character**

means a letter, digit, or other special form that is used as part of the organization, control, or representation of data and is often in the form of a spatial arrangement of adjacent or connected strokes;

**characters per inch (CPI)**

means the number of bar coded characters that are displayed in each inch of bar code;

**character set**

means those characters which are available for encoding within the bar code;

**code density**

means the number of characters that can appear per unit of length, normally expressed in characters per inch;

**discrete code**

means a bar code in which the intercharacter gap is not part of the code and is allowed to vary dimensionally within wide tolerance limits;

**element**

means a generic term used to refer to either a bar or a space;

**human readable interpretation (HRI)**

means the exact interpretation of the encoded bar code data presented in a human-readable font;

**intercharacter gap**

means the space between the last element of one character and the first element of the adjacent character of a discrete bar code;

**margin (quiet zone)**

means the area immediately preceding the start character and following the stop character which contains no markings, and provides the same reflectance as the spaces;

**certificat de conformité**

certificat signé par l'entrepreneur dans lequel celui-ci atteste que les fournitures remises à l'État (en vertu d'un contrat) sont conformes aux exigences et aux spécifications du marché; le certificat de conformité ne limite en rien le droit qu'a l'État d'inspecter les fournitures en vertu d'autres clauses d'un marché;

**caractère**

lettre, chiffre ou autre symbole utilisé dans l'organisation, le contrôle ou la représentation des données; un caractère est souvent composé de traits adjacents ou liés;

**caractères au pouce (C/po)**

dans un code à bâtonnets, nombre de caractères représentés au pouce;

**ensemble de caractères**

caractères susceptibles d'être représentés par un code à bâtonnets;

**densité de codes**

nombre de caractères par unité de longueur, normalement au pouce;

**code discret**

code à bâtonnets dans lequel l'intervalle entre les caractères ne fait pas partie du code et peut varier considérablement;

**élément**

terme générique qui peut aussi bien désigner un bâtonnet qu'un espace;

**interprétation en clair**

interprétation exacte des données d'un code à bâtonnets présentées avec une police intelligible;

**intervalle**

espace compris entre le dernier élément d'un caractère et le premier élément du caractère adjacent d'un code discret;

**marge**

espace blanc qui précède immédiatement le caractère de départ et qui suit le caractère d'arrêt, dont la réflectance est égale à celle des espaces;

**message**

means the string of characters encoded in a bar code;

**print contrast signal (PCS)**

means a measure of the contrast between bars and spaces of a symbol which is based on reflection measurements at a specific wave length of light;

**standard NATO bar code symbology (SNS)**

means the 3-of-9 bar code with a human-readable interpretation (HRI); the 3-of-9 code is defined in terms of size, density, contrast, and code pattern and is also referred to as code 39 or code 3-of-9;

**self-checking bar code**

means a bar code which uses a checking algorithm which can be applied against each character to guard against undetected errors;

**space**

means the lighter element of a bar code;

**space width**

means perpendicular distance across a space measured from a point on edge of bar to a point on the opposite bar;

**start and stop characters**

means distinct characters represented by an asterisk(\*) used at the beginning and end of each 3-of-9 bar code which provides initial timing references and direction of read information to the coding logic; the asterisk start and stop code is an integral part of and peculiar to 3-of-9 bar code;

**symbol**

means a complete bar code containing margins, start character, data characters, check digit, if any, and stop character; and

**unit size**

means the bar width of the narrow element (the narrow bar and the narrow space are equal in the 3-of-9 bar code) where the width is referred to as the X dimension.

**message**

suite de caractères codés avec des bâtonnets;

**signal de contraste d'impression**

moyen de mesure du contraste entre les bâtonnets et les espaces d'un symbole qui repose sur des mesures de réflexion à une lumière de longueur d'onde précise;

**code à bâtonnets standard**

code à bâtonnets 3/9 à interprétation en clair; le code 3/9 (ou 39) a une taille, une densité, un contraste et une structure fixes;

**code à bâtonnets d'auto-contrôle**

code à bâtonnets dans lequel un algorithme de contrôle peut être appliqué à chaque caractère pour déceler des erreurs;

**espace**

élément pâle d'un code à bâtonnets;

**largeur d'un espace**

distance mesurée perpendiculairement entre un point de la bordure d'un bâtonnet et un point de la bordure d'un bâtonnet adjacent;

**caractères de départ et d'arrêt**

caractères représentés par un astérisque [\*] qu'on utilise au début et à la fin de chaque code à bâtonnets 3/9 pour donner à la logique de codage des indications de synchronisation et de direction de lecture; le code d'astérisque fait partie intégrante du code à bâtonnets 3/9 et il en est un élément caractéristique;

**symbole**

code à bâtonnets complet comprenant des marges, un caractère de départ, des caractères de données, un chiffre de contrôle dans certains cas et un caractère d'arrêt; et

**taille de l'unité**

largeur d'un élément mince (le bâtonnet mince et l'espace mince ont une largeur égale dans un code 3/9); la largeur est appelée la dimension X.

## APPENDIX 3

### 30.2 General requirements

**30.2.1 Code description.** The 3-of-9 code is a variable length, discrete, self-checking, bidirectional, alphanumeric bar code. Its character set contains 43 characters 0-9, A-Z, -, ., \$, /, +, %, and space. Each character is composed of 9 elements, five bars and four spaces. Three of the nine elements are wide (binary value 1) and six elements are narrow (binary value 0). A common character (\*) is used for both start and stop delimiters. Figure 13 presents the code symbology for the 3-of-9 bar code characters.

**30.2.2 Code configuration.** A message shall consist of a number of 3-of-9 bar code data character symbols enclosed between start/stop code characters, with the corresponding HRI characters. An example of a 3-of-9 message containing the string **ABC** is shown at Figure 12.

**30.2.3 Human-readable interpretation.** The human-readable interpretation of the 3-of-9 bar code shall represent only the encoded characters. The HRI is intended to be used only for human recognition and is not intended to be machine readable. For example, a NATO stock number normally would be marked 5840-21-703-9285. However, when bar coded only the 13 digits are to be encoded and the HRI will be marked 5840217039285. Note that the start and stop asterisks shall be suppressed when marking the HRI (see Figure 15). The shapes and sizes of the characters can be in any easily read font and are to be a minimum of 2.39 mm (0.094 in.) in height. The HRI may be marked above, beside or preferably below the bar code.

### 30.3 Print requirements

**30.3.1 Reflectivity and contrast.** Print requirements for reflectivity and contrast are as follows:

(a) **Reflectivity.** The maximum allowable reflectivity of the dark base is related to the reflectivity of the light spaces. Bar code symbols with spaces that are less reflective will require bars that are darker (less reflective). The minimum space reflectance shall be 25 per cent for bar code symbols with narrow bar widths equal to or greater than 0.508 mm (0.020 in.). The minimum space reflectance shall be 50 per cent for bar code symbols with narrow bar widths less than 0.508 mm (0.020 in.). The following

### 30.2 Exigences générales.

**30.2.1 Description du code.** Le code 3/9 est un code à bâtonnets de longueur variable, discret, autocorrecteur, bidirectionnel et alphanumérique. Il comprend en tout 43 caractères (0 à 9, A à Z, -, ., \$, /, +, % et espace). Chaque caractère est formé de neuf éléments: cinq bâtonnets et quatre espaces. Trois des neuf éléments sont larges (valeur binaire 1) et six, minces (valeur binaire 0). Un caractère commun (\*) est utilisé comme symbole de départ et d'arrêt. La figure 13 présente la configuration des caractères d'un code de type 3/9.

**30.2.2 Configuration des codes.** Un message est formé de symboles représentant des données et compris entre un code de départ et un code d'arrêt; il est toujours accompagné d'une interprétation en clair. La figure 12 présente un exemple de code 3/9 dans lequel le message est **ABC**.

**30.2.3 Interprétation en clair.** L'interprétation en clair d'un code 3/9 ne doit représenter que les caractères codés. Elle a uniquement pour objet d'aider l'utilisateur à comprendre le message et elle n'est pas compréhensible par une machine. Par exemple, un numéro de nomenclature OTAN s'écrit normalement 5840-21-703-9285. Quand il est codé, toutefois, seuls les 13 chiffres sont codés, et l'interprétation en clair devient 5840217039285. On remarquera que les astérisques de départ et d'arrêt sont omises dans l'interprétation en clair (voir la figure 15). La forme et la taille des caractères importent peu, pourvu que les caractères soient faciles à lire et qu'ils fassent au moins 2,39 mm (0,094 po) de hauteur. L'interprétation en clair doit figurer de préférence sous le code à bâtonnets, mais elle peut également être placée au-dessus ou à côté du code.

### 30.3 Exigences relatives à l'impression

**30.3.1 Réflectance et contraste.** Les exigences d'impression qui concernent la réflectance et le contraste sont exposées ci-dessous:

(a) **Réflectance.** La réflectance maximale admissible des éléments foncés dépend de la réflectance des espaces pâles. Les symboles d'un code à bâtonnets dont les espaces ont une faible réflectance supposent des bâtonnets plus foncés (moins réfléchissants). La réflectance minimale des espaces doit être de 25% quand la largeur des bâtonnets minces est égale ou supérieure à 0,508 mm (0,02 po). La réflectance minimale des espaces doit être de 50% quand la largeur des bâtonnets minces est inférieure

illustrates the maximum bar reflections  $R_b$  as functions of space reflectance  $R_w$ .

à 0,508 mm (0,02 po). Le tableau ci-dessous présente la réflectance maximale des bâtonnets ( $R_b$ ) en fonction de la réflectance des espaces ( $R_w$ ).

**ALLOWABLE VALUES OF BAR REFLECTANCE  
RÉFLECTANCE ADMISSIBLE DES BÂTONNETS**

<b>SPACE REFLECTANCE RÉFLECTANCE DES ESPACES</b>	<b>BÂTONNETS</b>	<b>MAXIMUM BAR REFLECTANCE RÉFLECTANCE MAXIMALE DES</b>
$R_w$ (%)		$R_b$ (%)
25		6.25
30		7.50
35		8.75
40		10.00
45		11.25
50		12.50
55		13.75
60		15.00
65		16.25
70		17.50
75		18.75
80		20.00
85		21.25
90		22.50
95		23.75
100		25.00

In the above table, the minimum contrast ratio of  $R_w$  and  $R_b$  is 4.0 and the minimum Print Contrast Signal (PCS) is 75 per cent.

Dans le tableau ci-dessus, le ratio de contraste minimal de  $R_w$  et  $R_b$  est de 4.0, et le signal de contraste d'impression minimal, de 75 %.

(b) **Contrast.** The print contrast signal (PCS) is defined as:

where  $R_w$  is the reflectance from the white spaces and  $R_b$  is the reflectance from the dark bars. The minimum PCS allowed is 75 per cent.

**30.3.2 Code density and dimension.** The 3-of-9 bar code can be printed at various densities to accommodate a variety of printing and reading processes. The significant parameters are the nominal width  $X$  of the narrow elements and the nominal ratio of wide to narrow elements. The allowable range for the nominal unit size and the nominal wide-to-narrow ratio is as follows:

(b) **Contraste.** Le signal de contraste d'impression s'écrit:

où  $R_w$  représente la réflectance des espaces blancs, et  $R_b$  la réflectance des bâtonnets foncés. Le signal de contraste d'impression minimal admissible est de 75%.

**30.3.2 Densité et dimension des codes.** Les codes à bâtonnets 3/9 peuvent être imprimés à diverses densités, compte tenu des méthodes d'impression et de lecture. Les paramètres importants sont la largeur nominale  $X$  des éléments minces et le ratio nominal éléments larges/éléments minces. L'intervalle admissible de la taille nominale des unités et du ratio large/mince nominal sont donnés ci-dessous:

- (a) Minimum nominal unit size — 0.112 mm (0.0044 in.) (for special applications).
- (b) Minimum nominal unit size — 0.190 mm (0.0075 in.) for general applications.
- (c) Maximum nominal unit size — 0.508 mm (0.0200 in.) for general applications.
- (d) Maximum nominal unit size — 1.016 mm (0.0400 in.) for special applications.
- (e) Nominal wide-to-narrow ratio:
  - i 2.5:1 to 3.0:1 for codes whose unit size is less than 0.190 mm (0.0075 in.).
  - ii 2.2:1 to 3.0:1 for codes whose unit size is less than 0.381 mm (0.015 in.) and equal to or greater than 0.190 mm (0.0075 in.).
  - iii 2.0:1 to 3.0:1 for codes whose unit size is equal to or more than 0.381 mm (0.015 in.).
  - iv 2.2:1 to 3.0:1 for codes whose unit size is less than 0.508 mm (0.0200 in.).
  - v 2.0:1 to 3.0:1 for codes whose unit size is more than 0.508 mm (0.0200 in.).

**30.3.3 Code heights.** The bar code height can vary to suit specific reading and marking requirements. The bar code heights shown at Figure 17 shall be used for the corresponding ranges of bar code density. For those applications where these heights are not suitable, height requirements will be as specified by the procuring activity. The corresponding minimum HRI heights are also shown at Figure 17.

**30.3.4 Intercharacter gap.** The minimum gap between characters is the same as the minimum dimension (X) of a narrow element. The maximum intercharacter gap width shall be three times the width of a narrow element (3X) (see Figure 12).

**30.3.5 Margins (quiet zones).** The minimum left and right margins shall be 10 times the width of one narrow element (10X) or 6.35 mm (0.25 in.) whichever is greater unless otherwise specified.

- (a) Taille nominale minimale des unités — 0,112 mm (0,0044 po): applications spéciales.
- (b) Taille nominale minimale des unités — 0,190 mm (0,075 po): applications générales.
- (c) Taille nominale minimale des unités — 0,508 mm (0,02 po): applications générales.
- (d) Taille nominale minimale des unités — 1,016 mm (0,04 po): applications spéciales.
- (e) Ratio large/mince, nominal:
  - i 2,5:1 à 3,0:1 dans le cas des codes dont la taille de l'unité est inférieure à 0,190 mm (0,0075 po).
  - ii 2,2:1 à 3,0:1 dans le cas des codes dont la taille de l'unité est inférieure à 0,381 mm (0,015 po) et égale ou supérieure à 0,190 mm (0,0075 po).
  - iii 2,0:1 à 3,0:1 dans le cas des codes dont la taille de l'unité est égale ou supérieure à 0,381 mm (0,015 po).
  - iv 2,2:1 à 3,0:1 dans le cas des codes dont la taille de l'unité est inférieure à 0,508 mm (0,02 po).
  - v 2,0:1 à 3,0:1 dans le cas des codes dont la taille de l'unité est supérieure à 0,508 mm (0,02 po).

**30.3.3 Hauteur des codes.** La hauteur d'un code à bâtonnets dépend des conditions de lecture et de marquage. Les hauteurs indiquées à la figure 17 seront utilisées avec les intervalles correspondants de densité de code. Dans les situations où ces hauteurs ne conviennent pas, on se conformera aux exigences des responsables de l'acquisition. La hauteur minimale de l'interprétation en clair est également indiquée à la figure 17.

**30.3.4 Intervalle entre les caractères.** L'intervalle minimal entre les caractères est égal à la dimension minimale (X) de l'élément mince. L'intervalle maximal entre les caractères est égal à trois fois la largeur de l'élément mince (3X) (voir la figure 12).

**30.3.5 Marges.** À moins d'indication contraire, les marges de gauche et de droite doivent faire au moins dix fois la largeur d'un élément mince (10X) ou 6,35 mm (0,25 po), la valeur la plus élevée étant à retenir.

## APPENDIX 3

**30.3.6 Spacing between bar code and HRI.** The minimum spacing between the bar code and the HRI shall be a minimum of 0.25 mm (0.01 in.) and a maximum of 6.35 mm (0.25 in.).

**30.3.7 Spacing between edge of label and HRI.** The minimum spacing between the horizontal edge of the label and the HRI shall be 1.588 mm (0.0625 in.).

**30.3.8 Spacing recommendations for SDS message formats.** The following spacing requirements apply unless otherwise specified:

(a) When SDS messages are in an over-and-under configuration (stacked), the message shall have a minimum separation of 9.53 mm (0.375 in.) and a maximum separation of 19.05 mm (0.75 in.) from bar code to bar code (see Figure 16).

(b) The spacing between two separately coded SDS messages on the same line shall have a minimum separation of 12.7 mm (0.5 in.) (see Figure 16).

**30.3.9 Bar code tolerances.** Bar code tolerances are reached as follows:

(a) **Measuring tolerance.** The width of printed bars and spaces can be measured with an optical comparator using reflected light incident at 30° to 45° from a normal to the printed surface. A magnification of 50X is recommended although with some loss of accuracy, 20X may be used. Printed bar codes with reasonably smooth bar edges are easily measured by visually averaging the edge roughness over a linear reticle on the comparator screen.

(b) **Calculation tolerance.** The allowable printing with tolerance  $t$  is a function of the nominal width  $x$  and the nominal ratio  $n$  of wide to narrow. This tolerance is defined as:

$$t = \pm \left( \frac{4}{27} \right) \left( n - \frac{2}{3} \right) x$$

**Note:** The value of  $n$  shall be in the allowable range of 2 to 3. Figure 14 shows the tolerances for the various commonly used nominal dimensions.

**30.3.6 Espacement entre le code à bâtonnets et l'interprétation en clair.** L'espacement entre le code à bâtonnets et l'interprétation en clair doit être d'au moins 0,25 mm (0,01 po) et d'au plus 6,35 mm (0,25 po).

**30.3.7 Espacement entre la bordure de l'étiquette et l'interprétation en clair.** L'espacement entre la bordure horizontale de l'étiquette et l'interprétation en clair doit être d'au moins 1,588 mm (0,0625 po).

**30.3.8 Espacement recommandé dans le cas des messages en codes à bâtonnets standard.** À moins d'indication contraire, on veillera à se conformer aux exigences suivantes:

(a) Lorsque des messages codés sont superposés, l'intervalle entre les codes à bâtonnets doit être d'au moins 9,53 mm (0,375 po) et d'au plus 19,05 mm (0,75 po) (voir la figure 16).

(b) Deux messages codés sur une même ligne doivent être séparés par un intervalle d'au moins 12,7 mm (0,5 po) (voir la figure 16).

**30.3.9 Tolérance.** Les tolérances relatives aux codes à bâtonnets peuvent être établies comme suit:

(a) **Mesure de la tolérance.** La largeur des bâtonnets et des espaces peut être mesurée avec un comparateur optique et une lumière réfléchi sur une surface imprimée à un angle de 30° à 45° par rapport à la normale. Un grossissement de 50X est recommandé, mais on pourra aussi recourir à un grossissement de 20X, même si la précision sera dans ce cas moins grande. On pourra mesurer facilement les codes à bâtonnets dont la bordure est raisonnablement lisse en faisant visuellement la moyenne des inégalités à l'aide du réticule de l'écran du comparateur.

(b) **Calcul des tolérances.** La tolérance d'impression admissible  $t$  est fonction de la largeur nominale  $x$  et du ratio nominal  $n$  (bâtonnets larges/bâtonnets minces). Cette tolérance s'écrit:

$$t = \pm \left( \frac{4}{27} \right) \left( n - \frac{2}{3} \right) x$$

**Nota:** La valeur de  $n$  doit se situer entre 2 et 3. La figure 14 présente les tolérances de diverses dimensions nominales couramment utilisées.

**30.3.10 Spots, voids and bar edge roughness.** Spots, voids, and bar edge roughness are considered as follows:

(a) **General.** A major advantage of the 3-of-9 bar code is that it can be correctly read in spite of localized printing defects. A defect of sufficient magnitude may cause a wand scanner not to read if the scanning line passes directly through the defect. However, a subsequent scan through a nondefective area of the bar code will typically result in a good read.

(b) **Edge roughness.** Edge roughness is included in the bar and space width tolerances. The white to black and black to white transition points are determined where the apparent reflectance of a circle with a diameter 0.8 times the nominal width of a narrow element is halfway between the reflectances of the bar and space reflectance values.

(c) **Spots and voids.** A single spot or void of sufficient magnitude in an individual character code will cause a wand scanner to not read when the scanning line passes directly through the defect. However, two independent defects occurring along the same scan within the same character code could produce a substitution error. Such error can only result if a void in a wide bar is aligned with a spot on a narrow bar within the same character code. Spots and voids which meet either of the following criteria are permitted:

- i The spot or void can be contained within a circle whose diameter is 0.4 times the nominal width of the narrow element.
- ii The spot or void occupies no more than 25 per cent of the area of a circle whose diameter is 0.8 times the nominal width of the narrow element. Larger spots or voids can be expected to reduce the first read rate depending on their size.

#### 30.4 Application of markings

**30.4.1** Marking of interior and shipping containers shall be as follows:

(a) The words NATO Stock Number, Nomenclature, Quantity and Protection and Date Markings, shall not be made a part of the markings.

**30.3.10 Taches, blancs et inégalités des bordures:**

(a) **Généralités.** Le principal avantage du code à bâtonnets 3/9 est qu'il peut être lu correctement même s'il présente quelques défauts d'impression. Si un défaut est suffisamment important, le crayon-lecteur ne saisit pas le bâtonnet si le faisceau de lecture passe directement sur l'imperfection. Toutefois, une lecture subséquente sur une partie sans imperfection du bâtonnet donne généralement de bons résultats.

(b) **Inégalités des bordures.** Les inégalités des bordures doivent entrer dans la largeur admissible des bâtonnets et des espaces. Les points de transition blanc-noir et noir-blanc se trouvent à l'endroit où la réflectance apparente d'un cercle dont le diamètre fait de 0 à 8 fois la largeur nominale d'un élément mince se trouve à mi-chemin entre la réflectance des bâtonnets et celle des espaces.

(c) **Taches et blancs.** Le caractère qui comporte une tache ou un blanc suffisamment important ne sera pas lu par le crayon-lecteur si le faisceau de lecture passe directement sur l'imperfection. Il se pourrait toutefois que deux imperfections indépendantes d'un même code de caractère produisent une erreur de substitution. Ces erreurs ne peuvent s'observer que si un blanc d'un bâtonnet large est aligné sur une tache d'un bâtonnet mince du même code de caractère. Les taches et les blancs qui satisfont aux exigences suivantes sont admissibles:

- i La tache ou le blanc peut être contenu dans un cercle dont le diamètre est égal à 0,4 fois la largeur nominale de l'élément mince.
- ii Le point ou le blanc n'occupe pas plus de 25 % de la superficie d'un cercle dont le diamètre est de 0,8 fois la largeur nominale de l'élément mince. Compte tenu de leur taille, les taches ou les blancs importants contribuent à réduire la proportion des lectures du premier coup.

#### 30.4 Marquage

**30.4.1** Marquage des contenants intérieurs et des contenants d'expédition:

(a) Les mentions numéro de nomenclature OTAN, description, quantité et protection et date ne doivent pas être marquées.

## APPENDIX 3

(b) Interior containers shall be marked with the NATO stock number and exterior containers shall be marked with the NATO stock number, contract serial number, quantity and unit of issue, protection-date markings and quality assurance code in the standard bar code symbology described herein. Bar code markings shall be applied as illustrated at Figures 15, 18, 19, 20 or 21.

(c) When no NSN is available, the manufacturer's reference/part number (MFR/PN) shall be used and space shall be left blank immediately above the number for subsequent placement of the NSN. The words MFR/PN shall be used to identify this information.

**30.4.2 Exterior container identification markings.** The required markings shall be placed so as not to be obscured by cleats and strapping. Arrangement of markings shall be as described and illustrated herein. One end and the top and bottom of containers shall always be free of any markings, unless otherwise specified.

(b) Les contenants intérieurs doivent porter le numéro de nomenclature OTAN, et les contenants extérieurs, le numéro de nomenclature OTAN, le numéro de série du contrat, la quantité et l'unité de distribution, les mesures de protection et la date ainsi que le code d'assurance de la qualité, ces renseignements étant donnés en codes à bâtonnets. Les codes à bâtonnets doivent être appliqués conformément aux indications des figures 15, 18, 19, 20, ou 21.

(c) À défaut de NNO, on indiquera le numéro de référence du fabricant ou le numéro de pièce et on laissera immédiatement au-dessus l'espace voulu pour que le NNO puisse être ajouté ultérieurement. Ces renseignements doivent être accompagnés de la mention numéro de référence du fabricant/numéro de pièce.

**30.4.2 Marques d'identification des contenants extérieurs.** Les marques d'identification des contenants extérieurs doivent être placées de manière que les attaches et les cerclages ne les cachent pas. Elles seront en outre conformes aux instructions et aux illustrations présentées ici. À moins d'indication contraire, on laissera toujours une extrémité ainsi que le dessus et le dessous des contenants libres de toute marque.

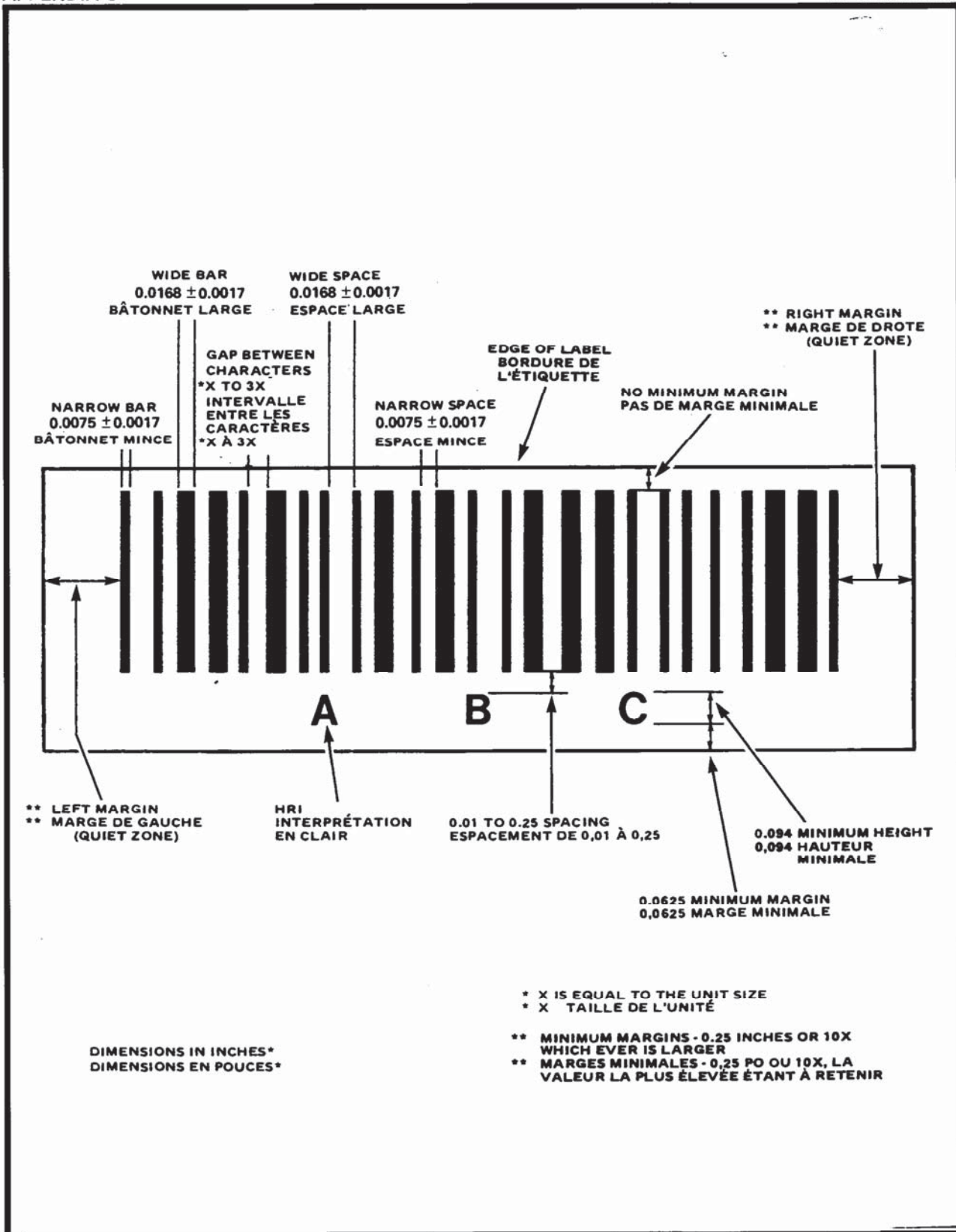


Figure 12 Standard Code, 9.4 Characters per Inch Density (Enlarged)

Figure 12 Code standard — Densité de 9,4 caractères au pouce (agrandissement)

Table I Code Configuration				Tableau I – Configuration de code			
CHAR. CARACTÈRE	PATTERN TRANSCRIPTION CODÉE	BARS BÂTONNETS	SPACES ESPACES	CHAR. CARACTÈRE	PATTERN TRANSCRIPTION CODÉE	BARS BÂTONNETS	SPACES ESPACES
1		10001	0100	M		11000	0001
2		01001	0100	N		00101	0001
3		11000	0100	O		10100	0001
4		00101	0100	P		01100	0001
5		10100	0100	Q		00011	0001
6		01100	0100	R		10010	0001
7		00011	0100	S		01010	0001
8		10010	0100	T		00110	0001
9		01010	0100	U		10001	1000
0		00110	0100	V		01001	1000
A		10001	0010	W		11000	1000
B		01001	0010	X		00101	1000
C		11000	0010	Y		10100	1000
D		00101	0010	Z		01100	1000
E		10100	0010	-		00011	1000
F		01100	0010	.		10010	1000
G		00011	0010	SPACE		01010	1000
H		10010	0010	*		0110	1000
I		01010	0010	\$		00000	1110
J		00110	0010	/		00000	1101
K		10001	0001	+		00000	1011
L		01001	0001	%		00000	0111

## NOTE

\* Denotes a start/stop code which must precede and follow every bar code message. Note that \* is used only for the start/stop code.

## NOTA

\* indique un code de départ/d'arrêt qui doit précéder et suivre chaque message transmis en code à bâtonnets. Il est à noter que ce signe (\*) n'est utilisé que comme code de départ/d'arrêt.

Figure 13 Table of Code Configurations  
 Figure 13 Tableau des configurations de codes

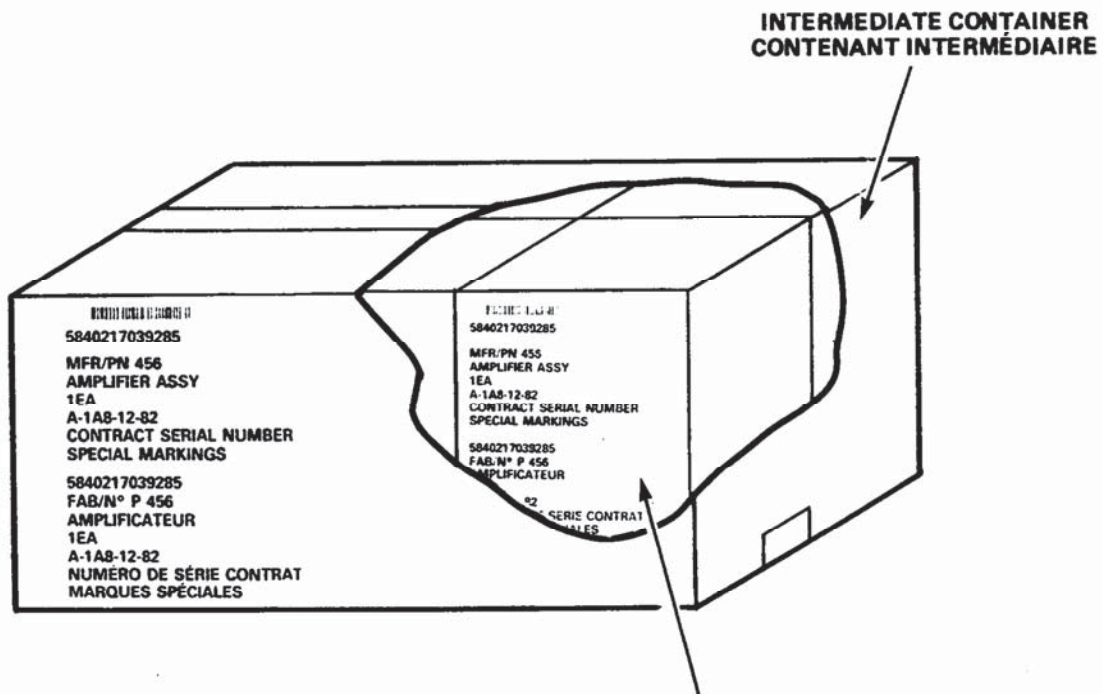
Table II – Tolerances of Common Nominal Dimensions				Tableau II – Tolérances telles qu'elles s'établissent suivant diverses dimensions nominales d'usage courant			
Density CPI	Nominal Width (x) Narrow Elements (mm) (in)		Wide/Narrow Ratio n	Nominal Width (nx) Wide Elements (mm) (in)		Element Tolerance (t) (mm) (in)	
Densité (C/po)	Largeur nominale (x) des éléments minces (mm) (po)		Ratio large/mince (n)	Largeur nominale (nx) des éléments larges (mm) (po)		Tolérance (t) (mm) (po)	
15.5	0.112	0.0044	2.5	0.279	0.0110	0.0012	0.030
12.5	0.140	0.0055	2.5	0.351	0.0138	0.0015	0.038
9.4	0.190	0.0075	2.24	0.427	0.0168	0.0017	0.044
8.6	0.203	0.0080	2.5	0.508	0.0200	0.0022	0.055
7.4	0.254	0.0100	2.2	0.559	0.0220	0.0023	0.058
6.3	0.254	0.0100	3.0	0.762	0.0300	0.0035	0.088
5.7	0.305	0.0120	2.5	0.762	0.0300	0.0033	0.083
5.4	0.292	0.0115	3.0	0.876	0.0345	0.0040	0.101
4.8	0.406	0.0160	2.0	0.813	0.0320	0.0032	0.081
3.9	0.406	0.0160	3.0	1.219	0.0480	0.0055	0.140
3.0	0.533	0.0210	3.0	1.600	0.0630	0.0073	0.184
2.3	0.762	0.0300	2.5	1.905	0.0750	0.0081	0.207
1.7	1.016	0.0400	2.5	2.540	0.1000	0.0109	0.276

Figure 14 Table of Tolerance of Common Nominal Dimensions

Figure 14 Tableau des tolérances pour diverses dimensions nominales d'usage courant



UNIT CONTAINER/CONTENANT UNITAIRE



UNIT CONTAINER/CONTENANT UNITAIRE

Figure 15 Application of Bar Code Markings — Unit Packs and Intermediate Containers

Figure 15 Application des codes à bâtonnets — contenants unitaires et contenants intermédiaires

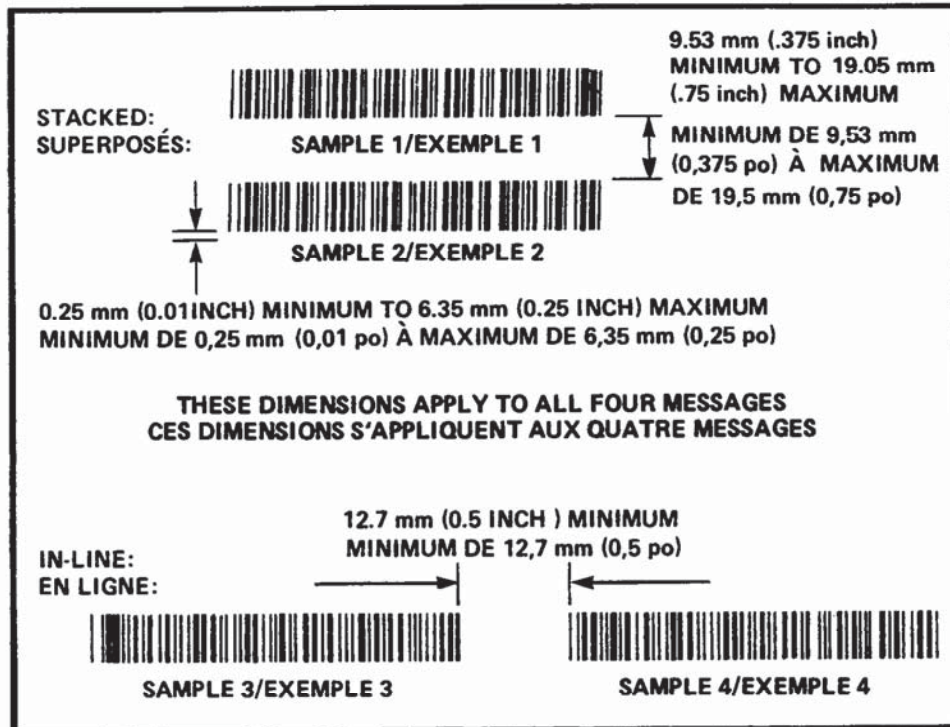


Figure 16 Spacing for Multiple SDS Message Formats

Figure 16 Espacement de messages multiples en codes à bâtonnets standard

<b>A. Bar code and HRI heights for general use.</b> <b>A. Hauteur des codes à bâtonnets et des interprétations en clair —</b> <b>Application générales</b>					
<b>Bar Code</b> <b>Density Range</b>  <b>Intervalle de</b> <b>densité des</b> <b>codes à</b> <b>bâtonnets</b>	<b>Bar Code</b> <b>Minimum Height</b> <b>mm in</b>  <b>Hauteur minumale</b> <b>des codes à</b> <b>batonnets</b>		<b>Bar Code</b> <b>Maximum Height</b> <b>mm in</b>  <b>Hauteur maximale</b> <b>des codes à</b> <b>batonnets</b>		<b>HRI</b> <b>Minimum Height</b> <b>mm in</b>  <b>Hauteur minimale</b> <b>de l'interprétation</b> <b>en clair</b>
	mm	po	mm	po	mm po
$1.7 \leq \text{CPI} < 3.0$	19.05	0.75	31.75	1.25	3.18 .125
$3.0 \leq \text{CPI} < 6.5$	9.53	0.375	22.23	0.875	2.39 .094
$6.5 \leq \text{CPI} \leq 9.4$	6.35	0.25	12.7	0.50	2.39 .094
<b>B. Bar code and HRI heights for special applications.</b> <b>B. Hauteur des codes à bâtonnets et des interprétations en clair —</b> <b>Applications spéciales</b>					
<b>Bar Code</b> <b>Density Range</b>  <b>Intervalle de</b> <b>densité des</b> <b>codes à</b> <b>bâtonnets</b>	<b>Bar Code</b> <b>Minimum Height</b> <b>mm in</b>  <b>Hauteur minumale</b> <b>des codes à</b> <b>batonnets</b>		<b>Bar Code</b> <b>Maximum Height</b> <b>mm in</b>  <b>Hauteur maximale</b> <b>des codes à</b> <b>batonnets</b>		<b>HRI</b> <b>Minimum Height</b> <b>mm in</b>  <b>Hauteur minimale</b> <b>de l'interprétation</b> <b>en clair</b>
	mm	po	mm	po	mm po
$9.4 \leq \text{CPI} \leq 12.5$	3.18	0.125	9.53	0.375	1.60 .063
$12.5 < \text{CPI} \leq 15.5$	1.59	0.0625	6.35	0.250	0.89 .035

Figure 17 Bar Code and HRI Heights

Figure 17 Hauteur des codes à bâtonnets et des interprétations en clair

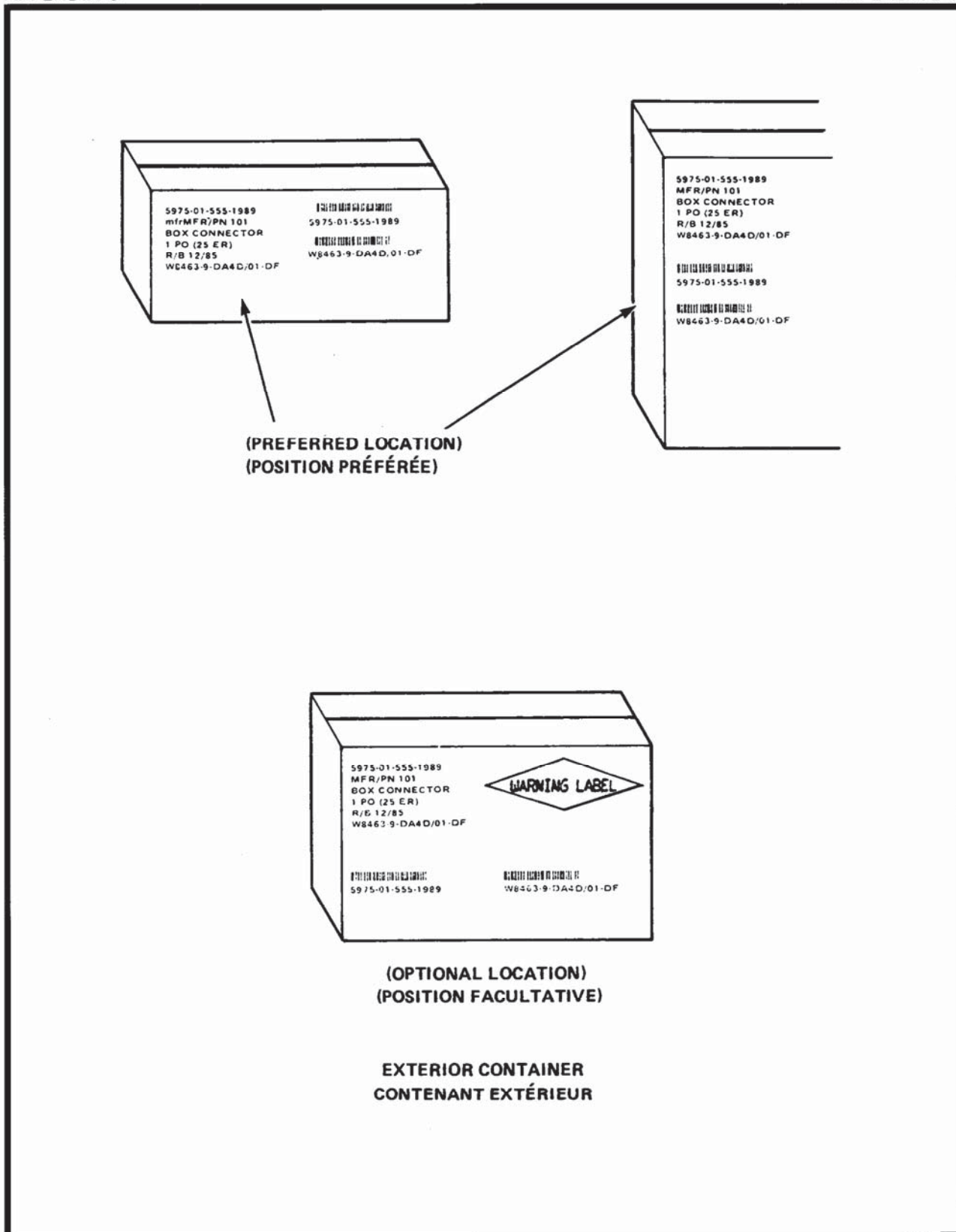
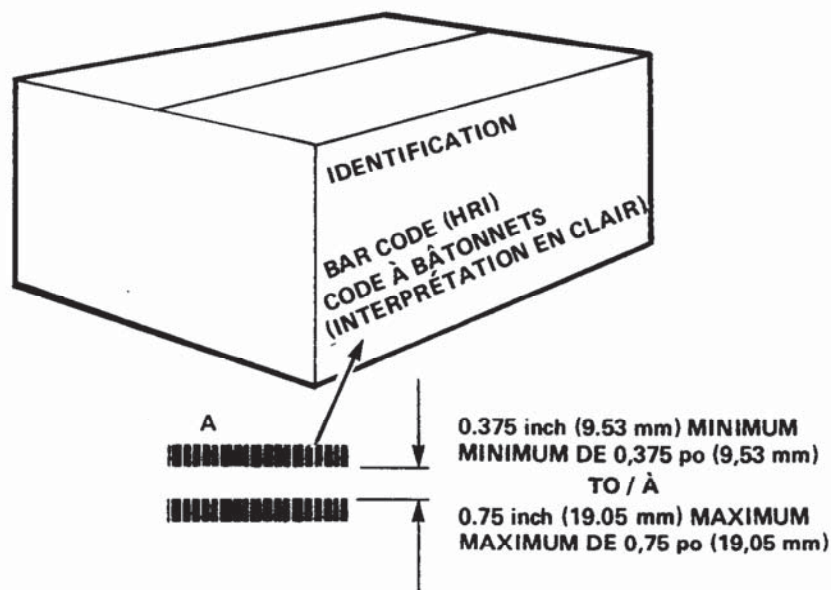


Figure 18 Placement of Bar Code Markings — Exterior Containers  
Figure 18 Position des codes à bâtonnets — contenants extérieurs



OR / OU

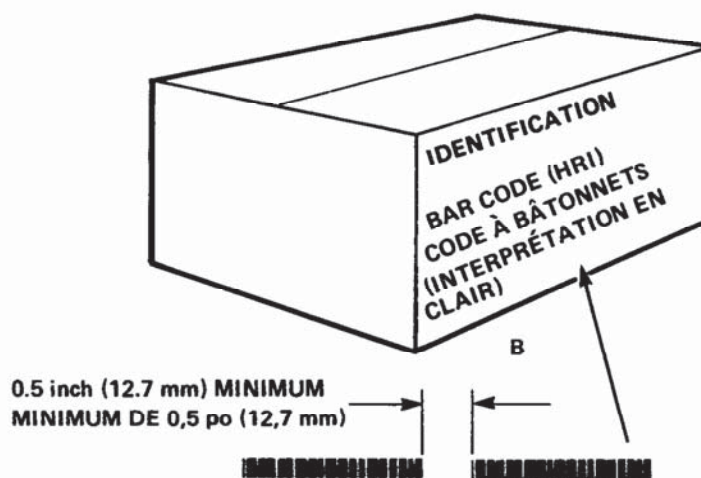
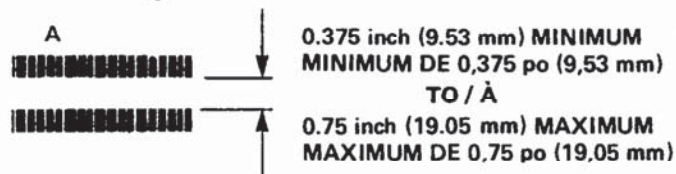
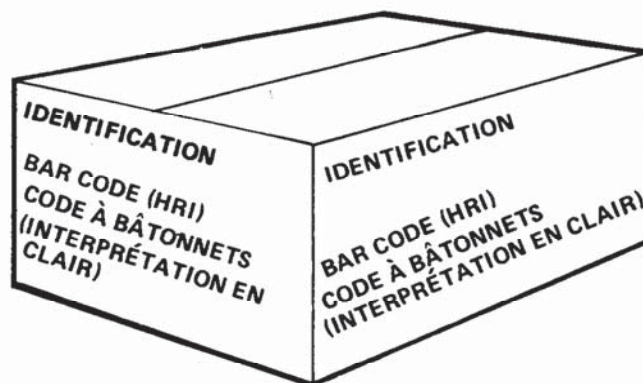
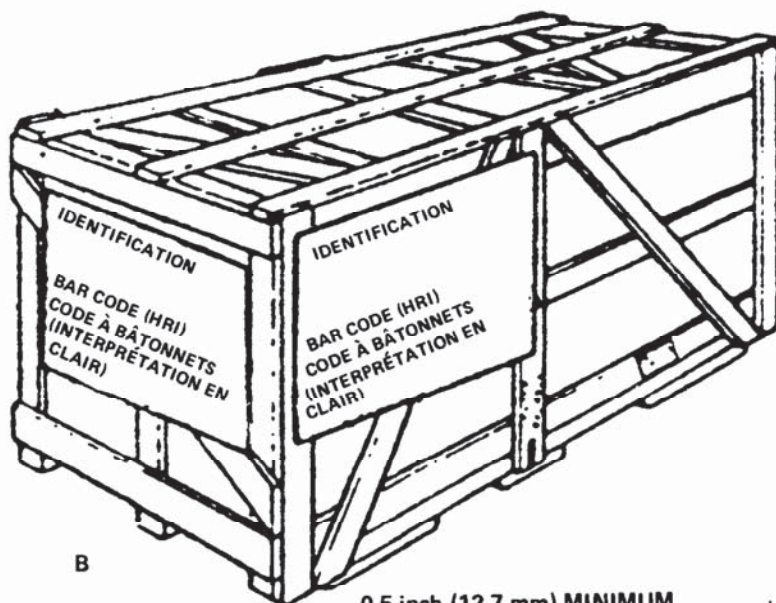


Figure 19 Bar Code Markings for Exterior Shipping Container under 10 Cubic Feet

Figure 19 Codes à bâtonnets des contenants d'expédition extérieurs de moins de 10 pi³



OR / OU



0.5 inch (12.7 mm) MINIMUM  
MINIMUM DE 0,5 po (12,7 mm)



Figure 20 Bar Code Markings for Exterior Shipping Containers 10 Cubic Feet and Over  
Figure 20 Codes à bâtonnets des contenants d'expédition extérieurs de 10 pi³ et plus

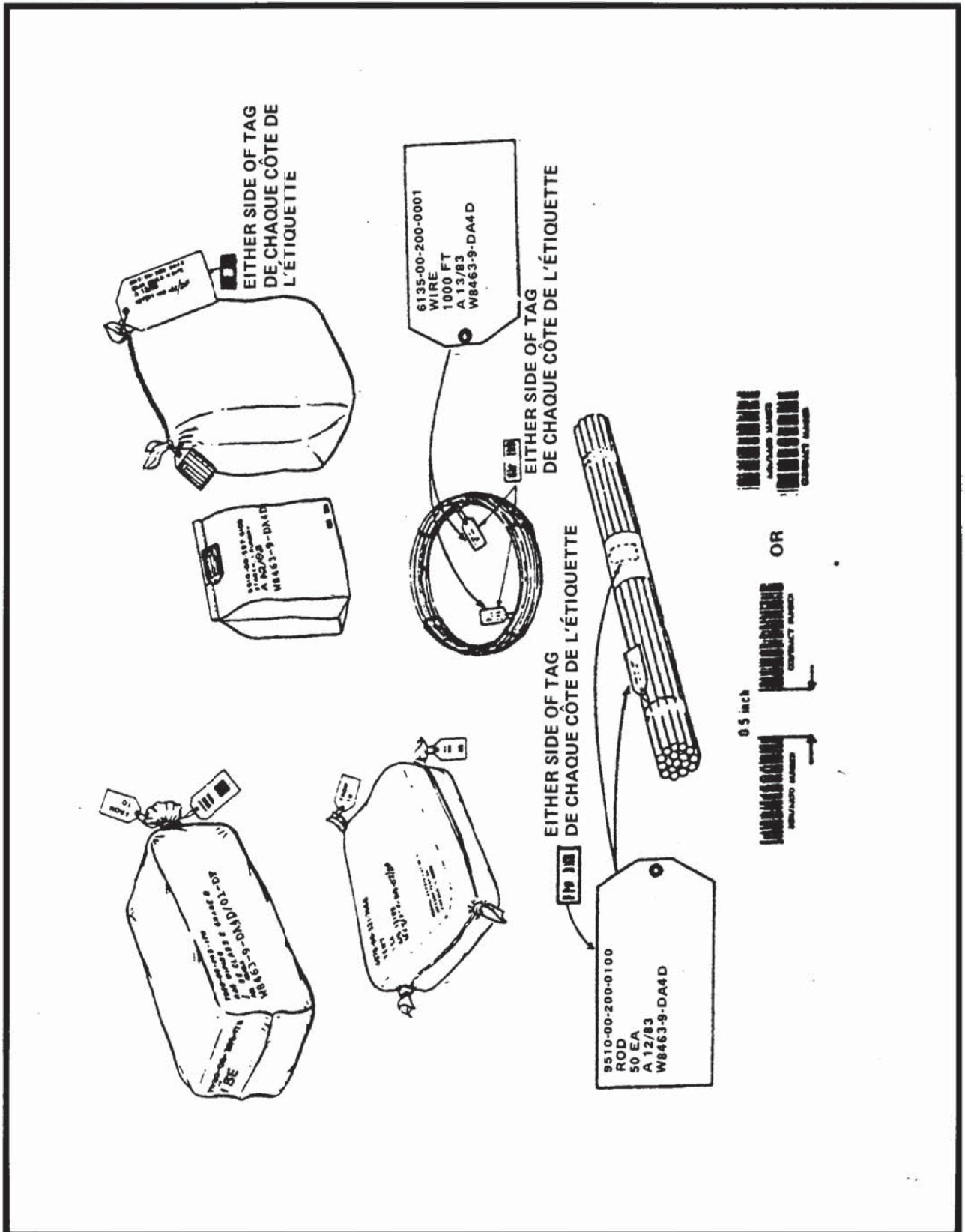


Figure 21 Bar Code Markings on Tags for Miscellaneous Packs and Unpacked Items.

Figure 21 Codes à bâtonnets d'étiquettes de divers emballages et d'articles non emballés

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**ANNEX K to PART 5 - BID SOLICITATION  
FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION**

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

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

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

Complete both A and B.

A. Check only one of the following:

- ☐ A1. The Bidder certifies having no work force in Canada.
- ☐ A2. The Bidder certifies being a public sector employer.
- ☐ A3. The Bidder certifies being a [federally regulated employer](#) being subject to the [Employment Equity Act](#).
- ☐ A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).
- A5. The Bidder has a combined workforce in Canada of 100 or more employees; and
  - ☐ A5.1. The Bidder certifies already having a valid and current [Agreement to Implement Employment Equity](#) (AIEE) in place with ESDC-Labour.

**OR**

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

B. Check only one of the following:

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

**OR**

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



## Design Change/Deviation Modification du modèle ou écart autorisé

<input type="checkbox"/> Design Change Modification du modèle	<input type="checkbox"/> Deviation Écart
---	---

Contractor's Serial No. N° d'ordre de l'entrepreneur
Contract Demand No. N° de la demande de contrat
DSS Contract Serial No. N° d'ordre du contrat du MAS
DSS File No. N° du dossier du MAS
Design Authority Serial No. N° d'ordre du bureau technique responsable

### Part - Partie - I

1. Item Affected - Article touché

2. Main Equipment(s) Affected - Matériel touché

3. Description of Departure from Original Technical Data - Description des points qui diffèrent des données techniques

4. Reason for Request - Motif de la demande

5. Will interchangeability be affected? L'interchangeabilité est-elle réduite?	Component Parts: - Organes: -	<input type="checkbox"/> Yes Oui	<input type="checkbox"/> No Non	Assemblies: Ensembles:	<input type="checkbox"/> Yes Oui	<input type="checkbox"/> No Non
6. Will spare parts schedule be affected? Le tableau en pièces de rechange est-il modifié?		<input type="checkbox"/> Yes Oui	<input type="checkbox"/> No Non	(If "YES" state details (Le cas échéant, donner les détails)		

7. Production Data - Renseignements sur la production

#### 7.1 Cost and Delivery Coût et livraison

7.1.1 Estimated Effect of Delivery  
Effet prévu sur la livraison \_\_\_\_\_

7.1.2 Estimated Added Tooling Cost \$  
Coût supplémentaire prévu de l'usinage \$ \_\_\_\_\_

7.1.3 Estimated Surplus Material Value \$  
Valeur prévu des matériaux supplémentaires \$ \_\_\_\_\_

7.1.4 Estimated Change in Contract Cost  
Including Sales Tax and 7.1.2 and 7.1.3  
above. (Indicate + or -) \$  
Variation prévu du coût stipulé dans le contrat  
(y compris la taxe de vente et les montants  
prévus en 7.1.2 et 7.1.3). (Indiquer + ou -) \$ \_\_\_\_\_

#### 7.2 Production Change Point Introduction de la modification

7.2.1 Estimated Starting Date and Serial No.  
Date d'introduction et N° de série prévue \_\_\_\_\_

7.2.2 Total Number of Units Involved  
Nombre total d'unités touchées \_\_\_\_\_

#### 7.3 Recommendations for Prior Built Units in Service Recommandations quant aux unités déjà en service

7.3.1 Should prior - built units be modified?  
Les unités déjà en service devraient-elles  
être modifiées? ☐ Yes  
Oui ☐ No  
Non

7.3.2 Estimated Cost Per Unit - Coût prévu par unité

Cost of Kit  
Coût du lot \$ \_\_\_\_\_

Cost of Rework  
Coût du réusinage \$ \_\_\_\_\_

7.3.3 Government Held Spare Parts  
Pièces de rechange appartenant à l'État

☐ Use  
Utilisez ☐ Rework  
Réusinage ☐ Scrap  
Mise au rebut

Estimated Cost to Each to Rework or Replace \$  
Coût prévu du réusinage ou de remplacement \$ \_\_\_\_\_

8. Originator - Auteur de la demande

Date (yyaa-mm-dd)	Signature (if other than Prime Contractor - autre que l'entrepreneur principal)	Date (yyaa-mm-dd)	Signature (Prime Contractor - Entrepreneur principal)
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**Part - Partie - II**

## 9. Recommendations of Quality Assurance Representative - Recommandations du représentant de l'assurance de la qualité

Date (yyaa-mm-dj)	Designation - Désignation	Signature
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## 10. Recommendations of Design Authority - Recommandations du Bureau technique responsable

Approved: ☐ Design Change      ☐ Deviation      ☐ Per Part I      or      ☐ See Remarks      ☐ Not Approved  
Approuvé :      Modification du modèle      Écart      Voir partie I      ou      Voir observations      Rejetée

Date (yyaa-mm-dj)	Designation - Désignation	Signature
-------------------	---------------------------	-----------

## 11. Approval of Procurement Authority - Approbation de l'instance d'acquisition

Date (yyaa-mm-dj)	Designation - Désignation	Signature
-------------------	---------------------------	-----------

## 12. References - Documents de référence (Departmental file numbers etc. - Numéros de dossier ministère etc.)

## 13. Authorized Production Action on this Contract - Mesure de production autorisée pour le présent contrat

a. Design Change Modifications du modèle	Existing Stock Stock actuel	Complete Units Unités entières	Assemblies Ensembles	Component Parts Organes
	Use Utilisez	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When to take effect: Prise d'effet : _____	Rework Réusinage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Scrap Mise au rebut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Deviation Écart <input type="checkbox"/>	Total Number of Units Involved Nombres d'unités touchées _____	Serial No.(s) N°(s) de série _____		

14. Form DND 678 Required from Manufacturer DND 678 exigée du fabricant	<input type="checkbox"/> Yes Oui	<input type="checkbox"/> No Non
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## 15. Action on Equipment in Stock and Use - Mesure à prendre à l'égard du matériel en stock et en service

## 16. Action on Spares in Stock - Mesure à prendre à l'égard des pièces de rechange en stock

17. Date (yyaa-mm-dj)	Signature (for Department of National Defence pour le ministère de la Défense Nationale)	18. Date (yyaa-mm-dj)	Signature (for Department of Supply and Services pour le ministère des Approvisionnements et Services)
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19. Distribution List - Liste de diffusion	Copies Exemplaires	Distribution List - Liste de diffusion	Copies Exemplaires



## REQUEST FOR WAIVER or DEVIATION DEMANDE D'EXEMPTION ou DÉVIATION

1. <input type="checkbox"/> Waiver Exemption		<input type="checkbox"/> Deviation Déviation	1a. Recurring Récurent <input type="checkbox"/> yes / oui <input type="checkbox"/> no / non	4. Waiver or Deviation No. N° Exemption ou Déviation		
2. <input type="checkbox"/> Technical Technique		<input type="checkbox"/> Contractual Contractuel		5. PWGSC Contract No. TPSGC N° du contrat		
3. <input type="checkbox"/> Major Majeur		<input type="checkbox"/> Minor Secondaire	<input type="checkbox"/> Critical Critique	6. Contract Line Item No. N° d'inscription au contrat		
9. Item Description / Description de l'article :				7. Prime Contractor Name Nom de l'entrepreneur principal		
9b. Primary Equipment Affected / Équipement primaire affecté				8. Originating Date (dd/mm/yyyy) Date d'introduction (jj/mm/aaaa)		
				9a. Lot No. N° de lot	Batch No N° de fabrication	Item Serial No. N° de série de l'article
9c. Part or Assembly Impacted Pièce ou assemblage affectée						
9d. Impact on the Contract Impact sur le contrat						
9e. Impact on Cost Impact sur le coût						
9f. Impact on Delivery Schedule Impact sur le calendrier de livraison						
9g. Impact on other Systems (ILS, interface & software) Impact sur autres systèmes (SLI, interface & logiciel)						
10. Description of Waiver or Deviation (Non-Conformity) / Description d'exemption ou déviation (non-conformité)						
11. Reason for Waiver or Deviation (Non-Conformity) / Raison d'exemption ou déviation (non-conformité)						
12. Originator Signature Block / Bloc de signature de l'auteur						
12a. Prime Contractor / entrepreneur principal						
			Name / Nom (printed / imprimé)	Signature	Date (dd/mm/yyyy : jj/mm/aaaa)	
12b. Originator / Auteur de la demande						
(if different from 12a. / si différent de 12a.)			Name / Nom (printed / imprimé)	Signature	Date (dd/mm/yyyy : jj/mm/aaaa)	
13. Government Authorizations / Autorisations du gouvernement						
13a. Conditions to granting Waiver or Deviation / Conditions pour accorder l'exemption ou la déviation						
13b. Quality Assurance Representative / Représentant de l'assurance de la qualité						
<input type="checkbox"/> Recommended Recommandé		<input type="checkbox"/> Not Recommended Non-recommandé		Name / Nom (printed / imprimé)	Signature	Date (dd/mm/yyyy : jj/mm/aaaa)
13c. Contractual Authority - PWGSC / Autorité contractuelle - TPSGC						
<input type="checkbox"/> Approved Approuvé		<input type="checkbox"/> Not Recommended Non-recommandé		Name / Nom (printed / imprimé)	Signature	Date (dd/mm/yyyy : jj/mm/aaaa)
13d. Technical Authority - DND / Autorité technique - MDN						
<input type="checkbox"/> Approved Approuvé		<input type="checkbox"/> Not Approved Non-approuvé		Name / Nom (printed / imprimé)	Signature	Date (dd/mm/yyyy : jj/mm/aaaa)



## Certificate of Release, Inspection and Acceptance - Certificat de libération, d'inspection et de réception (CF 1280)

1. Purchaser - Acheteur		2. Purchase order or reference file Bon de commande ou N° de dossier		3. Government contract number N° de dossier du gouvernement		4. No of pages N° de pages	
5. Contractor - Entrepreneur		6. Shipped from (consignor) Lieu d'expédition (expéditeur)		7. Shipped to (consignee) Lieu de destination (destinataire)		8. Shipment no. N° de l'envoi	
Contract item no. N° d'article du contrat (9)	NATO stock number N° nomenclature OTAN (10)	Item identification Identification de l'article (11)	Serial number or size N° de série ou taille (12)	Quantity Unit of measure Quantité Unité de mesure (13)	Package number N° de l'emballage (14)	Undelivered balance Quantité non livrée (15)	Quantity received Quantité reçue (16)
17. Contractor certification Attestation de l'entrepreneur		18. Government quality assurance Assurance officielle de la qualité		19. Acceptance Acceptation			
I certify that the item(s) listed above has/have been inspected and tested and conform to all specifications and requirements detailed in the contract or purchase order. J'atteste que l'/les article(s) inscrits ci-haut a/ont été inspecté(s) et mis à l'essai et qu'il(s) est/sont en tous points conformes aux spécifications et exigences du contrat ou du bon de commande.		I certify that Government Quality Assurance has been performed. Je certifie que l'assurance officielle de la qualité a été effectuée.		Quantity/ies shown in block (16) was/were received in apparent good condition. La(es) quantité(s) indiquée(s) à la case (16) a/ont été reçues, et l'/les article(s) semble/ent être en bon état.			
Print - Imprimer		Print - Imprimer		Print - Imprimer			
Signature (Contractor QC) Signer (CQ de l'entrepreneur)		Signature (QAR) Signer (RAQ)		Signature (Receiving Authority at destination) Signer (Autorité de réception à la destination)		Date	

## Certificate of Release, Inspection and Acceptance CF 1280

## Certificat de libération, d'inspection et de réception CF 1280

### USE

The Certificate of Release, Inspection and Acceptance CF 1280 constitutes:

- Certification by the supplier that all items listed therein have been inspected and tested and conform to the specifications and requirements detailed in the contract or purchase order.
- Certification by the Quality Assurance Representative when applicable; that Government Quality Assurance has been performed during the contract or purchase order.
- Receipt for goods at destination and once signed by the receiving authority; the payment process can be initiated.

### PREPARATION AND DISTRIBUTION

It is the supplier's responsibility to prepare and distribute the CF 1280. However, whenever STANAG 4107 applies, the QAR must forward one copy to the delegator.

- Note 1:** All entries other than signatures must be either typewritten or printed.
- 2:** When using more than one CF 1280 per shipment per contract, complete all blocks but only sign Block 17 and have Block 18 signed (when applicable) on the last form.

- Block 1:** Name of the department, country or organization actually ordering the material. In the case of PWGSC contracts, they are the purchaser referenced in the contract.
- Block 2:** PWGSC file or supplier purchase order number, as appropriate. For contracts from other North Atlantic Treaty Organisation (NATO) nations, enter date of contract.
- Block 3:** Contract serial number or, if a purchase order, enter the prime contract number.
- Block 4:** Consecutively number the forms used to cover each shipment and enter the total number of pages, (e.g. page 1 of 1, 2 of 6, etc).
- Block 5:** Prime contractor's or sub-contractor's name and complete address.
- Block 6:** Consignor's name; also complete shipping address if different than Block 5.
- Block 7:** Consignee's name and address as contained in the shipping instructions.
- Block 8:** Number for each shipment made under the stated contract commencing at 001.  
**Note:** For more than one shipment under the same contract; the first shipment would be 001 and the final shipment would have the letter F at the end (e.g. 002F).
- Block 9:** Line item number as shown in the contract or purchase order.
- Block 10:** NATO or national stock number as indicated in the contract.
- Block 11:** Manufacturer's part, model, type, drawing or catalogue number or short description of the item. The brief description is mandatory for clothing or footwear contracts.
- Block 12:** Item serial, size, lot/batch numbers as applicable.  
**Note:** Size numbers must be included to identify clothing or footwear. If not applicable enter [N/A].
- Block 13:** Quantity being shipped using the unit of measure as indicated in the contract.
- Block 14:** Identify package number in which the line item can be located.
- Block 15:** Balance of items, if any, to be shipped at a later date as per address in Block 7. If not applicable enter [N/A].
- Block 16:** Leave blank; for use by the receiving authority.
- Block 17:** Authorized supplier quality assurance representative.  
See Note 2 under "preparation and distribution".
- Block 18:** Representative responsible for performing Government Quality Assurance (when applicable).  
See Note 2 under "preparation and distribution".
- Block 19:** Leave blank; for use by the receiving authority.

### OBJET

Le Certificat de libération, d'inspection et de réception CF 1280 constitue:

- Certificat de libération du fournisseur pour attester que les articles énumérés ont tous été soumis à une inspection et à des essais et sont jugés conformes aux spécifications et aux exigences du contrat ou de la commande.
- Certification par le Représentant de l'Assurance de la Qualité lorsque prescrit; que l'assurance officielle de la qualité a été effectuée pour le contrat ou pour la commande.
- Certificat de réception à la destination par l'autorité de réception; et une fois signé, le processus de paiement peut être lancé.

### PRÉPARATION ET DISTRIBUTION

Il revient au fournisseur de remplir et de distribuer le formulaire CF 1280. Toutefois, si les dispositions du STANAG 4107 s'appliquent, le RAQ doit envoyer un exemplaire au délégant.

- Nota 1 :** Toutes les inscriptions autres que les signatures doivent être dactylographiées ou écrites en lettres moulées.
- 2 :** Si plusieurs formulaires CF 1280 sont utilisés pour le même envoi par contrat, remplir tout les cases mais seulement signé case 17 et faire signé (au besoin) case 18 sur le dernier formulaire.

- Case 1 :** Nom du ministère, du pays ou de l'organisme qui a commandé le matériel. S'il s'agit d'un contrat de TPSGC, indiquer le nom du client qui apparaît sur le contrat.
- Case 2 :** Numéro de dossier de TPSGC ou de la commande du fournisseur, selon le cas. Pour contrats envoyé à un autre pays membre de l'OTAN, indiquer la date du contrat.
- Case 3 :** Numéro de série du contrat ou, s'il s'agit d'une commande, écrire le numéro du contrat principal.
- Case 4 :** Numéroté dans l'ordre de formulaires utilisés et indiquer le nombre total de pages pour chaque envoi (1 de 1 ou 2 de 6, par exemple).
- Case 5 :** Nom et adresse de l'entrepreneur principal ou du sous-traitant.
- Case 6 :** Nom de l'expéditeur; indiquer également l'adresse d'expédition si elle diffère de l'adresse donnée à la case 5.
- Case 7 :** Nom et adresse du destinataire qui figure dans les instructions d'expédition.
- Case 8 :** Numéroté l'ordre d'envoi effectué en vertu du contrat, à partir de 001.  
**Nota :** Si un contrat prévoit plusieurs envois, les numéroter de la façon suivante : premier envoi 001 et le dernier envoi doit contenir la lettre <F> à la fin numéro (e.g. 002F).
- Case 9 :** Numéro de l'article qui figure dans le contrat ou dans la commande.
- Case 10 :** Numéro de nomenclature OTAN ou numéro de nomenclature du pays qui figure dans le contrat.
- Case 11 :** Numéro de pièce, de modèle, de type, de dessin ou de catalogue du fabricant ou brève description de l'article. Cette brève description est obligatoire dans le cas des vêtements et des chaussures.
- Case 12 :** Numéro de série, de taille ou de lot de l'article.  
**Nota :** Les numéros de taille doivent être inscrits si le contrat est pour des vêtements ou des chaussures. Si cette mention ne s'applique, inscrire [néant].
- Case 13 :** Quantité expédiée avec l'unité de mesure qui s'applique dans le contrat.
- Case 14 :** Numéro de l'emballage où se trouve l'article.
- Case 15 :** Articles à livrer à une date ultérieure, à la destination prévue à la case 7. Si tous les articles ont été livrés à cette destination, inscrire (aucun).
- Case 16 :** Laisser en blanc; cette case est réservée pour l'autorité de réception.
- Case 17 :** Signature d'un représentant autorisé du service de la qualité du fournisseur. Si plusieurs pages sont utilisées, voir Nota 2 dans les « préparation et distribution »
- Case 18 :** Signature du RAQ responsable de l'assurance officiel de la qualité, s'il y a lieu. Si plusieurs pages sont utilisées, voir Nota 2 dans les « préparation et distribution »
- Case 19 :** Laisser en blanc; cette case est réservée à l'autorité de réception.



## NOTICE

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

**REFERENCES, SEALED PATTERNS,  
AND TERMINOLOGY FOR THE  
PERFORMANCE SPECIFICATION  
FOR THE  
CANADIAN FORCES PRODUCT IMPROVED EXTREME  
COLD WEATHER MUKLUK (PIECWM) ASSEMBLY**

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

**Canada**

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**REFERENCES, SEALED PATTERNS,  
AND TERMINOLOGY FOR THE  
PERFORMANCE SPECIFICATION  
FOR THE  
CANADIAN FORCES PRODUCT IMPROVED EXTREME  
COLD WEATHER MUKLUK (PIECWM) ASSEMBLY**

**1.0 REFERENCES:**

The following documents are referenced and will be considered part of the requirement for the Product Improved Extreme Cold Weather Mukluk Assembly (PIECWM). Sources are as shown:

**Department of National Defence,  
Ottawa, Ontario, K1A 0K2  
Attention: DSCO 4-7-5.**

D-LM-008-002/SF-001	Specification for Marking For Storage and Shipment
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**American Society for Testing and Materials (ASTM)  
100 Barr Harbor Drive, P.O. Box C700  
West Conshohocken, Pennsylvania, U.S.A  
19428-2959**

D98	Standard Specification for Calcium Chloride
D1630	Rubber Property – Abrasion Resistance (Footwear Abrader)
D2240	Rubber Property – Durometer Hardness
E96	Water Vapour Transmission of Materials

**Canadian General Standards Board  
Gatineau, QC  
K1A 1G6  
Telephone: 819-956-0425 or 1-800-665-2472  
Email: [ncr.cgsb-ongc@pwgsc.gc.ca](mailto:ncr.cgsb-ongc@pwgsc.gc.ca)  
Website: <http://www.pwgsc.gc.ca/cgsb/home/index-e.html>**

CAN/CGSB-4.2	Textile Test Methods
	Method 9.2 Breaking Strength of Fabrics - Grab Method - Constant-time-to-break Principle

Method 12.1	Tearing Strength - Single-Rip Method
Method 21	Colourfastness To Sea Water
Method 26.2	Determination of Resistance to Surface Wetting (Spray Test)
Method 26.5	Water Resistance - High-Pressure Penetration Test
Method 27.4	Burning Behaviour - Determination of Ease of Ignition of Vertically Oriented Specimens
Method 58	Dimensional Change In Domestic Laundering of Textiles

CAN/CGSB-43.22-2001      Corrugated Fibreboard Boxes

**Group CTT Group**  
**3000, rue Boullé,**  
**Saint-Hyacinthe, Québec**  
**J2S 1H9**

**Phone: (450) 778-1870**  
**Fax: (450) 778-3901**

CTT/PTC-1      Foot Thermal Rating Test (Dry)

Drying Rate

**SAE International**  
**World Headquarters**  
**400 Commonwealth Drive**  
**Warrendale, PA 15096-0001 USA**  
**Telephone: 1-877-606-7323**  
**Website: <http://www.sae.org>**

SAE J 1966\*6      Lubricating Oils, Aircraft Piston Engine (Non-Dispersant Mineral Oil)

**Shoe and Allied Trades Research Association (SATRA)**  
**SATRA House, Rockingham Road,**  
**Kettering, Northants, England NN169JH**

SATRA TM144                      Friction (Slip Resistance) of Footwear and  
Floorings

SATRA TM223                      Floor Marking By Solings or Top Pieces

## **2.0 SEALED PATTERNS:**

The following sealed patterns are referenced and will be considered part of the requirement for the interim Extreme Cold Weather Mukluk.

DSSPM 258-09P                      CADPAT™ (WO), independent of substrate.  
Sealed for colour guidance only

## **3.0 TERMINOLOGY:**

- a. **FOD:** Foreign Object Damage (FOD) is any damage attributed to a foreign object that can be expressed in physical or economic terms that may or may not degrade the product's required safety and/or performance characteristics. Typically, FOD is an aviation term used to describe debris on or around an aircraft or damage done to an aircraft when the debris comes in contact with it. In terms of the design of footwear soling, the sole must be hard enough as not to allow the embedding of foreign objects (screws, nails, stones, etc.), which can later dislodge to become a FOD hazard. In terms of the overall design, the fittings (buttons, eyelets, cord locks) on the boot must be secured somehow to prevent them falling off the boot to become "foreign object debris".
- b. **Canadian Disruptive Pattern Winter Operations (CADPAT™ WO):** Canadian Disruptive Pattern Winter Operations or CADPAT™ WO is a computer generated grey and white pattern designed to be worn in arctic conditions and incorporating sophisticated infra-red protection designed to conceal soldiers from image intensification devices (night vision). First quality CADPAT™ fabrics can only be provided to garment or equipment manufacturers who have contracts with Canada for approved Department of National Defense (DND) military equipment and clothing. There is no need for an end item manufacturer using CADPAT™ for government contracts to register as they are bound by the terms of the contract with Canada. In order to obtain first quality CADPAT™ from a fabric supplier, you must provide the fabric supplier with proof that you have a contract by Public Works and Government Services Canada (PWGSC) for the provision of CADPAT™ goods to DND. If you wish to bid on a government contract for DND, and samples are required for a bid submission, you must work with the fabric suppliers to obtain the sample quantity required for the bid. Fabric suppliers are permitted to provide sample quantities to end item manufacturers for the purposes of bidding on DND contracts. The use of CADPAT™ is protected by Canadian copyright laws and patents held by Canada. Anyone using first quality CADPAT™ outside of a DND contract may be subject to legal action.

- c. **Extended Combat Sock System:** The extended combat sock system consists of four socks: a polyester/nylon liner sock (NSN 8440-21-920-7434 A/A) to wick moisture away from the foot, a medium weight hot weather sock (NSN 8440-20-003-3311 A/A) for wear in hot to warm temperatures, a medium weight, wool and nylon temperate sock (NSN 8440-21-920-3470 A/A) for wear in mild to cold temperatures, and a wool/nylon, heavyweight, thermal sock (NSN 8440-21-920-3705 A/A) for wear in colder temperatures. The temperate and thermal socks are designed to be worn with the liner sock in order to increase comfort and decrease friction-causing foot injuries. These socks, alone or in combination, allow the user to choose the level of thermal protection required to address personal variables in work rate and metabolism.
- d. **Field conditions /operational tasks:** For this requirement, field conditions or operational tasks are defined as being a combination of environmental factors (outlined in Annex B, paragraph 2.1.1) and daily tasks that dismounted soldiers are expected to complete. The daily functions of dismounted soldiers in the field operating alone or in a section are shown in Table 1:

**Table 1 – Tasks of Dismounted Infantry Soldier**

Priority	Description	Task
1	Tasks primarily related to immediate combat or the preparation of immediate combat	Engage threat targets; Fight at close quarters; Adopt fire positions; Move undetected; Prepare defensive fighting positions; Overcome obstacles; and Employ camouflage.
2	Tasks related to planning / logistic preparation and peacekeeping	Determine location and bearing; Emplace obstacles; Gather technical information; Prepare reports; Move cross country; Communicate; Participate in operations other than war; Mount / Dismount tactical transport; and Participate in Nuclear, Biological and Chemical Defence (NBCD) operations.
3	Tasks primarily related to sustainability	Administer medical first aid; Prepare and consume nutrition; Carry heavy loads; Rest and conduct personal hygiene; Set up / operate equipment; Maintain / repair equipment; and Employ survival techniques.

- e. **Shelf Life:** Shelf life is defined as the length of time an item can be stores under specific conditions of temperature, humidity, and light and continue to remain viable for its' intended use.