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

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Title - Sujet COMBAT POUCHES for the ISSP Project	
Solicitation No. - N° de l'invitation W8476-165441/B	**Amendment No. - N° modif.** 012
Client Reference No. - N° de référence du client W8476-165441	**Date** 2017-01-05
GETS Reference No. - N° de référence de SEAG PW-$$PR-737-71523	
File No. - N° de dossier pr737.W8476-165441	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2017-01-11**	**Time Zone** **Fuseau horaire** Eastern Standard Time EST
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☑	
Address Enquiries to: - Adresser toutes questions à: Dusenbury, Debbie	**Buyer Id - Id de l'acheteur** pr737
Telephone No. - N° de téléphone (873) 469-3175 ( )	**FAX No. - N° de FAX** (819) 956-5454
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** See Annex "A-1"	

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

Instructions: See Herein

Instructions: Voir aux présentes

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

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

This solicitation amendment no. 012 is issued to provide updated Annexes as the result of the responses to numerous questions. The Annexes attached are replacing the previous versions.

Attached please find the updated documents (dated 21-December-2016) as follow:

Annex « A »
Annex « B »
Annex « C »
Annex « D »

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.

ANNEX A - STATEMENT OF WORK

1 SCOPE

1.1 Subject

1.1.1 Integrated Soldier Systems Combat Pouches.

1.2 Purpose

1.2.1 The purpose is to procure Combat Pouches to be used with Modular Load Carriage System (MLCS).

1.3 Background

1.3.1 The Integrated Soldier System Project (ISSP) will provide the soldier with an integrated suite of C4I equipment. A new load carriage vest called the MLCS with accompanying pouches to carry the C4I equipment will also be provided

1.3.2 Canada needs to procure and provide Combat Pouches that are compatible with the MLCS to hold the soldier's combat load.

1.4 Terminology

1.4.1	C4I	Command and Control, Computing and Communications, and Intelligence
1.4.2	Document	In this Statement of Work the term "document" (and its derivatives) must be understood to include printed and electronic records, images, illustrations, audio and video recordings and compositions, virtual and physical models, product and material samples, and prototypes.
1.4.3	IR	Infrared
1.4.4	ISSP	Integrated Soldier System Project
1.4.5	MLCS	Modular Load Carriage System
1.4.6	NSN	North Atlantic Treaty Organization (NATO) Stock Number.
1.4.7	PALS	Pouch Attachment Ladder System.
1.4.8	SOW	Statement of Work.

2 APPLICABLE DOCUMENTS

2.1 Annexes

2.1.1 Annex B - Deliverables

2.1.2 Annex C - Specification Modular Load Carriage System Pouches.

2.1.3 Annex D – Bidder Instructions

2.2 Specifications

2.2.1 All the applicable documents are identified in Annex C, Section 2.

2.3 **Patterns**

2.3.1 Immediately following Contract Award, paper patterns that go with each sealed sample will be provided by DND for the performance of this work. Electronic patterns will also be provided on demand.

2.4 **Sealed Samples**

2.4.1 A sample is provided for each build to print pouch that needs to be produced. Each sample is identified in the table at section 3.1.1.

2.4.2 The provided samples are for reference only and are an accurate representation of pouch construction and workmanship. The materials used for the samples may not be exactly the same as the materials specified in Annex C, Section 3.1. The materials in Annex C are the materials that must be used. The deviations are identified on the sealed sample tags.

2.5 **Government Supplied Material**

2.5.1 Following Contract Award, 4,000m (150cm nominal width) of CADPAT (NSN 8305-20-002-4731) will be provided by DND for the performance of this work GSM will be shipped to The Contractor when available at DND's expense. Any additional quantity of CADPAT (NSN 8305-20-002-4731) required to complete this work must be procured by The Contractor.

3 REQUIREMENTS

3.1 Tasks

3.1.1 Build To Print

3.1.1.1 The Contractor must produce and deliver the following pouches (f to o) in accordance with Annex C, Sections 3 and 4. The quantities of deliverables can be found in Annex B.

Num	NSN	Name	Description	DSSPM Sample ID	Assembly Instructions section in Annex C, Appendix 1
f	8465-20-007-6975	POCKET,AMMUNITION MAGAZINE	60 Round C7 Ammo / DAGR Pouch	DSSPM 415-13	2.0
g	8465-20-007-6976	POUCH,SMOKE GRENADE/ NIGHT VISION DEVICE	Smoke Grenade / Night Vision Device Pouch	DSSPM 416-13	3.0
h	8465-20-007-6981	CARRIER,GRENADE	Fragmentation Grenade Pouch	DSSPM 417-13	4.0
i	8465-20-007-6982	POUCH,UTILITY LARGE FASTEX	Large Utility Pouch	DSSPM 418-13	5.0
j	8465-20-007-6983	POUCH,UTILITY HYDRATION COVER	Utility Hydration Cover	DSSPM 419-13	6.0
k	8465-20-007-6984	POUCH,COMBAT FIRST AID MEDIC	Combat First Aid Medic Pouch	DSSPM 420-13	7.0
l	8465-20-007-7011	POUCH,MULTI TOOL	Multi Tool Pouch	DSSPM 421-13	8.0

m	8465-20-007-7014	POUCH,200 ROUND C9 AMMO DRUM	200 Round C9 Ammo Pouch	DSSPM 422-13	9.0
n	8465-20-007-6986	BAG,RADIO,CARRIER	AN/PRC 148/152 Radio Pouch	DSSPM 423-13	10.0
o	8465-20-007-6999	CARRIER,GRENADE	40mm X 4 M203 Grenade Pouch	DSSPM 424-13	11.0

3.1.2 **Design and Build**

3.1.2.1 The Contractor must produce and deliver the following pouch (p) as per Annex C, Appendix 3. The quantities of deliverables can be found in Annex B - Deliverables. The NSN for this pouch cannot be established until the Technical Data Package has been received by DND.

Num	NSN	Name	Description	Technical Specification
p	TBD	POCKET,AMMUNITION MAGAZINE	90 Round C7 Shingle Ammo Pouch	Annex C, Appendix 3

3.2 **Deliverables**

3.2.1 Deliverables must be prepared and delivered by The Contractor in accordance with Annex B.

3.2.2 **Delivery of options**

3.2.2.1 If and when required, the Contractor must produce and deliver option quantities in accordance with Annex B.

3.3 **Technical Requirements**

3.3.1 **Prototype and Document Identification**

3.3.1.1 Every production document (e.g. each individual pattern piece) of each prototype must include the following information in its title/filename.

3.3.1.1.1 The reference number of this task (W8476-165441).

3.3.1.1.2 The abbreviated name of the pouch (e.g. MULTI TOOL), and

3.3.1.1.3 The production date of each document, in the form YYMMDD (where YY is the last 2 digits of the year, MM the 2 digits of the number of the month, and DD the 2 digits of the day of the month).

3.3.2 **Requirements for all Pouches**

3.3.2.1 All requirements including manufacturing data and assembly instructions for the Build to Print pouches listed in section 3.1.1 and the Design and Build pouch listed in section 3.1.2 are found in Annex C, Section 3.

3.3.3 **Allowed Deviations**

3.3.3.1 The Contractor can propose deviations to the pouches.

3.3.3.2 All deviations must be approved by the Technical Authority before the Contractor applies the changes.

3.3.3.3 All deviations must be documented and approved by the Technical Authority.

3.4 Constraints

3.4.1 The Contractor must wait for Technical Authority approval before starting Phase 2-10 work.

3.5 Quality Assurance

3.5.1 Kick Off Meeting

3.5.1.1 The Contractor and the Technical Authority must attend a kick-off meeting. The meeting should take place within one week of the contract being awarded. This meeting is to introduce all points of contact and to schedule the Preproduction Meeting. Any question on the preproduction samples and meeting should be raised at the kick-off meeting.

3.5.2 Preproduction Meeting

3.5.2.1 The Technical Authority will inspect all the preproduction samples (phase 1) to confirm that the pouches are produced as per the specification. Materials, construction and workmanship will be inspected. Materials used to produce the samples must reflect the final product as per materials listed in Annex C, Section 3.1.

3.5.2.2 The Contractor must provide samples of all materials listed in Annex C, Section 3.1. The Technical Authority reserves the right to request changes to the materials used in order to comply with the specification.

3.5.2.3 100% of the samples inspected must pass the technical inspection. All of the Technical Authority observations must be resolved before production (phases 2 to 6) starts. Should the pre-production sample fail the inspection, a second set of pre-production samples must be submitted within 15 days. The contractor must not start production of the pouches until the Technical Authority has given his approval to do so. Rejection by the Technical Authority of the second pre-production sample(s) submitted by the Contractor for failing to meet the contract requirements will be grounds for termination of the Contract for default.

3.5.2.4 The contractor must provide an analysis to demonstrate compliance of safety requirements listed in Annex C, Section 3.8.

3.5.3 First Article Inspection

3.5.3.1 The first article inspection verifies that the manufacturing quality is the standard required for the remaining production.

3.5.3.2 The Technical Authority will perform first article inspection on the first production items for phase 2, manufactured using standard production tools, jigs, fixtures and processes. Materials, construction and workmanship will be inspected. The first article inspection will be executed at the contractor production facilities.

3.5.3.3 At least one pouch per pouch type will be inspected. Canada reserves the right to inspect as many of the phase 2 pouches as required in order to confirm that the pouches meet the requirement.

3.5.3.4 The Technical Authority will inspect and confirm that the pouches are equivalent to the phase 1 preproduction samples and that they are built in accordance with the specifications within the first week of production. The contractor must correct all the deficiencies noted by the Technical Authority.

3.5.4 **Quality Control**

3.5.4.1 The Technical Authority reserves the right to perform quality control inspections to confirm that the quality standard is being sustained throughout the production of the pouches.

3.5.4.2 The Technical Authority reserves the right to perform quality control inspections after any change of design or of production processes or change of materials.

3.5.4.3 Quality control inspection may be of a random sample of production pouches. If any deficiency is discovered, the contactor must correct the deficiency and provide a corrected sample to the Technical Authority within 15 days for approval. The Technical Authority will accept the production pouches only once the deficiency has been corrected for all produced pouches (passed and future).

3.5.5 **Responsibilities for Inspections**

3.5.5.1 Unless otherwise specified in the contract, the contractor is responsible to demonstrate that the materials and services conform to the requirements of the manufacturing data.

3.5.6 **Method of Inspection**

3.5.6.1 Workmanship and Material Compliance.

3.5.6.1.1 Each pouch will be visually inspected for workmanship and material compliance with the manufacturing data. The pouch will be examined in detail for the following:

3.5.6.1.1.1 Material defects such as cuts, tears, needle chews, abrasion marks or holes.

3.5.6.1.1.2 Correct components and the placement and sewing of components to the pouch in accordance with the manufacturing data.

3.5.6.1.1.3 Ends of binding tape and webbing properly finished or sealed.

3.5.6.1.1.4 Stitching of binding tape, webbing and other components in accordance with the manufacturing data.

3.5.7 **Conformance of Material**

3.5.7.1 Certificates of Conformance for materials must be provided to the Technical Authority as described in Annex D – Bidder Instructions.

3.5.7.2 The Technical Authority reserves the right to require that tests be run to confirm that materials conform to the required specifications. If a material does not conform to the specifications, the contractor must provide a substitute material and prove via testing that the substitute material conforms to the required specifications. If and when requested by the Technical Authority, all pouches that were produced using the non-conforming materials must be either repaired or replaced with pouches made with the conforming materials.

3.5.7.3 The Technical Authority's written approval is required prior to using any material from a new supplier.

3.5.7.4 The preproduction samples must be representative of the finished product in all respects.

3.5.7.5 Any additional materials used to augment the design must meet or exceed specified materials.

ANNEX B - DELIVERABLES

1 SCOPE

1.1 Subject

1.1.1 Integrated Soldier Systems Combat Pouches.

1.2 Purpose

1.2.1 The purpose is to illustrate the deliverables for the statement of work of the Combat Pouches to be used with Modular Load Carriage System (MLCS).

1.3 Terminology

1.3.1	C4I	Command and Control, Computing and Communications, and Intelligence
1.3.2	Document	In this Statement of Work the term "document" (and its derivatives) must be understood to include printed and electronic records, images, illustrations, audio and video recordings and compositions, virtual and physical models, product and material samples, and prototypes.
1.3.3	IR	Infrared
1.3.4	ISSP	Integrated Soldier System Project
1.3.5	MLCS	Modular Load Carriage System
1.3.6	NSN	North Atlantic Treaty Organization (NATO) Stock Number.
1.3.7	PALS	Pouch Attachment Ladder System.
1.3.8	SOW	Statement of Work.

2 APPLICABLE DOCUMENTS

2.1 Annexes

2.1.1 Annex A – Statement of Work

2.1.2 Annex C – Specification Modular Load Carriage System pouches

2.1.3 Annex D – Bidder Instructions

2.2 Specifications

2.2.1 All the applicable documents are identified in Section 2 of Annex C.

3 DELIVERABLES

3.1 67,986 pouches must be delivered.

3.1.1 The Contractor must do the work in six phases. In phase 1 (preproduction), the Contractor must provide two pre-production samples of each type of pouch for DND to inspect and confirm that the pouches are produced as per the specification. Phases 2 to 6 are the production phases. The following outlines the quantities and required delivery dates for each phase:

		Phases					
		1	2	3	4	5	6
Quantity	Rifleman Sets	0	32	168	1256	176	2512
	Individual Pouches	22	27	153	3014	726	6028
Required Delivery Date (dd/mm/yy)		Contract Award + 2 weeks	Phase 1 + 2 weeks	Phase 2 + 2 weeks	Phase 3 + 5 weeks	Phase 4 + 2 weeks	Phase 5 + 9 weeks

Table 1 - Delivery Phases

3.1.2 **Phase 1:** The Contractor must deliver pre-production samples which are 22 individual pouches as follows:

Num	Name	NSN	Qty
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	2
g	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976	2
h	CARRIER, GRENADE	8465-20-007-6981	2
i	POUCH, UTILITY LARGE FASTEX	8465-20-007-6982	2
j	POUCH, UTILITY HYDRATION COVER	8465-20-007-6983	2
k	POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984	2
l	POUCH, MULTI TOOL	8465-20-007-7011	2
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	2
n	BAG, RADIO,CARRIER	8465-20-007-6986	2
o	CARRIER, GRENADE	8465-20-007-6999	2
p	POCKET, AMMUNITION MAGAZINE	TBD	2
	Total		22

Table 2 - Phase 1 Individual Pouch Quantity Breakdown

3.1.2.1 The Technical Data Package must be delivered to the Technical Authority as per the instructions found in section 3.2.1 of Annex A.

3.1.3 **Phase 2:** The Contractor must deliver 32 Rifleman Sets and 27 individual pouches as follows:

Name	NSN	Quantity
RIFLEMAN SET	TBD	32

Table 3 - Phase 2 Rifleman Set Quantity

Num	Name	NSN	Quantity
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	6
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	6
n	BAG, RADIO,CARRIER	8465-20-007-6986	6
o	CARRIER, GRENADE	8465-20-007-6999	9
	Total		27

Table 4 - Phase 2 Individual Pouch Quantity Breakdown

3.1.4 **Phase 3:** The Contractor must deliver 168 Rifleman Sets and 153 individual pouches as follows:

Name	NSN	Quantity
RIFLEMAN SET	TBD	168

Table 5 Phase 3- Rifleman Set Quantity

Num	Name	NSN	Quantity
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	34
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	34
o	CARRIER, GRENADE	8465-20-007-6999	51
n	BAG, RADIO,CARRIER	8465-20-007-6986	34
	Total		153

Table 6 - Phase 3 Individual Pouch Quantity Breakdown

3.1.5 **Phase 4:** The Contractor must deliver 1,256 Rifleman Sets and 3,014 individual pouches as follows:

Name	NSN	Quantity
RIFLEMAN SET	TBD	1,256

Table 7 - Phase 4 Rifleman Set Quantity

Num	Name	NSN	Qty
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	656
g	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976	252
h	CARRIER, GRENADE	8465-20-007-6981	252
i	POUCH, UTILITY LARGE FASTEX	8465-20-007-6982	252
j	POUCH, UTILITY HYDRATION COVER	8465-20-007-6983	126
k	POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984	126
l	POUCH, MULTI TOOL	8465-20-007-7011	126
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	278
n	BAG, RADIO,CARRIER	8465-20-007-6986	278
o	CARRIER, GRENADE	8465-20-007-6999	416
p	POCKET, AMMUNITION MAGAZINE	8465-20-xxx-xxxx	252

	Total		3,014

Table 8 - Phase 4 Individual Pouch Quantity Breakdown

3.1.6 **Phase 5:** The Contractor must deliver 176 Rifleman Sets and 726 individual pouches as follows:

Name	NSN	Quantity
RIFLEMAN SET	TBD	176

Table 9 - Phase 5 Rifleman Set Quantity

Num	Name	NSN	Qty
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	157
g	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976	76
h	CARRIER, GRENADE	8465-20-007-6981	76
i	POUCH, UTILITY LARGE FASTEX	8465-20-007-6982	76
j	POUCH, UTILITY HYDRATION COVER	8465-20-007-6983	38
k	POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984	38
l	POUCH, MULTI TOOL	8465-20-007-7011	38
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	43
n	BAG, RADIO,CARRIER	8465-20-007-6986	43
o	CARRIER, GRENADE	8465-20-007-6999	65
p	POCKET, AMMUNITION MAGAZINE	8465-20-xxx-xxxx	76
	Total		726

Table 10 - Phase 5 Individual Pouch Quantity Breakdown

3.1.7 **Phase 6:** The Contractor must deliver 2,512 Rifleman Sets and 6,028 individual pouches as follows:

Name	NSN	Quantity
RIFLEMAN SET	TBD	2,512

Table 11 - Phase 6 Rifleman Set Quantity

Num	Name	NSN	Qty
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	1312
g	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976	504
h	CARRIER, GRENADE	8465-20-007-6981	504
i	POUCH, UTILITY LARGE FASTEX	8465-20-007-6982	504
j	POUCH, UTILITY HYDRATION COVER	8465-20-007-6983	252
k	POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984	252
l	POUCH, MULTI TOOL	8465-20-007-7011	252
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	556
n	BAG, RADIO,CARRIER	8465-20-007-6986	556
o	CARRIER, GRENADE	8465-20-007-6999	832

p	POCKET, AMMUNITION MAGAZINE	8465-20-xxx-xxxx	504
	Total		6,028

Table 12 - Phase 6 Individual Pouch Quantity Breakdown

3.1.8 Optional Quantities

3.1.8.1 For a period of up to 4 (four) years after Contract Award, Canada reserves the right to procure any combination of pouches identified in Table 13 below. Pouch orders for optional quantities will not be less than 2,000 individual units and the total optional quantities will not exceed 40,792 individual units. The maximum quantity of individual NSNs that may be ordered during the course of the option period if defined in the "Option Quantity" column of Table 13 below.

Num	Name	NSN	Option Quantity
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	8,759
g	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976	5,473
h	CARRIER, GRENADE	8465-20-007-6981	5,473
i	POUCH, UTILITY LARGE FASTEX	8465-20-007-6982	5,473
j	POUCH, UTILITY HYDRATION COVER	8465-20-007-6983	2,737
k	POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984	2,737
l	POUCH, MULTI TOOL	8465-20-007-7011	2,737
m	POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014	551
n	BAG, RADIO,CARRIER	8465-20-007-6986	551
o	CARRIER, GRENADE	8465-20-007-6999	825
p	POCKET, AMMUNITION MAGAZINE	TBD	5,473
	Total		40,792

Table 13- Maximum Optional Quantities per Pouch

3.2 Deliverable Packaging

3.2.1 Rifleman Set Packaging

3.2.1.1 Table 14The Rifleman Set must be packaged in a clear plastic bag labeled as the Rifleman Set with associated NSN. DND will provide the NSN once available. The Rifleman Set must affix labels to the package IAW Annex C, Section 3.1.17.

Num	Name	NSN	Number of Pouches
f	POCKET, AMMUNITION MAGAZINE	8465-20-007-6975	3
g	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976	2
h	CARRIER, GRENADE	8465-20-007-6981	2
i	POUCH, UTILITY LARGE FASTEX	8465-20-007-6982	2

j	POUCH, UTILITY HYDRATION COVER	8465-20-007-6983	1
k	POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984	1
l	POUCH, MULTI TOOL	8465-20-007-7011	1
p	POCKET, AMMUNITION MAGAZINE	TBD	2
	Total		14

Table 14 - Composition of a Rifleman Set

3.2.2 Individual Packaging

3.2.2.1 Pouches not included in a Rifleman Set must be packaged individually with clear plastic bag labeled with pouch name and NSN.

3.2.3 Option Packaging

3.2.3.1 Packaging for each option exercised will be determined at the time of the buy and could consists of rifleman sets, individual packaging or any combination thereof.

3.3 Delivery

3.3.1 For Phase 1 items must be shipped once all deliverables are ready. For Phases 2-6, items may be shipped as ready.

3.3.2 Delivery Destinations

3.3.2.1 For phase 1 and 2, deliverables must be sent to the following address, point of contact to be confirmed by DND prior to delivery:

Department of National Defence

101 Colonel By Drive
Ottawa, Ontario
K1A 0K2

ATT: PMO ISSP

3.3.2.2 For phases 3 to 6, deliverables must be sent to the following address:

Department of National Defence
25 CFSD Montreal
6363 Notre Dame St. E.
Montreal, Québec
H1N 1V9

3.4 Documentation Deliverables

3.4.1 Deviations

3.4.1.1 If applicable, deviations must be provided to the Technical Authority for approval in accordance with section 3.3.3 of Annex A.

3.4.2 **Certificates of Compliance**

3.4.2.1 The Contractor must provide Certificates of Compliance in accordance with Annex D – Bidder Instructions.

3.4.3 **Technical Data Package**

3.4.3.1 The Contractor must prepare and deliver a Level III Technical Data Package consisting of the following:

3.4.3.2 The Manufacturing Data, Assembly Instructions, Bill of Materials, paper pattern and/or drawings and electronic pattern and/or drawings for the 90 Round C7 Shingle Ammo Pouch. The Manufacturing Data and Assembly Instructions must be provided in a Word document in a format that is similar to the specifications in Annex C. The electronic must be in .dxf format.

3.4.3.3 If deviations from the design were made (and approved by the Technical Authority), a documented list of deviations must be provided as part of the TDP. This includes but is not limited to any changes to the specification (Annex C) or any of its appendices. For example, if a material is not of the required colour, it must be listed as a deviation.

3.4.3.4 If deviations from the design were made (and approved by the Technical Authority), the modified patterns and/or drawings, in both electronic format (.dxf) and paper format must be provided as part of the TDP.

ANNEX C - SPECIFICATION

MODULAR LOAD CARRIAGE SYSTEM POUCHES

INTEGRATED SOLDIER SYSTEM PROJECT (ISSP)

APPENDIX 1 – ASSEMBLY INSTRUCTIONS

APPENDIX 2 – DRAWING AND MEASUREMENTS REQUIREMENTS

APPENDIX 3 – SHINGLE AMMUNITION MAGAZINE POUCH SPECIFICATION

APPENDIX 4 – POUCH ATTACHMENT LADDER SYSTEM (PALS) DESCRIPTION

OPI: DSSPM 10-4

Canada

Revision History

Revision	Date	Description
1	21 December 2016	Changes required for clarifying instructions to bidders for solicitation process.

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SPECIFICATION FOR MODULAR LOAD CARRIAGE SYSTEM (MLCS) COMPATIBLE POUCHES, CADPAT™TW

1. IDENTIFICATION

1.1 Scope

This specification covers the requirements, materials and construction instructions to manufacture 11 PALS compatible pouches to be mounted on a PALS platform. A description of PALS can be found in Appendix 4 of this specification. The following list identifies all pouches and their respective NSNs:

Item	NSN
POCKET, AMMUNITION MAGAZINE	8465-20-007-6974
POCKET, AMMUNITION MAGAZINE	8465-20-007-6975
POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE	8465-20-007-6976
CARRIER, GRENADE	8465-20-007-6981
POUCH, UTILITY LARGE	8465-20-007-6982
POUCH, UTILITY HYDRATION COVER	8465-20-007-6983
POUCH, COMBAT FIRST AID MEDIC	8465-20-007-6984
POUCH, MULTI TOOL	8465-20-007-7011
POUCH, 200 ROUND C9 AMMO DRUM	8465-20-007-7014
BAG, RADIO, CARRIER	8465-20-007-6986
CARRIER, GRENADE	8465-20-007-6999
POCKET, AMMUNITION MAGAZINE	8465-20-XXX-XXXX

2 APPLICABLE DOCUMENTS

2.1 Government Documents

The following documents form part of the Manufacturing Data to the extent specified herein.

2.1.1 Specifications and Standards

The following government specifications are available upon request:

Specification	Description
D-80-001-055/SF-001	Label, Clothing and Equipment
D-80-001-028/SF-001	Cording, Plaited, Spun, Synthetic Fibre
DSSPM 2-2-80-210	Specification for Cloth Coated Nylon/Polyurethane, 235 g/m
D-80-001-500/SF-001	Specification for CADPAT™ TW [Canadian Disruptive Pattern, (Temperate Woodland)]
D-80-001-091/SF-001	Cloth, Plain Weave, Nylon, 230 g/m^2
D-83-001-005/SF-001	Fastener, Slide, Interlocking

2.1.2 Drawings

The following government drawings are available upon request:

Drawing	Description
CS –108	Eyelet
CS – 149	Socket, Fastener
CS – 150	Stud, Fastener
CS – 151	Eyelet Fastener
CS – 153	Button, Fastener

2.2 Other Publications

The standards below are applicable to this specification. The contractor is responsible to obtain them.

Standard	Title
A-A-55126B	Fastener Tapes, Hook and Loop, Synthetic
A-A-55301	Webbing, Textile, Textured or Multifilament Nylon
ASTM D3575	Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers
ASTM D624	Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and

	Thermoplastic Elastomers
CAN/CGSB-4-GP-85Ma	Nylon Thread (Continuous Multifilament)
CAN/CGSB-54.1-2010 Part 1/ISO 4915:1991	Stitches and Seams - Part 1: Textiles - Stitch Types - Classification and Terminology
CAN/CGSB-54.1-2010 Part 2/ISO 4916:1991	Stitches and Seams - Part 2: Textiles - Seam Types - Classification and Terminology
ISO 7214	Cellular plastics -- Polyethylene -- Methods of test
MIL-F-495E	Finish, Chemical, Black, for Copper Alloys
MIL-PRF-5038J	Tape, Textile and Webbing, Textile, Reinforcing, Nylon
MIL-W-5664D/PIA-W-5664	Webbing, Textile, Elastic

2.3 Sealed Sample

DND will provide the following samples upon request from the contractor.

Sealed Pattern Number	**Description**
a. DSSPM 259-01	Cloth, Twist, Cotton/Nylon, Lightweight, CADPAT™ (TW) (Disruptive Pattern Temperate) for pattern, motif size, colour distribution, clarity and colour guidance
b. DSSPM 259-04	Cloth, Nylon, Polyurethane Coated, 235 g/m2 for construction and hand
c. DSSPM 271-07	Type II Cloth, Plain Weave, Nylon, Polyurethane Coated, 230 g/m²
d. DSSPM 281-01	Cloth, Twist, Cotton/Nylon, 170 g/m², Canadian Average Green (For Colour and IRR Properties)
e. DSSPM 414-13	POCKET, AMMUNITION MAGAZINE
f. DSSPM 415-13	POCKET, AMMUNITION MAGAZINE
g. DSSPM 416-13	POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE
h. DSSPM 417-13	CARRIER, GRENADE
i. DSSPM 418-13	POUCH, UTILITY LARGE
j. DSSPM 419-13	POUCH, UTILITY HYDRATION COVER
k. DSSPM 420-13	POUCH, COMBAT FIRST AID MEDIC
l. DSSPM 421-13	POUCH, MULTI TOOL

m. DSSPM 422-13	POUCH, 200 ROUND C9 AMMO DRUM
n. DSSPM 423-13	BAG, RADIO,CARRIER
o. DSSPM 424-13	CARRIER, GRENADE

3 REQUIREMENTS

3.1 Materials

This section contains all the materials required to construct the pouches listed in paragraph 2.3, pouches **e – o**.

Note1: All of the materials listed are not included in every pouch. To determine individual pouch material requirements refer to the material descriptions below, assembly manual and to the sealed pattern.

Note2: If there are any inconsistencies between the materials specified in this document and the sealed samples, this document takes precedence. It is recommended that the contractor contact the point of contact identified in the SOW to confirm the right material to use in case of inconsistencies.

3.1.1 Shell Fabric

The material for pouches **e – o** inclusive shall be cloth, nylon/polyurethane coated, 235 g/m² cloth in accordance with specification DSSPM 2-2-80-210, Type I, CADPAT™ (TW).

3.1.2 Lining Fabric

The shell material for pouches **(e, f, g, i, k, l, n)** shall be lined with a Type II, cloth, plain weave, nylon, polyurethane coated, 230 g/m², material in accordance with specification D-80-001-091/SF-001.

3.1.3 Hook and Loop Fastening Tape 25mm, 38mm, 50mm and 100 mm

All pouches shall include 25mm hook and loop fastening tape in the fabrication of the PALS attachment straps. Pouches **(g, h)** shall include additional 25 mm hook and loop fastening tape for lid attachment. Pouch **(o)** shall include 38mm hook and loop fastening tape. Pouches **(e, i)** shall include 50mm hook and loop fastening tape and pouches **(k, m)** shall include 100mm hook and loop tape. The hook and loop tape shall be in accordance with commercial MIL spec A-A-55126B, Type II, Class I.

3.1.4 Grommet

Pouches **(e, f, g, i, k, m)** shall include a grommet at the base of the pouch for drainage. Pouch **(j)** shall include two grommets at the base of the pouch for drainage. Pouch **(n)** shall include a grommet as a cord attachment. The grommet shall be made of brass, size #0 rolled rim eyelet in accordance with drawings CS-108. The grommet shall have a dull black chemical finish in accordance with MIL-F-495.

3.1.5 Side Release Adjustable Buckle Assembly– 25mm (1”)

Pouches **(g, i, n)** shall include a 25mm (1”) side release adjustable buckle assembly consisting of a male and female buckle. Pouch **(j)** shall include two 25mm (1”) side release adjustable buckle assemblies consisting of a male and female buckle. The buckle assembly shall be made of acetal. The dimensions shall be in accordance with Appendix 2 - Drawing/Measurement Specifications. P/N 810-1057 (Female) and 810-1058 (Male) from ITW Nexus are known to meet this requirement.

3.1.6 Side Release Buckle Assembly– 25mm (1”) Quick Attached

Pouches **(f, k)** shall include a 25mm (1”) side release quick attached buckle assembly consisting of a male and female buckle that is mounted to a 25mm (1”) webbing attached to the fabric of the pouch. The buckle assembly shall be made of acetal. The female buckle shall be field replaceable. The dimensions shall be in accordance with Appendix 2. P/N 810-1076 (Female) and 810-1058 (Male) from ITW Nexus are known to meet this requirement.

3.1.7 Slide Fastener Pull

The Combat First Aid Medic pouch **(k)** shall include a slide fastener pull attached to the slider consisting of a cord and a nylon slide fastener pull in accordance with DSSPM 420-13.

3.1.7.1 Cord

The cord used in the slide fastener pull shall be in accordance with para 3.1.12.

3.1.7.2 Nylon Slide Fastener Pull

The pull shall be nylon and have the shape outlined in Appendix 2 - Drawing/Measurement Specifications Section d. Part number 643-1000 from ITW Nexus is known to have met this specification.

3.1.8 Webbing- 25mm (1”), 38mm (1 ½”), 50mm (2”)

All pouches **(e - o)** shall include 25mm (1”) webbing in the construction of the attachment straps, PALS grid webbing and straps. Pouch **(o)** shall include 38mm (1 ½”)

webbing. Pouch **(e)** shall include 50mm (2") webbing. The webbing shall conform to commercial specification A-A-55301 formerly MIL-W-43668, Type III for 25mm (1") and Type VI for 38mm (1.5") and specification MIL-W-17337 Class 2 for 50mm (2").

3.1.9 Woven Elastic- 25mm (1") 38mm (1 ½"), 50mm (2"), 100mm (4")

Pouch **(k)** shall include a 25mm (1") elastic in the construction of inner pouch loops. Pouches **(e, k)** shall include 38mm wide woven elastic. Pouch **(k)** shall include 50 mm wide woven elastic. Pouch **(n)** shall include 100 mm woven elastic.

The elastic shall be a commercially available woven heavy elastic with a composition of 70% (±5%) polyester or nylon and 30% (±5%) rubber, with a thickness of 1.5 mm (±0.2mm) and a lengthwise elongation of 115% (± 20%). Woven elastic demonstrating performance properties consistent with those defined by MIL-W-5664D/PIA-W-5664 would be acceptable.

Each woven elastic shall be one continuous piece with finished woven edges, free of loose threads or raveling/fraying.

3.1.10 Nylon Binding Tape- 19 mm (¾"), 25mm (1")

Pouches **(e, f, g, , i, , n)** shall be finished with 19mm (¾") nylon binding tape. Pouches **(h,j, k, l, m, o)** shall be finished with 25mm (1") nylon binding tape. The binding tape shall be in accordance with MIL-PRF-5038J, Type III. See Appendix 1 for further details.

3.1.11 High Density Polyethylene (HDPE) 0.015", 0.055"

A 0.015" thick narrow strip of HDPE (plastic sheeting) shall be used in the fabrication of the PALS attachment straps on all pouches. A 0.015" piece of HDPE sheeting shall also be used in the construction of the lid of pouch **(e)**. A 0.055" thick piece of HDPE sheeting shall be used in the construction of pouch **(k) and (l)**. Two 0.055" thick pieces of HDPE sheeting shall be used in the construction of pouch **(m)**. For the dimensions of the strip required for the attachment straps refer to Table 9 - PALS Attachment Straps, of Appendix 1 - Assembly Instructions. The polyethylene physical properties shall be in accordance with Table 1. HDPE shall be cut to size and shape according to HDPE patterns. The rounded corners with a radius of 3/8" can be die cut with a steel die, machined with a CNC router or any other acceptable method to achieve the desired shape.

PROPERTY	METHOD	NOMINAL VALUE
TENSILE YIELD STRENGTH	D 638	34 Mpa

ULTIMATE ELONGATION	D 638	>800%
FLEXURAL MODULUS	D 790	1240 Mpa
HARDNESS	D 2240	69 Shore D
BRITTLENESS TEMPERATURE	D 746	<- 76°C
SOFTENING POINT (VICAT)	D 1525	125°C
DENSITY	D 1505	0.952 G/CM³

Table 1 - High Density Polyethylene Physical Properties

3.1.12 Cord, Plaited

Pouch **(k)** shall include cording in the construction of the slide fastener pulls. Pouch **(n)** shall include cording in the attachment of buckles and webbing. The cord used for the attachment of buckles and webbing in Pouch **(k)** and for the slide fastener pull in Pouch **(n)** shall be plaited cord of spun synthetic fibre, Type 1, conforming to D-80-001-028/SF-001.

3.1.13 Snap fastener

Pouches **(h, l)** shall include snap fasteners. The snap fasteners shall be made of brass with a dull black chemical finish in accordance with MIL-F-495. It shall include sockets, studs, eyelets and buttons. The size and composition of the snap fastener shall be in accordance with drawings CS-149-1, CS-150-1, CS-151-1 and CS-153-1.

3.1.14 Foam, Polymeric, Closed Cell, Physically Expended (PE/EVA 50kg/m3)

Pouch **(h)** shall include 3/16" thick EVA 50 Foam. The foam performance shall be in accordance with Table 2. The foam shall be double lined (back and surface) with knit polyester fabric. The knit polyester fabric shall be black.

PROPERTY	**METHOD**	**Units**	**TYPICAL VALUES REQUIREMENT**	**MINIMUM**	**MAXIMUM**
FOAM TYPE		%	Closed Cell	95	100
DENSITY	ASTM D3575	Kg/m^3		40	52
THICKNESS		mm	As required by the solicitation	Industry standard	Industry standard
TENSILE STRENGTH	ISO 7214	kPa	700	600	900
ELONGATION	ISO 7214	%	230	100	
TEAR RESISTANCE	ASTM D624 Die "C"	lb/in		14	

Compression Set 50%, 24 Hr recovery	ASTM D3575	%			18%
Compression Deflection @25%	ISO 7214	kPa		29	63
Compression Deflection @ 50%	ISO 7214	kPa		72	142
Operating Conditions		^{0}F ^{0}C		-95 -70	+150 +65

Table 2 - Unprocessed Single Ply Foam Stock, trade name EVAZOTE EVA-50 by Zotefoams Inc.

3.1.15 Machine Embroidery

The Combat First Aid Medic Pouch **(k)** shall include a machine embroidered (flat) medical cross that measures 38 mm (1 ½") by 38 mm (1 ½"). The width of the medical cross embroidery shall be 12.7 mm (½").

3.1.16 Thread

The thread used for the construction of the pouch shall be 100% bonded nylon, lubricated, 3-ply, 720 Denier or 70 tex conforming to CAN/CGSB-4GP-85Ma.

3.1.17 Label

A marking label shall be made in accordance with D-80-001-055/SF-001 and positioned as indicated in para 3.5.

3.1.18 Slide Fastener

The slide fastener used for the closure in the Combat First Aid- Medic Pouch (k) shall be a monofilament (coil), Class 4, Type 11, and 100% polyester tape in accordance with D-83-001-005/SF-001. The slider pull shall be cord and a nylon slide fastener pull in accordance with DSSPM 420-13. The slider shall lock to prevent the slippage of the slider down the chain until the slider is unlocked. The sliders shall be attached on the reverse sides of the chain. The usable length of the slide fastener shall be 18-1/2 inches (46.36 cm) from edge to edge.

3.2 Cutting

The shell and the lining fabrics shall be cut in the direction of the warp.

The methodology used to mark the placement of materials such as webbing on the fabric is left to the contractor's discretion. However no process where the marking damages the shell fabric is permitted. There shall be no exposed drill holes.

The specified materials shall be cut and used in accordance with best commercial standards and practices.

3.3 Sewing

3.3.1 Seams and Stitches

All seams and stitches shall be in accordance with CAN/CGSB-54.1-2010 Part 1/ISO 4915:1991 Stitches and Seams – Part 1: Textiles – Stitch Types – Classification and Terminology and CAN/CGSG-54.1-2010 Part 2/ISO 4916:1991 Stitches and Seams – Part 2: Textiles – Seam Types – Classification and Terminology. All seams and stitches shall be in accordance with Table 3. See Table 10, Appendix 1 for further general sewing information and Appendix 1 - Assembly Instructions for information specific to each pouch.

CAN/CGSB-54.1-M Description	Seam Type National (ISO)	Stitch Type	Stitch Count
Topstitching	SSe 2 (1.06.02)	301	(3-4 per cm, 8-10 stitches per in.)
General	SSa-1 (1.01.01)	301	(3-4 per cm, 8-10 stitches per in.)
Box and Cross	SSau-1 (5.04.03)	301	(3-4 per cm, 8-10 stitches per in.)
Hemming	Efa-1 (6.02-03)	301	(3-4 per cm, 8-10 stitches per in.)
Bar Tack (25.4mm, 1 inch)		304	(12-14 per cm, 30-35 per in.)

Table 3 - Seams and Stitches

3.3.2 Stitch Type

All stitching shall be stitch Type 301 lockstitch 3-4 stitches/ cm (8-10 stitches/inch). Seam allowance is 9.5 mm (3/8”) unless otherwise indicated. All double needle topstitching when specified shall be lock stitched with the needles set 5 mm (3/16”) apart and not less than 1.6 mm (1/16”) from the edge.

3.3.3 Backstitch

The ends of all lock stitched seams and stitching and breaks in thread shall be securely backstitched.

3.3.4 Appearance

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

3.3.5 Reinforcement

When stitching the front to the back panel, reinforce the top corners with a backstitch 2-3 times, 6-8 stitches in length. A 12.5 mm (½") long bar tack may also be used to reinforce the top corners.

3.3.6 Thermoplastic Materials

All thermoplastic materials such as webbing, binding and cord shall be heat cut or fused to prevent fraying.

3.4 Construction

3.4.1 Assembly Instructions

Assembly instructions are provided in Appendix 1 - Assembly Instructions.

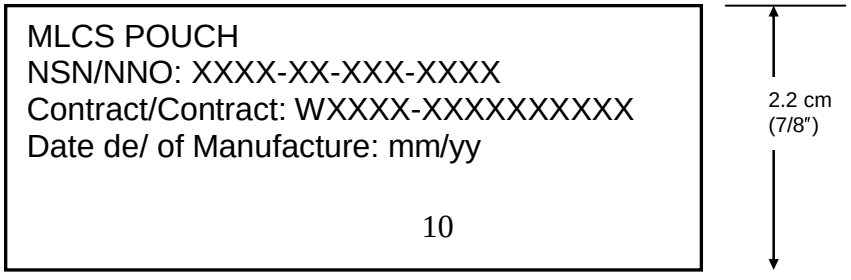
3.5 Marking Label

The pouches shall include a label. The size of the label shall measure 2" x 7/8" wide and shall be topstitched onto the topside of one of the PALS attachment straps located on the back of the pouch.

The label and marking shall be in accordance with D-80-001-055/SF-001. See Figure 1 for an example.

The marking shall give the following information in French and English and shall be in indelible black ink:

a. MLCS pouch nomenclature;
b. NATO Stock number;
c. Contract number; and
d. Month and year of manufacture.



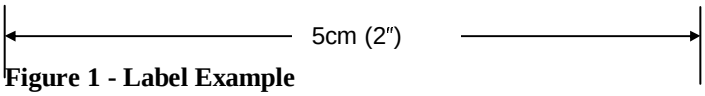


Figure 1 - Label Example

3.6 Visible Near Infrared Spectral Requirement

Visible and near infrared spectral performance of the Shell Fabric (para. 3.1.1) shall be in accordance with D-80-001-500/SF-001.

3.7 Colour Requirements

The Shell Fabric (para. 3.1.1) shall be CADPAT™ (TW) in accordance with D-80-001-500/SF-001.

The colour of components listed in Table 4 shall be Canadian Average Green in accordance with D-80-001-500/SF-001. The colour shall be non-reflective and flat finish.

Paragraph	Material
3.1.2	Lining Fabric
3.1.3	Hook and Loop Fastening Tape 25mm, 38mm, 50mm and 100 mm
3.1.5	Side Release Adjustable Buckle Assembly– 25mm (1”)
3.1.6	Side Release Buckle Assembly– 25mm (1”)
3.1.8	Webbing- 25mm (1”), 38mm (1 ½”), 50mm (2”)
3.1.10	Nylon Binding Tape- 19 mm (¾”), 25mm (1”)

Table 4 - Components in Canadian Average Green

The colour of components listed in Table 5 shall be either Canadian Average Green in accordance with D-80-001-500/SF-001 or Black. The prefer colour is Canadian Average Green. The colour shall be non-reflective and flat finish.

Paragraph	Material
3.1.7.2	Nylon Slide Fastener Pull
3.1.9	Woven Elastic- 25mm (1”) 38mm (1 ½”), 50mm (2”), 100mm (4”)

Table 5 - Components that are acceptable in black

The colour of components listed in Table 6 shall be Black. The colour shall be non-reflective and flat finish.

Paragraph	Material
3.1.11	High Density Polyethylene (HDPE) 0.015", 0.055"
3.1.13	Snap fastener
3.1.14	Foam, Polymeric, Closed Cell, Physically Expended (PE/EVA 50kg/m3)
3.1.15	Machine Embroidery

Table 6 - Components in black

The colour of components listed in Table 7 shall be a good visual match to CAG in accordance with sealed pattern with DSSPM 281-01 and to specification D-80-001-500/SF-001. The colour shall be non-reflective and flat finish.

Paragraph	Material
3.1.12	Cord, Plaited
3.1.16	Thread
3.1.18	Slide Fastener

Table 7 - Components in a colour that is a good visual match to CAG

The colour of component listed in Table 8 shall be a good visual match to one of the colours found in the CADPAT TW pattern in accordance with sealed pattern DSSPM 259-01and to specification D-80-001-500/SF-001, but not black. The colour shall be non-reflective and flat finish.

Paragraph	Material
3.1.17	Label

Table 8 - Component in a colour that is a good visual match to one of the colours in CADPAT

3.8 Safety Requirement

3.8.1 The materials must not present any environmental, health or system safety hazards of a Catastrophic or Critical mishap severity:

a. Catastrophic Mishap Severity: Could result in death, permanent total disability, or irreversible or reversible severe environmental damage that violates law or regulation.

b. Critical Mishap Severity: Could result in permanent partial disability, injuries or occupational illness that may result in hospitalization, or reversible environmental damage causing a violation of law or regulation.

3.8.2 The ISS Combat Pouches must not contain any Polychlorinated Biphenyls (PCBs), halocarbons or asbestos.

3.8.3 The Contractor must comply with the Products Containing Mercury Regulations “http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailreg.cfm?intReg=203” throughout the conduct of the Work and provide evidence of compliance when requested by Canada.

3.8.3.1 New equipment and replacement parts must not contain mercury and its compounds, where technically feasible (fit, form, function met);

3.8.3.2 For each case where a mercury-containing product has to be utilized, the Contractor must submit a statement that it is not technically feasible to use a mercury-free product in its place, and explain why;

3.8.3.3 Where the equipment utilizes mercury and its compounds, in any shape or form, contained or used within the design, operation and maintenance of equipment, support tooling, products or materials used or consumed, such equipment must be identified and associated with their physical location within or on the Work provided. The contractor must provide the following for each occurrence of mercury in tabular format to Canada:

a. Equipment NSN (for equipment containing mercury);

b. Equipment Description:

c. NSN or unique identifier in DRMIS of the mercury-containing item;

d. Manufacturer of the mercury-containing item;

e. Date of manufacture of the mercury-containing item;

f. Manufacturer part number of the mercury-containing item;

g. National Supply Code for Manufacturers of the mercury-containing item (NSCM)/Commercial and Government Entity (CAGE) Code;

h. Description of the mercury-containing item;

i. The form of mercury (e.g. liquid, vapour, amalgam, metal halide);

j. The location of the mercury-containing item(s); and

k. Material Safety Data Sheet, where possible.

3.8.3.4 Technical documentation provided by the Contractor must contain:

a. Warnings that the equipment contains mercury must reflect the requirements of the Products Containing Mercury Regulations. The technical document must also include information on part numbers containing mercury, location, type of mercury, manufacturer's information, mercury content, and MSDS information (refer to Section 3.8.3.4); and

b. A written work procedure for processes involving the safe handling of mercury-containing equipment, components and materials, must be included. It must identify procedures for mercury spills clean-ups and disposal procedures. The work procedure must identify proper Personal Protective Equipment (PPE) in the case of a spill.

4 PACKAGING

4.1 Standard Packaging and Delivery

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

APPENDIX 1 – ASSEMBLY INSTRUCTIONS

MODULAR LOAD CARRIAGE SYSTEM POUCHES

INTEGRATED SOLDIER SYSTEM PROJECT

Appendix 1 - Assembly Instructions

This appendix contains the assembly and sewing instructions for MLCS Pouches

0.0	**GENERAL INSTRUCTIONS**
0.1	Tables and figures can be found at the end of this appendix. These tables and figures describe the PALS construction in details and provide general sewing instructions. These are meant to complement the assembly instructions and the sealed samples.
0.1	***Tables***
0.1.1	Table 9 - PALS Attachment Straps: Dimensions of the straps based on the number of rows of webbing required on the platform in order to securely attach the pouch.
0.1.2	Table 10 - General Sewing Instructions: Expected workmanship for different types of sewing techniques.
0.2	***Figures***
0.2.1	Figure 2 - PALS Webbing Attachment Strap - Cross Section: Side view of the construction of a PALS Webbing Attachment Strap.
0.2.2	Figure 3 - PALS Webbing Attachment Strap- Face View: Face view of the construction of a PALS Webbing Attachment Strap.
0.2.3	Figure 4 - Back Pouch View: View of the construction of a typical PALS pouch, highlighting the attachment straps.
0.2.4	Figure 5 - PALS Webbing Construction on Pouch Back: View of the construction of a typical PALS pouch, highlighting the webbing on the back.
1.0	**POCKET, AMMUNITION MAGAZINE** **(8465-20-007-6974) (e)**
1.1	***Lid***
1.1.1	Sew corner seams of shell fabric and lining fabric
1.1.2	Prior to sewing all of the components to the shell of the pouch, line up the two layers of fabric, wrong sides together. Insert a piece of 0.015" HDPE, 2 ¼" wide by 5 ¼" long between the two layers of fabric, lined-up at the edge of the lid.
1.1.3	Place lining fabric on shell fabric with lid interlining material in between so that seams are facing inside and baste together.
1.1.4	Place a piece of hook tape measuring 50 mm (2") wide by 10 cm (4") long on the right side of the fabric that will be the underside of the lid. Centre the hook tape and line up at 1" of the edge of lid section. Box stitch in place through both layers of fabric and the HDPE.
1.1.5	To topside of outer lid, place 2 pieces of 25mm x 9cm (1" x 3 ½") webbing, 38mm (1 ½") from lid edge, spaced 25mm (1") apart. Place three rows of stitching through all layers vertically over both rows of webbing, centered 38mm (1 ½") apart.
1.2	***Eyelet***
1.2.1	Insert a #0 eyelet (brass with a dull black chemical finish in acc. MIL-F-495) for drainage at the base of the pouch and where indicated on the pattern.

1.3	***Back of Pouch***
1.3.1	Place two rows of 25mm x 9 cm (1" x 3 ½") webbing on the back section of the pouch on the face side where indicated on the pattern.
1.4	***PALS Strap Attachments***
1.4.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 ½") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 14cm (5 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
1.4.2	The folded end of the strap shall have a piece of loop tape that measures 25mm x 6.4 cm (1" x 2 1/2 ") sewn to the bottom so that it is stitched to one side and wraps around to the other with a box stitch.
1.4.3	There shall be two webbing straps stitched onto the back, placement as indicated on the pattern.
1.4.4	There shall be a corresponding 25mm x 6.4 cm (1" x 2 ½") hook tape sewn onto the pouch back. One end is box stitched to the pouch leaving a 1 ½" section free.
1.4.5	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
1.5	***Finish Pouch***
1.5.1	Topstitch to the side seams on the front of the pouch 1 section of 38mm (1 1/2") elastic that measures 20.5 cm (8") long, 1" from the top of the pouch.
1.5.2	Stitch 19 mm (¾") binding tape onto all raw edges of the pouch including bottom corner pouch seams using 6 mm (¼") Dbl topstitch at 6mm (¼") gauge.
1.5.3	Place a piece of loop tape 50 mm (2") wide by 13 cm (5") long on top of a piece of webbing 50 mm (2") wide by 13 cm (5") long, and topstitch the tape to the webbing.
1.5.4	Place the piece of webbing and loop tape on the front of the pouch such that the webbing sticks-out by 1 ¾". Topstitch in place by stitching back and forth 3 times at 3mm (1/8") gauge, twice between the elastic and the top of the pouch, and twice between the elastic and the edge of the piece of webbing with loop tape such that the elastic is free to move, as per the provided sealed sample.
1.5.5	Stitch the side wall seams and the bottom corners seams together using a dbl topstitch at ¼" gauge
1.5.6	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
2.0	**POCKET, AMMUNITION MAGAZINE** **(8465-20-007-6975) (f)**
2.1	***Lid***
2.1.1	Sew corner seams of shell fabric and lining fabric
2.1.2	Place lining fabric on shell fabric with lid interlining material in between so

	that seams are facing inside and baste together.
2.2	***Buckles & Eyelet***
2.2.1	The buckle closure shall have a male buckle that is attached with a piece of webbing to the lid and the female buckle shall be a quick attached and field replaceable type mounted to a piece of 1" webbing bar tacked through all layers of the pouch body.
2.2.2	To attach the female portion of the quick attached field replaceable side release buckle position a 114mm (4.5") long piece of 25mm (1") AA-55301 webbing centered on the pouch front at the marks as indicated on the pattern. Fold the one end under and insert 4 bar tacks, the first 2mm (1/16") from the folded edge, the second 22mm(7/8") from the folded edge, the third 54mm (2 1/8") from the folded edge, and the fourth (with the raw edge folded under) 80mm (3 1/8") from the first folded edge. Attach the female 25mm (1") quick attach buckle (ITW P/N 810-1076) to this webbing with the opening facing up.
2.2.3	To form the male buckle closure, take a 25mm x 100mm (1" x 4") piece of webbing and thread through the adjustable 1" male buckle. Turn the end of the webbing under 9.5mm (3/8") and bring the other end of the webbing up to meet the edge of the fold under.
2.2.4	Insert a #0 eyelet (brass with a dull black chemical finish in acc. MIL-F-495) for drainage at the base of the pouch and where indicated on the pattern.
2.3	***Back of Pouch***
2.3.1	Place two rows of 25mm x 8.2 cm (1" x 3 ¼") webbing on the back section of the pouch on the face side where indicated on the pattern.
2.4	***PALS Strap Attachments***
2.4.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 ½") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 14cm (5 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
2.4.2	The folded end of the strap shall have a piece of loop tape that measures 25mm x 6.4 cm (1" x 2 1/2 ") sewn to the bottom so that it is stitched to one side and wraps around to the other with a box stitch.
2.4.3	There shall be two webbing straps stitched onto the back, placement as indicated on the pattern.
2.4.4	There shall be a corresponding 25mm x 6.4 cm (1" x 2 ½") hook tape sewn onto the pouch back. One end is box stitched to the pouch leaving a 1 ½" section free.
2.4.5	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
2.5	***Joining Pouch Seams***
2.5.1	Stitch 19 mm (¾") binding tape onto all raw edges of the pouch including bottom corner pouch seams using 6 mm (¼") Dbl topstitch at 6mm (¼") gauge. (The corners of the lid are not bound and will have been sewn together

	prior to)
2.5.2	Stitch the folded webbing strap with buckle in place on the centre tip of the lid with a full box stitch
2.5.3	Stitch the side wall seams and the bottom corners seams together using a dbl topstitch at ¼" gauge
2.5.4	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
3.0	**POUCH, SMOKE GRENADE/ NIGHT VISION DEVICE** **(8465-20-007-6976) (g)**
3.1	***Lid***
3.1.1	Lay the lining material with the interlining material in between on the lid section only on the wrong side of the shell fabric and baste together.
3.1.2	Sew the corner seams of the lid together and place lining material onto the wrong side of face fabric so that seams are enclosed.
3.1.3	Sew the 25mm x 6.4cm (1" x 2 ½") hook tape onto the right side of the lining material through both layers of fabric, placed along the edge of the lid.
3.1.4	Stitch the 25mm x 6.4 cm (1" x 2 ½") loop tape onto the face side of the shell fabric along the top edge of the pouch centered on the front of the pouch
3.2	***Buckles & Eyelet***
3.2.1	To form the buckle closure, take a 25mm x 15.2 cm (1" x 6") piece of webbing and thread through the adjustable 1" male buckle. Form a tab at the end of the webbing by folding the end under 12.7mm (½") twice. Stitch in place with either a bar tack or by stitching back and forth 3 times at 3mm (1/8") gauge
3.2.3	Stitch the other end of the webbing to the front of the pouch, placement as indicated on the pattern and also lined up with the female buckle to ensure proper closure. Stitch the webbing to the pouch with a full box stitch.
3.2.4	Insert a #0 (brass with a dull black chemical finish in acc. MIL-F-495) for drainage at the base of the pouch and where indicated on the pattern. For the 25mm (1") female buckle take the 25mm x 9cm (1" x 3 ½") webbing and thread through the buckle.
3.3	***Back of Pouch***
3.3.1	Place two rows of 25mm x 6.4 cm (1" x 2 1/2") webbing on the back section of the pouch on the face side where indicated on the pattern.
3.4	***PALS Attachment Straps***
3.4.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 ½") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 14cm (5 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
3.4.2	Loop tape measuring 25mm x 6.4cm (1" x 2 1/2 ") is sewn to the bottom using a box stitch so that it is stitched to one side and wraps around to the other.

3.4.3	Line up the extended end of the strap along the top edge of the first row of webbing and as indicated on the pattern.
3.4.4	There shall be a corresponding 25mm x 6.4 cm (1" x 2 ½") hook tape sewn onto the pouch back. One end is box stitched to the pouch leaving a 38 mm (1 ½") section free.
3.4.5	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
3.5	***Joining Pouch Seams***
3.5.1	Stitch 19mm (¾") binding tape onto all raw edges of the pouch including bottom corner pouch seams using 6mm (¼") Dbl topstitch at6mm (¼") gauge. (The corners of the lid are not bound and will have been sewn together prior to)
3.5.2	Stitch the side wall seams and the bottom corners seams together using a dbl topstitch at 6 mm (¼") gauge.
3.5.3	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
4.0	**CARRIER, GRENADE** **(8465-20-007-6981) (h)**
4.1	Prepare the back panel/lid by sewing the lid corner seams at ¼" SA.
4.2	Topstitch on the 3/16" thick foam piece positioned onto wrong side of the lid on the back lid area and as indicated on the pattern
4.3	***Prepare outer back panel***
4.3.1	Bind the bottom edge of outer back panel piece with 25mm (1") MIL-PRF 5038J binding tape, ¼" dbl topstitched.
4.3.2	Place on a piece of 25mm (1") AA-55301 webbing, measuring 8cm (3 ¼") long, positioned 1 ½" up from the bound edge and topstitch to the sides.
4.4	***PALS Attachment Strap***
4.4.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 23cm (9 ¼") in length. Take a piece of 22mm (7/8") wide 0.015" thick x 9 cm (3 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 ¼" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge. For strap construction refer to Figures 1 -2.
4.4.2	The folded end of the strap has a piece of loop tape that measures 25mm x 6.4cm (1" x 2 ½ ") sewn to the bottom so that it is stitched to one side and wraps around to the other. Box stitch the loop tape in place at 3mm (1/8") gauge.
4.4.3	Fold the top edge of the outer back panel piece under ½". Position the 2 attachment straps on the outer back piece back ½" in from the sides. Align the loose end of the strap along the single row of 1" webbing. Stitch the attachment straps in place with a 22mm (7/8") full box stitch
4.4.4	Sew to the outer back panel the corresponding piece of hook fastening tape x 2, measuring 25mm x 64mm (1" x 2 ½") to the bottom edge in line with the

	fastening straps. Stitch in place with a 19mm (¾") box stitch at the top end of the tape only, leaving the rest free to fasten to the straps.
4.4.5	Topstitch the top section only of this finished outer back panel to the back panel, positioned at the back lid and where indicated on the pattern with at 1/8" gauge.
4.4.6	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
4.5	***Prepare Front Pouch***
4.5.1	Place a section of 3/16" thick foam measuring 2 ½" wide x 6" long along the wrong side of the front pouch aligned with the top edge.
4.5.2	Stitch the foam in place on each side of the foam with a square that measures 1 ½" wide by 2 ½" long.
4.5.3	Position a piece of 25mm (1") hook tape measuring 2" long vertically at the center of the front panel and topstitch in place with the edge of the tape aligned along the top edge of the front pouch.
4.5.4	Fold up the bottom of the front pouch and the edge of the bottom section of the front pouch ½". With wrong sides together sew the bottom section to the front to 2 ½" along each side only leaving a 1 ¾" long opening along the center of the bottom. Bind the top edge of the front pouch with 1" MIL-PRF 5038J binding tape at ¼" dbl topstitch.
4.5.5	Topstitch the completed front pouch to the sides of the back panel only.
4.6	***Finish Pouch***
4.6.1	Bind the sides and along the lid of the pouch with 25mm (1") MIL-PRF 5038J binding tape at ¼ " dbl topstitch.
4.6.2	Form a webbing tab with loop tape by topstitching a piece of 1" loop tape measuring 2" long to a piece of 25mm (1") AA-55301 webbing measuring 4" long, positioned to the edge of one end. Form a tab on the other end of the webbing by turning under ¾" and securing in place with a 3 rows of stitching at 1/8" gauge.
4.6.3	Place this tab on the wrong side of the lid, webbing side facing the wrong or coated side of the lid, positioned at the center of the lid with 1 ½" of webbing extending past the edge of the lid. Stitch down with a box stitch.
4.6.4	Place a snap button 1" down from the edge of the lid, centered on the loop tape/webbing.
4.6.5	Place a corresponding snap socket centered on the hook tape on the hook tape on the front pouch, 1" down from the pouch edge.
4.6.6	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
5.0	**POUCH, UTILITY LARGE** **(8465-20-007-6982) (i)**
5.1	***Lid***
5.1.1	Sew corner seams of shell fabric and lining fabric
5.1.2	Place lining fabric on shell fabric with lid interlining material in between so that seams are facing inside and baste together.
5.2	***Buckles & Eyelet***

5.2.1	To form the buckle closure, take a 25mm x 17.8cm (1" x 7") piece of webbing and thread through the adjustable 25mm (1") male buckle. Form a tab at the end of the webbing by folding the end under 12.7mm (½") twice. Stitch in place with either a bar tack or by stitching back and forth 3 times at 3mm (1/8") gauge
5.2.2	Fold the end of the webbing under twice to form a 12.7mm (1/2") tab and either bar tack or stitch 3mm (1/8") gauge from the folded end 3X.
5.2.3	Stitch the webbing with buckle onto the front of the pouch by folding the end under 12.7mm (1/2") and securing to the pouch with a full box stitch.
5.2.4	Insert a #0 eyelet at the base of the pouch and where indicated on the pattern.
5.3	***Side Wall***
5.3.1	Line up 4 - 25mm x 9cm (1" x 3½") strips of webbing along the side walls of the pouch and topstitch in place to the side, placed ¾" up from the bottom and where indicated on the pattern.
5.3.2	Bind the edge of the lined up webbing with 19mm (¾") MIL- PRF 5038J binding tape using 3/16" dbl topstitch.
5.3.3	Stitch the bound edge of the webbing to the pouch with a 3/16" dbl topstitch. Bar tack the ends of each piece of webbing along the binding tape. Place a row of vertical stitching down the centre of the webbing reinforcing 3X.
5.4	***Back of Pouch***
5.4.1	On the right side of the back, place two rows of 25mm x 11.5cm (1" x 4½") webbing across the back and as where indicated on the pattern. Topstitch in place to the sides of the back. Place a vertical row of stitching across the centre of both rows of webbing to create two columns for the attachment straps.
5.5	***PALS Attachment Straps***
5.5.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 ½") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 14cm (5 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
5.5.2	The folded end of the strap has a piece of loop tape that measures 25mm x 6.4cm (1" x 2 ½ ") sewn to the bottom so that it is stitched to one side and wraps around to the other. Box stitch the loop tape in place at 3mm (1/8") gauge.
5.5.3	Box stitch the two attachment straps to the back with the loose ends of the straps aligned with the edge of the first row of horizontal webbing. Placement of the straps is as indicated on the pattern.
5.5.4	Sew the corresponding piece of hook fastening tape x 2, measuring 25mm x 64mm (1" x 2 ½") to the bottom (as indicated on the pattern) in line with the fastening straps. Stitch in place with a 19mm (¾") box stitch at the top end of the tape only, leaving the rest free to fasten to the straps.
5.5.5	All PALS webbings to be reinforced with 2 rows of stitching

	as per Figure 5
5.6	***Assemble Pouch***
5.6.1	Bind all raw edges of the pouch including bottom corner pouch seams with 19mm (¾") MIL-PRF 5038J binding tape with 6mm (¼") dbl topstitch. (The corners of the lid are not bound and will have been sewn together prior to)
5.6.2	Topstitch a piece of 50mm x 9 cm (2" x 3 ½") hook tape onto the right side of the lining material through both layers of fabric, positioned in the center of the lid close to the edge and as indicated on the pattern.
5.6.3	Topstitch a piece of 50mm x 10 cm (2" x 4") loop tape onto the front of the pouch, positioned in the center of the pouch immediately under the binding tape.
5.6.4	Sew the female buckle onto the front of the lid with a 22 mm (7/8") full box stitch, centered over where the lid comes to a point.
5.6.5	Stitch the side wall seams and the bottom corners seams together using a dbl topstitch at 6mm (¼") gauge.
5.6.6	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
6.0	**POUCH, UTILITY HYDRATION COVER** **(8465-20-007-6983) (j)**
6.1	***Front PAL Grid***
6.1.1	Position the 1" AA-55301 webbing measuring 32cm (12 ½") x 7 horizontally on the front with the first row 1" from the top. They should be spaced 1" apart.
6.1.2	The webbing is stitched to the shell material at 3.8 cm (1 ½″) intervals forming 8 columns. The columns are formed by starting the vertical lines of stitching at the top of the first row of webbing and continuing to the bottom of the last horizontal row of webbing. .
6.1.3	Reinforce the stitching over the each webbing 3 times.
6.1.4	Insert 2 x size #0 grommets at the base of the cover as indicated on the pattern.
6.1.5	On the bottom of the cover place a single row of 25mm (1") AA-55301 webbing measuring 17cm (6 ¾") horizontally, approximately ½" away from the eyelets towards the back of the cover and as on the pattern.
6.1.6	Stitch the webbing down the same as on the front forming 4 columns spaced 1 ½" apart. The vertical rows of stitching should be in line with both sets of webbing in paragraph 6.2 – Cover Back.
6.2	***Cover Back***
6.2.1	Place two rows of 25mm (1") AA-55301 webbing measuring 20 cm (7 ¾") in length on the upper section and two rows on the lower section of the cover back as indicated on the pattern. Note, when the sides are sewn together, these rows of webbing should line up with webbing on the front.
6.2.2	Stitch the webbing down the same as on the front forming 4 columns spaced 1 ½" apart. The vertical rows of stitching should be in line with both sets of webbing.
6.2.3	Reinforce the stitching over the each webbing 3 times.

6.3	***PALS Attachment Strap***
6.3.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 ¼") in length. Take a piece of 22mm (7/8") wide 0.015" thick x 14cm (5 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 ¼" extends past this formed strap. Secure the strap in place with by topstitching along the perimeter of the strap at 3mm (1/8") gauge. For strap construction refer to Figures 1 -2.
6.3.2	The folded end of the strap shall have a piece of loop tape that measures 25mm x 6.4cm (1" x 2 ½ ") sewn to the bottom so that it is stitched to one side and wraps around to the other. Box stitch the loop tape in place at 3mm (1/8") gauge.
6.3.3	Position the 4 attachment straps on the back 3 /4" in from the sides and line up the loose end of the attachment strap to the first row of webbing in the upper and lower sections of the back. On the top and bottom top of the narrow edge of panel aligned with the first row of 25mm (1") webbing. Stitch the webbing in place with a 22mm (7/8") full box stitch.
6.3.4	Sew to the back pouch section, the corresponding piece of hook fastening tape x 4, measuring 25mm x 64mm (1" x 2 ½") to where indicated on the pattern and in line with the bottom of the fastening straps. Stitch in place with a 19mm (¾") box stitch at the top end of the tape only, leaving the rest free to fasten to the straps.
6.3.5	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
6.4	***Cover Flap***
6.4.1	Place 2 rows of 25mm (1") AA-55301 webbing measuring 18cm (7") in length on the right side of the lid with the first row placed 1 ¼" down from the lid edge and the second row placed 1" below and as indicated on the pattern.
6.4.2	Stitch the webbing down as on the back forming 4 columns spaced 1 ½" apart. Line up the stitching with the stitching on the back webbing. Reinforce the stitching over each webbing 3 times.
6.5	***Assembling the Cover***
6.5.1	Thread a section of 25mm (1") AA-55301 webbing measuring 38cm (15") in length through a male SR buckle (ITW P/N 810-1058) x 2. Thread one end of the webbing through the buckle and finish the end with a 1" wide tab that is created by folding over twice and securing the folded end with a 25mm (1") bar tack 3mm (1/8") from the edge.
6.5.2	Thread these finished buckle straps underneath the 3 columns in from each side to the bottom. Line up the end of the webbing with the edge of the fabric and secure the straps in place with a full 3cm (1 ¼") box stitch.
6.5.3	Flip the cover so that the wrongs are together and sew the bottom corners and the sides together at 10mm (3/8") SA.
6.5.4	Bind the seams including the lid and the top edge of the cover with 25mm (1") MIL-PRF 5038J binding tape with double 6mm (¼") topstitch
6.5.5	Two female SR buckles (ITW P/N 810-1057) are sewn to the flap with the

	buckle strap aligned with the 1st row of the webbing 1 ¼" from the flap edge.
6.5.6	The buckle strap is formed with a 25mm (1") AA-55301 webbing measuring 8cm (3") in length and threaded through the buckle and folded so the finished strap measures 38mm (1 1/2") in length. Stitch to flap with a 22 mm (7/8") full box stitch.
6.5.7	Fold a piece of ¾" MIL-PRF 5038J binding tape that measures 2 ½" long. Fold in half and fold the top edge over ¼" and place the finished 1" long loop in the center of the flap on the wrong side of the fabric along where the flap is folded and as indicated on the pattern. Topstitch at ¼" from the edge with 3 rows of stitching.
6.5.8	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
7.0	**POUCH, COMBAT FIRST AID MEDIC** **(8465-20-007-6984) (k)**
7.1	***Prepare Back Panel***
7.1.1	On the back panel top stitch to the right side 2 pieces of 4" hook tape that measure 5" in length next to each other. To secure the centre of the hook in place. Sew an "X" that covers both sections of hook tape.
7.1.2	Topstitch to the side seams on the wrong side 2 sections of 38mm (1 1/2") elastic that measure 13 cm (5") long with the first row 2" from the top and the second spaced ½" apart from the first.
7.2	***Front Panel***
7.2.1	Machine embroider a 1 ½" black cross to the centre of the front panel and where indicated on the pattern.
7.2.2	Position a 114mm (4.5") long piece of 25mm (1") AA-55301 webbing centered on the pouch front at the marks, fold the bottom end under and insert 4 bar tacks, the first 2mm (1/16") from the folded edge, the second 22mm(7/8") from the folded edge, the third 54mm (2 1/8") from the folded edge, and the fourth 80mm (3 1/8") from the folded edge. The top raw edge will be caught in the seam. Attach the female 25mm (1") quick attach buckle (ITW P/N 810-1076) to this webbing with the opening facing up.
7.2.3	Prepare the inside nylon pack cloth pocket by sewing 2 x 25 mm (1") elastics that measure 15 cm (6"), topstitched across the centre onto the pack cloth. The elastic is positioned vertically 1" in from the sides and spaced 1" apart. Bind one end with 25 (1") MIL-PRF 5038J binding tape at ¼" dbl topstitch.
7.2.4	On the wrong side of the front panel, loop 2 sections of 25 mm (1") elastics that measure 18 cm (7"). Stitch the loops down at the bottom edge and 2 ½" up from the bottom leaving the remainder of the loop loose, positioned 1" in from the sides and spaced 1" apart.
7.3	***Assembling Pouch***
7.3.1	Insert a #0 eyelet into the base of the pouch and where indicated on the pattern
7.3.2	On the right side, position 2 sections of 50 mm (2") elastic that measure 7 1/2" and 5 ½" in length. The longer section is placed along the length of the bottom sewn into the seams and the shorter section is placed across the bottom also sewn into the seams.

7.3.3	Sew the slide fastener into the side wall. The slide fastener is a monofilament type coils with the two sliders (with cord pulls) that facing head to head opening in the center. Dbl 5mm (3/16") topstitch along both side of the slide fastener tape.
7.3.4	With right sides together, sew the bottom section to the side walls/ with slide fastener at 9.5mm (3/8") SA. Bind the seam with 25mm (1") MIL-PRF 5038J binding tape at 6mm (¼") dbl topstitch.
7.3.5	With right sides together sew the front and back panels to the side/bottom wall section. Prior to sewing the front panel to the side walls, the prepared nylon pack cloth pocket is sewn into the seam leaving the bound end open.
7.4	***Removable Back Panel***
7.4.1	On the right side of the 500 D Nylon position 2 horizontal rows of 25mm (1") AA-55301 webbing spaced 1" apart with the first row placed 1 ½" down from the top edge.
7.4.2	Place a row of vertical stitching down the centre of the webbing reinforcing across each webbing 3X.
7.4.3	Place a piece of 0.055" HDPE, 4 3/8" wide by 7 5/8" long on the wrong side of the panel and bind with around the edges with 25 (1") MIL-PRF 5038J binding tape at 6mm (¼") dbl topstitch.
7.5	***PALS Attachment Strap***
7.5.1	The strap attachments are formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 1/4") in length. Take a piece of 22mm (7/8") wide 0.015" thick x 14 cm (5 1/2") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 ¼" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge. For strap construction refer to Figures 1 -2.
7.5.2	The folded end of the strap has a piece of loop tape that measures 25mm x 6.4cm (1" x 2 ½ ") sewn to the bottom so that it is stitched to one side and wraps around to the other. Box stitch the loop tape in place at 3mm (1/8") gauge
7.5.3	Topstitch a section of loop tape to cover the plastic sheeting on the other side of this panel. Topstitch along all edges of the hook tape at 3mm (1/8") gauge.
7.5.4	Position the 2 attachment straps ¼" in from the sides with the loose end of the strap lined up with the first row of webbing. Ensure the buckles extend past the top edge. Box stitch in place with 22 mm (7/8") full box stitch.
7.5.5	Form the male side release buckle (ITW P/N 810-1058) with strap by threading a section of 25mm (1") AA-55301 webbing that measures 30.5cm (12") through the buckle and folding in half. Topstitch at 3mm (1/8") gauge along all sides of the strap. Align this strap in between the attachment straps allowing for ¼" spacing in between. Secure in place with a 25mm (1") box stitch.
7.5.6	Sew the corresponding piece of hook fastening tape x 2, measuring 25mm x 64mm (1" x 2 ½") to the bottom edge in line with the fastening straps. Stitch in place with a 19mm (¾") box stitch at the top end of the tape only, leaving

	the rest free to fasten to the straps.
7.5.7	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
7.5.8	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
8.0	**POUCH, MULTI TOOL** **(8465-20-007-7011) (l)**
8.1	***Assemble Pouch***
8.1.1	This pouch consists of two layers of fabric, the 500 D nylon lined with a nylon pack cloth.
8.1.2	Lay the pack cloth on top of the 500 D nylon, wrong sides together. Insert and center a piece of 0.055" HDPE, 1" wide by 2 ½" long between the two layers of fabric, lined-up at the edge of the lid.
8. 1.3	Place a snap button (cap and socket) on the flap section of the pouch, centered and 1 ¼"down from the tip and where indicated on the pattern.
8. 1.4	On the front section of the pouch on the 500 D nylon side, topstitch at 1/8"gauge, a section of 1"A-A 55301 webbing measuring 5" in length, centered and starting from the top edge (and where indicated on the pattern).
8. 1.5	Insert two stud and post portions of the snap on to the webbing placed 7/8"down from the top edge and ¾"apart.
8. 1.6	On the back section of the pouch, to the 500 D nylon side, sew on the PALS attachment strap and corresponding webbing and hook tape.
8.2	***PALS Attachment Strap***
8.2.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 24 cm (9 ½") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 9cm (3 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
8.2.2	The folded end of the strap shall have a piece of loop tape that measures 25mm x 6.4cm (1" x 2 1/2 ") sewn to the bottom so that it is stitched to one side and wraps around to the other with a box stitch.
8.2.3	Stitch to the sides of the back pouch a strip of 25mm (1") AA-55301 webbing measuring 57mm (2 ¼") long to where indicated on the pattern.
8.2.4	Center the attachment strap on the back and line up the edge of the attachment strap to the top edge of the 25mm (1") webbing. Stitch the webbing in place with a 22 mm (7/8") full box stitch.
8.2.5	Sew to the back pouch section, the corresponding piece of 25mm (1") hook fastening tape measuring 2 ½" in length to where indicated on the pattern and in line with the bottom of the fastening strap. Stitch in place with a ¾" box stitch at the top end of the tape only, leaving the rest free to fasten to the strap.
8.2.6	Bind the top edge of the front of the front pouch with 25mm (1") MIL-PRF 5038J binding tape at dbl ¼"topstitch.

8.2.7	Topstitch the front of the pouch to the back section of the pouch.
8.2.8	Bind all edges with 25mm (1") MIL- PRF 5038J binding tape with dbl 6mm (¼") topstitch.
8.2.9	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to the PALS webbing attachment strap such that it is centered.
8.2.10	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
9.0	**POUCH, 200 ROUND C9 AMMO DRUM** **(8465-20-007-7014) (m)**
9.1	***Lid***
9.1.1	Pouch is formed with two layers of the shell fabric. The lid and the body are one piece that is formed when sewing the bottom corner seams together. The pouch front is formed by stitching to the back wall/lid section of the pouch.
9.1.2	Prior to sewing all of the components to the shell of the pouch, line up the two layers of fabric, wrong sides together. Stitch a straight line across the width of the two layers 12.7 cm (5") down from the top edge. This is on the lid section of the pouch and delineates the lid area that the HDPE plastic is inserted into
9.1.3	Place a piece of hook tape measuring 12 cm (4 ¾") wide by 11 cm (4 3/8") long on the right side of the fabric that will be the underside of the lid. Centre the hook tape and line up to top edge of lid section. Topstitch in place through single layer of fabric.
9.1.4	Insert a piece of 0.055" HDPE plastic measuring 12.7 cm (5") wide x 11.5 cm (4 ½") long into this area and centered, underneath the hook tape and lined up along the top edge. Stitch in place through all layers with a cross stitch that is centered over the plastic and hook tape.
9.1.5	To topside of outer lid, place 2 pieces of 25mm x 16.5cm (1" x 6 ½") webbing, 38mm (1 ½") from lid edge, spaced 25mm (1") apart. Place three rows of stitching through all layers vertically over both rows of webbing, centered 38mm (1 ½") apart.
9.1.6	The tab shall be formed with a 25mm x 9 cm (1" x 3 ½") piece of webbing folded in half and placed on the edge of the lid on the outer side of the lid. Stitch to the edge so that the tab is facing down. (The binding tape will be sewn over the edge later)
9.2	***Adding Components to the Front Pouch***
9.2.1	Place a piece of loop tape measuring 4 3/4" wide by 4 3/8" long on the outside of the right side of the fabric that will be the outside of the front pouch. Centre the loop tape and lined up along the edge of front pouch section. Baste to hold in place
9.2.2	Place 2 rows of 25mm x 11.5cm (1" x 4 ½") sections of webbing on either side of the outside of the front panel section of the pouch, spaced 25mm (1") apart and starting at 25mm (1") from the edge. Place two rows of vertical stitching running from tip of 1st webbing to bottom of 2nd webbing spaced 38mm (1 ½") apart to create 2 columns.
9.2.3	Insert a piece of 0.055" HDPE plastic measuring 13.3 cm (5 1/4") wide x 11.5cm (4 ½") long into this area and centered, in line with the hook tape on

	the flap and lined up along the edge. Topstitch the loop tape in place through all layers, making sure the ends of the webbing are underneath the loop tape.
9.2.4	Insert a #0 eyelet (brass with a dull black chemical finish in acc. MIL-F-495) for drainage at the base of the pouch and where indicated on the pattern.
9.3	***Back of Pouch***
9.3.1	Place two rows of 25mm x 16.5cm (1" x 6 1/ 2 ") webbing on the right side of the back section of the pouch where indicated on the pattern and place a vertical row of stitching across the centre of both rows of webbing to create two columns for the attachment straps.
9.4	***PALS Strap Attachments***
9.4.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 34cm (13 ½") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 14cm (5 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
9.4.2	The folded end of the strap shall have a piece of loop tape that measures 25mm x 6.4cm (1" x 2 1/2 ") sewn to the bottom with a box stitch so that it is stitched to one side and wraps around to the other.
9.4.3	There shall be one webbing strap stitched onto the back, placement as indicated on the pattern.
9.4.4	There shall be a corresponding 25mm x 6.4cm (1" x 2 ½") hook tape sewn onto the pouch back. One end is box stitched to the pouch leaving a 38mm (1 ½") section free.
9.4.5	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
9.4.6	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
10.0	**BAG, RADIO, CARRIER** **(8465-20-007-6986) (n)**
10.1	***Back Panel***
10.1.1	With right sides together sew the nylon pack cloth lining to the 500 D nylon back panel at the bottom at 9.5mm (3/8") SA. Flip over and edge stitch at 1.5mm (1/16").
10.1.2	Topstitch the sides and bind the top edge of the back panel with 19mm (3/4") MIL- PRF 5038J binding tape with 3/16" dbl topstitch.
10.1.3	Insert a #0 size grommet centered on the back panel approximately 2 1/2" down from the top bound edge and where indicated on the pattern.
10.1.4	Place 3 sections of 25mm (1") AA-55301 webbing measuring 10 cm (4") horizontally on the right side of the back panel with the first row of webbing positioned 1" down from the top bound edge (and where indicated on the pattern) and the other rows of webbing 1" apart.
10.2	***PALS Attachment Straps***
10.2.1	The strap attachment is formed with a piece of 25mm (1") AA-55301

	webbing measuring 44.5cm (` 1/4") in length. Take a piece of 22mm (7/8") wide, 0.015" thick x 19cm (7 ½") long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 32mm (1 1/4") extends past this formed strap. Secure the strap in place by topstitching along the perimeter of the strap at 3mm (1/8") gauge.
10.2.2	The folded end of the strap has a piece of loop tape that measures 25mm x 6.4cm (1" x 2 ½ ") sewn to the bottom so that it is stitched to one side and wraps around to the other. Box stitch the loop tape in place at 3mm (1/8") gauge.
10.2.3	Box stitch the two attachment straps to the back with the loose ends of the straps aligned with the edge of the first row of horizontal webbing, positioned ¾" in from the sides.
10.2.4	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5
10.3	***Male SR buckle with strap***
10.3.1	To form the strap, take a section of 25mm (1") A -A 55301 webbing and fold in half to form a "V". Take another section of 25mm (1") A- A 55301 webbing and fold one end under ½" and place over "v" fold of the other webbing piece by 1". Full box stitch in place.
10.3.2	Place the ends of the "v" strap under hook fastening tape on the back panel. Sew the corresponding piece of loop fastening tape x 2, measuring 25mm x 64mm (1" x 2 ½") to the bottom (as indicated on the pattern) in line with the fastening straps. Stitch in place with a 19mm (¾") box stitch at the top end of the tape only, leaving the rest free to fasten to the straps.
10.4	***Front Panel***
10.4.1	500 D nylon shell - with right sides together, the bottom to the top sides at 10 mm (3/8") SA.
10.4.2	Nylon Pack cloth lining- with right sides together, the bottom to the top sides at 10 mm (3/8") SA.
10.4.3	With right sides of shell and lining together, sew together at 3/8" SA.
10.4.4	Flip inside out and bind the bottom edge with 19mm ¾" MIL- PRF 5038J binding tape with 5 mm (3/16") dbl topstitch
10.4.5	Clean finish along the open area of the bottom section by enclosing the 3/8" SA and edge stitch at 1 /16" gauge. Edge stitch along the top and sides of the upper side sections at 1/16" gauge.
10.4.6	Topstitch a piece of 25mm (1") loop fastening tape x 10 cm (4") long along the edge aligned with the top of the front panel on the left side.
10.4.7	On the left side of the front, position a piece of 10 cm (4") wide elastic x 15.2 cm (6") long. Fold one end under 6mm (1/4") and topstitch at 6mm (¼") from folded edge to the front lined up with the top edge and ¾" in from the side. Fold the other end of elastic under and on opposite side and topstitch a piece of 25mm (1") hook tape x 10 cm (4") long.
10.4.8	At the bottom of front panel, center a piece of 25mm (1") A-A 55301 webbing x 50mm (2") long, along the bound edge. Fold in the sides ¼" and topstitch in place at 3mm (1/8") gauge.

10.4.9	Thread the "V" strap underneath webbing channel. Thread the webbing through a male SR buckle (ITW P/N 810-1058). Create a tab at end of webbing by folding under twice at 1". Secure tab in place with 25mm (1") bar tack.
10.4.10	Form the cord with female buckle by threading a piece of 2 ½" (1") A-A 55301 webbing through a 25mm (1") (ITW P/N 810-1057). Fold the webbing and lap over in the center ½", bar tack or stitch in place 3X. Thread a piece of 1/8" or 3/16" nylon draw cord through end of webbing thread double cord through grommet on back panel. Tie knot to secure.
10.4.11	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.
11.0	**CARRIER, GRENADE** **(8465-20-007-6999) (o)**
11.1	***Back Panel***
11.1.2	The back panel of this pouch consists of a double layer of 500 D nylon. With wrong sides together, layer the two pieces of the back panel.
11.1.3	On one side of this panel, topstitch a strip of 25mm (1") A-A55301 webbing measuring 19cm (7 ½") and 1 1/ 2"from the top and where indicated on the pattern, to the sides of the panel.
11.1.4	On the other, take a piece of 38mm (1 1/2") AA-55301 webbing, measuring 19 cm (7 1/2") and placed 1 1/2"down from the top (and where indicated on the pattern) to the sides of the panel.
11.2	***PALS Attachment Strap***
11.2.1	The strap attachment is formed with a piece of 25mm (1") AA-55301 webbing measuring 9 ½" in length. Take a piece of 22mm (7/8") wide 0.015" thick x 3 ½" long HDPE plastic sheeting. Wrap the webbing around the plastic strip so that the top end is folded under to clean finish the strap and a piece of webbing measuring 1 1/4" extends past this formed strap. Secure the strap in place with by topstitching along the perimeter of the strap at 1/8" gauge. For strap construction refer to Figures 1 -2.
11.2.2	The folded end of the strap shall have a piece of loop tape that measures 25mm x 6.4cm (1" x 2 1/2 ") sewn to the bottom so that it is stitched to one side and wraps around to the other. Box stitch the loop tape in place at 1/8" gauge.
11.2.3	Position the 4 attachment straps on the back 3 /4"in from the sides and line up the loose end of the attachment strap to the top edge of the 1"webbing. Stitch the webbing in place with a 7/8"full box stitch
11.2.4	Sew to the back pouch section, the corresponding piece of hook fastening tape x 4, measuring 25mm x 64mm (1" x 2 ½") to where indicated on the pattern and in line with the bottom of the fastening straps. Stitch in place with a ¾"box stitch at the top end of the tape only, leaving the rest free to fasten to the straps
11.2.5	All PALS webbings to be reinforced with 2 rows of stitching as per Figure 5

11.3	***Front pouch***
11.3.1	Fold in half the front pouch section. Bind the bottom with 25mm (1") MIL-PRF 5038J binding tape, dbl topstitched at 6mm (¼") gauge.
11.3.2	Take 4 pieces of 38mm (1 ½") AA-55301 webbing measuring 39cm (15 ¼") in length and fold the ends over 32mm (1 ¼"). Topstitch to the ends a piece of 38mm (1 ½") hook fastening tape that measures 70mm (2 ¾) in length positioned 5/8"from the folded edge.
11.3.3	Topstitch to the other end of the webbing on the opposite side, a piece of 38mm (1 ½") loop fastening tape that measures 70mm (2 ¾") aligned with the top edge at 1/8" gauge.
11.3.4	Position the hook tape webbing ends onto the front of the front pouch section, as indicated on the pattern and aligned with the top folded edge of the front pouch. Topstitch onto pouch at 6mm (1/8") gauge. When the front of the pouch assembled onto the back panel they should all be in the centre of each pouch section.
11.3.5	Topstitch the sides of the front panel onto the back panel at the sides so that the front panel is centered on the back panel.
11.3.6	Stitch down the pouch to the back panel to create the 4 pouches as indicated on the pattern. Each pouch should be the same size and the where the vertical lines of stitches to separate the pouches should all be of equal measurement.
11.3.7	Bind edges with 25mm (1") MIL-PRF 5038J binding tape with double 6mm (¼") topstitch.
11.3.8	The length of webbing is threaded through the webbing on the inside of each pouch to create the base of the pouch.
11.3.9	Topstitch the perimeter of the 2" by 7/8" marking label at 3 mm (1/8") gauge to one of the PALS webbing attachment straps such that it is centered.

PALS rows needed on Platform	Length of 1”webbing Required	Dimension of HDPE, Plastic Strip	Finished length of strap	Finished length of webbing including extension
2	23.5 cm (9 1/4”)	7/8” x 3 ½”	8.9 cm (3 ½”)	12.0 cm (4 ¾”)
3	33.7 cm (13 1/4”)	7/8” x 5 ½”	14.0 cm (5 ½”)	17.0 cm (6 3/4”)
4	43.8 cm (17 1/4 ”)	7/8” x 7 ½”	19.0 cm (7 ½”)	22.2 cm (8 ¾”)

Table 9 - PALS Attachment Straps

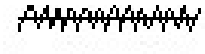
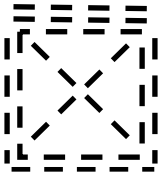
	**Strap with Side Release Buckle** To prevent the buckle from sliding off the webbing strap, the end of the webbing is finished with a tab. To form the tab, turn and turn the end under 13mm (½”). To secure the tab, stitch across the end of the webbing 3 X at 3mm (1/8”) gauge or bar tack, catching all 3 layers of the webbing.
	**Bar Tack** Stitch type 304, 11 stitches per 25mm (28 stitches per 1") long and shall have not less than 20 cover stitches per inch (2.5 cm). A bar tack may also be used to secure end of tab
	**Full Box Stitch (FBS)** Full box stitch is used to sew the side Release buckle straps to the pouch lid and body. Sew the FBS three times across stressed end, twice down both sides, full cross and twice on opposite end.
	Sewing Hook and Loop Tape Fastener Stitched around all edges at 1/8-inch (3 mm) gauge. Care shall be taken to ensure stitching is formed in the hook and loop portion of the tape. When tapes wider than 1-1/4 inches (32 mm) are used, they shall be stitched around all edges and through the center or have an ‘X’ enclosed in the box.

Table 10 - General Sewing Instructions

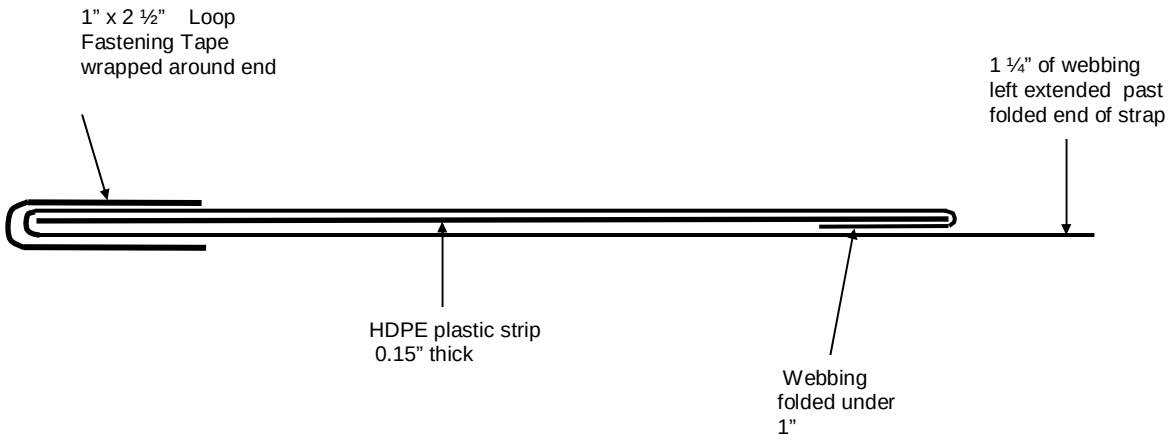


Figure 2 - PALS Webbing Attachment Strap - Cross Section

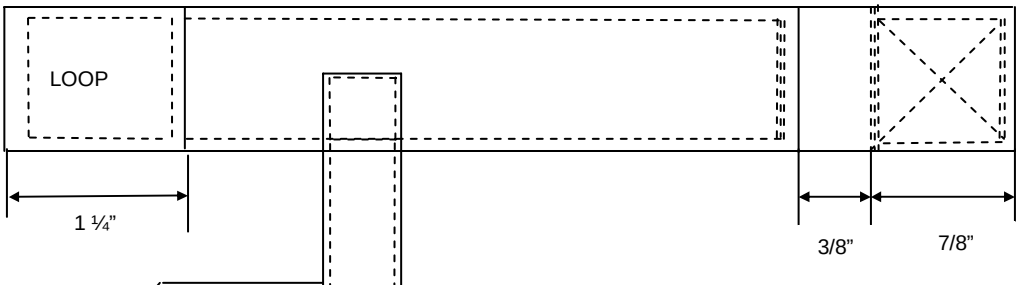
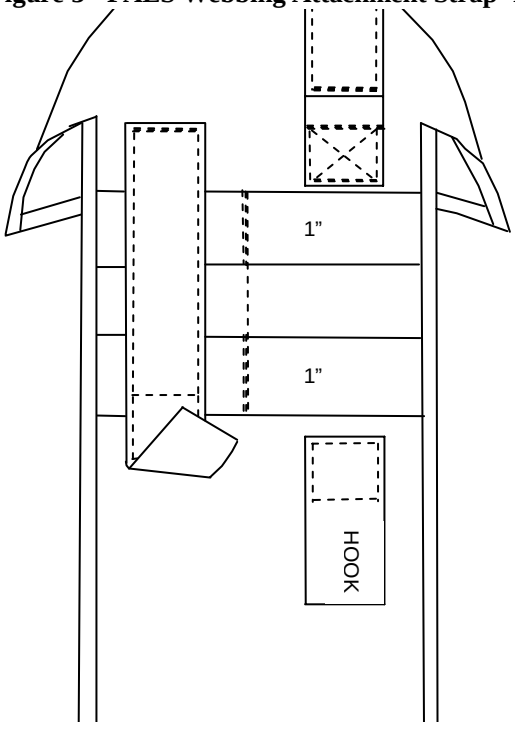


Figure 3 - PALS Webbing Attachment Strap- Face View



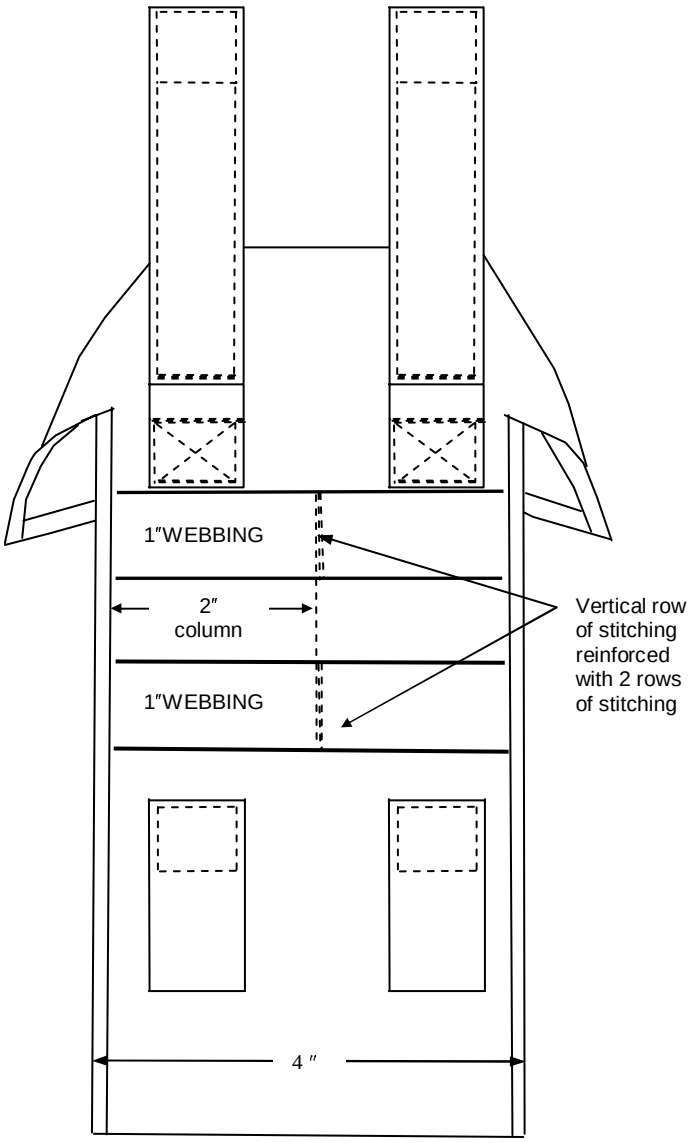


Figure 5 - PALS Webbing Construction on Pouch Back

APPENDIX 2 – DRAWING AND MEASUREMENTS REQUIREMENTS

MODULAR LOAD CARRIAGE SYSTEM POUCHES

INTEGRATED SOLDIER SYSTEM

Appendix 2 - Drawing/Measurement Specifications

This Appendix contains the following drawings:

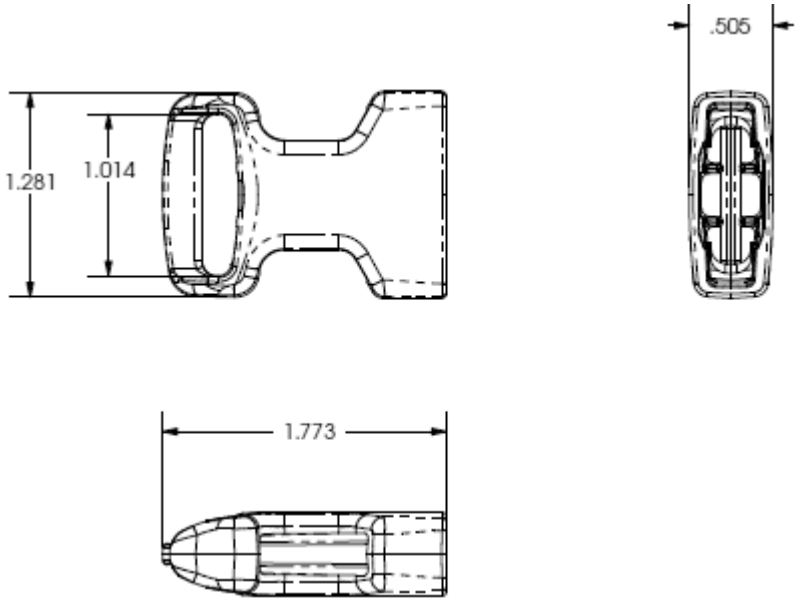
a) ITW P/N 810-1057 - 25 mm (1") Buckle, Side Release, Female, Fixed Loop

b) ITW P/N 810-1076 - 25 mm (1") Buckle, Side Release, Female, Quick Attach

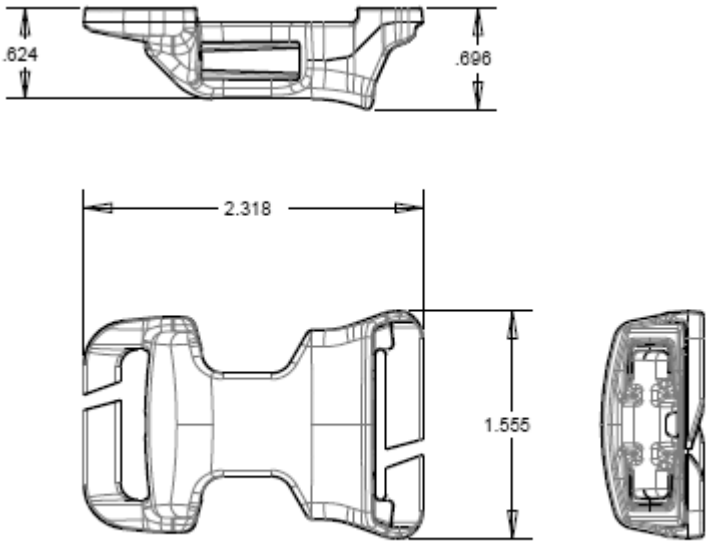
c) ITW P/N 810-1058 - 25 mm (1") Buckle, Side Release, Male, Adjustable

d) ITW P/N 643-1000 – Nylon Slide Fastener Pull

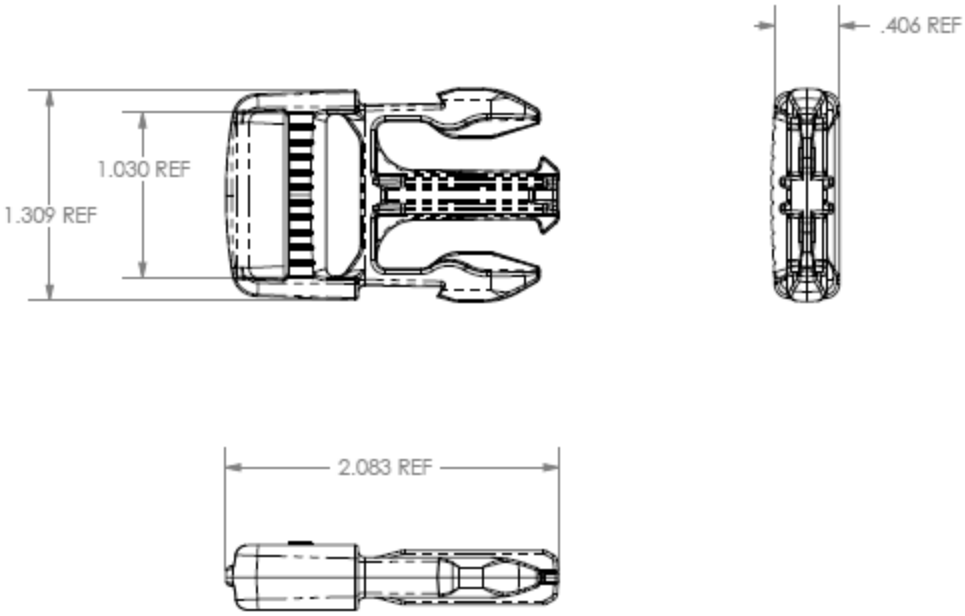
a. ITW P/N 810-1057 - 25 mm (1") Buckle, Side Release, Female, Fixed Loop



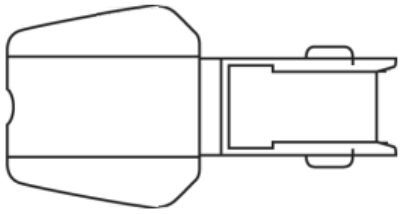
b. ITW P/N 810-1076 - 25 mm (1”) Buckle, Side Release, Female, Quick Attach



c. ITW P/N 810-1058 - 25 mm (1”) Buckle, Side Release, Male, Adjustable



d. ITW P/N 643-1000 – Nylon Slide Fastener Pull



APPENDIX 3 – SHINGLE AMMUNITION MAGAZINE POUCH SPECIFICATION

MODULAR LOAD CARRIAGE SYSTEM POUCHES

INTEGRATED SOLDIER SYSTEM

Appendix 3 – Shingle Ammunition Magazine Pouch Specification

1 Identification

1.1 Scope

This specification covers the requirements and materials to design and manufacture a PALS compatible 90 Round C7 Shingle Ammo Pouch to be mounted on a PALS platform. Conceptual illustrations of a 90 Round C7 Shingle Ammo Pouch that demonstrate what it can look like can be found in Section 4.

Num	NSN	Name	Description
p	8465-20-XXX-XXXX	POCKET,AMMUNITION MAGAZINE	90 Round C7 Shingle Ammo Pouch

2 Applicable Documents

2.1 Government Documents

A list of government specifications and drawings available upon request are listed in para 2.1 – Government Documents of DSSPM 10-4-87-478.

2.2 Other Publications

A list of standards that might be applicable to this specification are listed in para 2.2 – Other Publications of DSSPM 10-4-87-478.

2.3 Sealed Sample

A list of samples that might be applicable to this specification are listed in para 2.3 – Sealed Sample of DSSPM 10-4-87-478. There is no sealed sample of this pouch.

2.4 Government Furnished Equipment (GFE)

The following GFE is for verification of sizing requirements and it is available upon request:

Item	NSN	Item Name	Qty	Description
1	6910-01-560-2411	TRAINING AID,SMALL ARMS WEAPON	3	Dummy 30 Round C7 Blue Resin Magazine

3 Requirements

3.1 General

The 90 Round C7 Shingle Ammo Pouch shall securely hold three 30 round C7 5.56 mm ammunition magazines.

3.1.1 Retention Mechanism

The 90 Round C7 Shingle Ammo Pouch shall have two retention mechanisms to allow silent removal of the magazine: primary and secondary retention mechanism. There shall not be a flap covering the top opening of the 90 Round C7 Shingle Ammo Pouch.

3.1.1.1 Primary Retention Mechanism

The 90 Round C7 Shingle Ammo Pouch shall have an adjustable elastic cord type retention mechanism as a primary means of retaining a C7 magazine in the pouch. The primary retention mechanism shall retain a fully loaded magazine when the pouch is upside down for 10 minutes without the secondary retention mechanism. The primary retention mechanism shall be easily replaceable without any special tools. There shall be a pull tab loop around but not sewn on or attached to the elastic cord. The pull tab shall be made of webbing in accordance with Webbing listed in para 3.2.4. The pull tab shall be operable by the user while wearing in-service temperate combat gloves, Mortar gloves, and CBRN gloves..

3.1.1.2 Secondary Retention Mechanism

The 90 Round C7 Shingle Ammo Pouch shall have molded polymer inserts type retention mechanism as a secondary means of retaining a C7 magazine in the pouch. The secondary retention mechanism shall retain a fully loaded magazine when the pouch is upside down for 10 minutes without the primary retention mechanism. The secondary retention mechanism shall be easily replaceable without any special tools

3.1.2 Accessibility

All C7 magazines shall be accessible by the soldier when the 90 Round C7 Shingle Ammo Pouches are mounted on top or behind of other PALS compatible pouches: This includes inserting a magazine in any of the pouch locations and removing a magazine from any of the pouch locations.

3.1.3 Size & Weight

The 90 Round C7 Shingle Ammo Pouch shall be as slim and light as possible.

3.1.4 PALS

The front and back side of the 90 Round C7 Shingle Ammo Pouch shall be PALS compatible. There shall be PALS grid webbing on the front of the pouch and PALS Attachment straps on the back of the pouch to allow stacking of other PALS compatible pouches on top or behind the 90 Round C7 Shingle Ammo

Pouch security. The PALS Attachment straps on the back of the pouch shall attachable to other PALS platforms. For the dimensions of the strip required for the attachment straps refer to Table 9 - PALS Attachment Straps of Appendix 1 – Assembly Instructions.

The 90 Round C7 Shingle Ammo Pouch shall occupy exactly 6 PALS channels. The footprint of the 90 Round C7 Shingle Ammo Pouch shall be no more than six (6) PALS channels wide. The 90 Round C7 Shingle Ammo Pouch shall not use more than three (3) rows of PALS webbing.

The design and construction of the PALS attachment of the 90 Round C7 Shingle Ammo Pouch shall be identical to other Modular Load Carriage System pouches described in specification DSSPM 10-4-87-478. The 90 Round C7 Shingle Ammo Pouch shall include at least four (4) PALS attachment straps.

The front of the 90 Round C7 Shingle Ammo Pouch shall include three (3) rows of PALS webbing and a total of six (6) PALS channels.

3.2 Materials

This section contains all the mandatory materials required to construct the 90 Round C7 Shingle Ammo Pouch. Unless stated otherwise, all materials used on the 90 Round C7 Shingle Ammo Pouch shall be as per para 3.1 in DSSPM 10-4-87-478.

3.2.1 Shell Fabric

The shell fabric for the 90 Round C7 Shingle Ammo Pouch shall be cloth, nylon/polyurethane coated, 235 g/m² cloth, Type I, CADPAT™ (TW) as per 3.1.1 in DSSPM 10-4-87-478.

3.2.2 Lining Fabric

Lining shall be used on the inside of the 90 Round C7 Shingle Ammo Pouch. The lining shall either be the same as the shell fabric specified in section 3.2.1 or a Type II, cloth, plain weave, nylon, polyurethane coated, 230 g/m², lining material as per para 3.1.2 in DSSPM 10-4-87-478.

3.2.3 Grommet

The 90 Round C7 Shingle Ammo Pouch shall include a grommet at the base of each ammunition pocket for drainage. The grommet shall be as per para 3.1.4 DSSPM 10-4-87-478.

3.2.4 Webbing

The 90 Round C7 Shingle Ammo Pouch shall include 25 mm (1”) webbing in the construction of the attachment straps and PALS grid webbing as per specification DSSPM 10-4-87-478. If 38 mm (1.5”) and 50 mm (2”) webbing are used, they shall conform to specification as per para 3.1.8 in DSSPM 10-4-87-478.

3.2.5 Elastic Cord

The elastic cord used as the primary retention mechanism shall be commercially available elastic in accordance with Table II. The finished ends (minimum of ¾-inch (19.1mm) in length) shall be hot cut to prevent unravelling.

Description	Round elastic looping, polyester covered rubber	
Diameter	3.5 mm	Tolerance: ± 0.2 mm
Cover yarn	600D acetate or polyester	
Sheath	16 carriers	
Core	34's sq. cut rubber, 16 ends	
Picks per centimetre	28.37	
Stretch	190	Tolerance: ± 10%

Table 11 - Technical Requirements for the Elastic Cord

3.2.6 Nylon Binding Tape

If nylon binding tape is used, it shall be 19 mm (¾") or 25 mm (1") with specification as per para 3.1.10 in DSSPM 10-4-87-478.

3.2.7 High Density Polyethylene (HDPE)

A 0.015" thick narrow strip of HDPE (plastic sheeting) shall be used in the fabrication of the PALS attachment straps on all pouches. For the dimensions of the strip required for the attachment straps refer to Table 9 - PALS Attachment Straps of specification DSSPM 10-4-87-478. The polyethylene physical properties shall be in accordance with Table 1 - High Density Polyethylene Physical Properties of para 3.1.11 in DSSPM 10-4-87-478.

3.2.8 Thread

The thread used for the construction of the 90 Round C7 Shingle Ammo Pouch shall be 100% bonded nylon, lubricated, 3-ply, 720 Denier or 70 tex as per para 3.1.16 in DSSPM 10-4-87-478.

3.2.9 Label

A marking label shall be made in accordance with D-80-01-055/SF-001 and positioned as indicated in para 3.5 of DSSPM 10-4-87-478.

3.3 Cutting

The cutting of the materials shall be as per para 3.2 in DSSPM 10-4-87-478.

3.4 Sewing

The sewing of the materials include but not limited to seams, stitches, stitch type, backstitch, stitches appearance, topstitching, seam allowance and reinforcement, shall be as per para 3.3 in DSSPM 10-4-87-478.

3.5 Construction

3.5.1 PALS Assembly Instructions

PALS Assembly instructions are listed in Appendix 1 – Assembly Instructions.

3.6 Visible and Near Infrared Spectral Requirement

Visible and near infrared spectral requirement of the Shell Fabric (para. 3.2.1) shall be as per para 3.6 in DSSPM 10-4-87-478.

3.7 Colour Requirements

The colour of materials and components of the 90 Round C7 Shingle Ammo Pouch, except molded polymer inserts (para 3.1.1.2) and Elastic Cord (para 3.2.5) shall be as indicated in para 3.7 of DSSPM 10-4-87-478.

The colour of Elastic Cord (para 3.2.5) shall be either Canadian Average Green in accordance with D-80-001-500/SF-001 or Black. The preferred colour is Canadian Average Green. The colour shall be a non-reflective and flat finish.

The colour of the molded polymer inserts (para 3.1.1.2) and any materials not listed shall be a good visual match to one of the colours found in the CADPAT TW pattern in accordance with sealed pattern DSSPM 259-01 and to specification D-80-001-500/SF-001. The colour shall be non-reflective and flat finish.

3.8 Safety Requirements

The materials shall meet the safety requirements as per para 3.8 in DSSPM 10-4-87-478.

4 Conceptual Illustrations

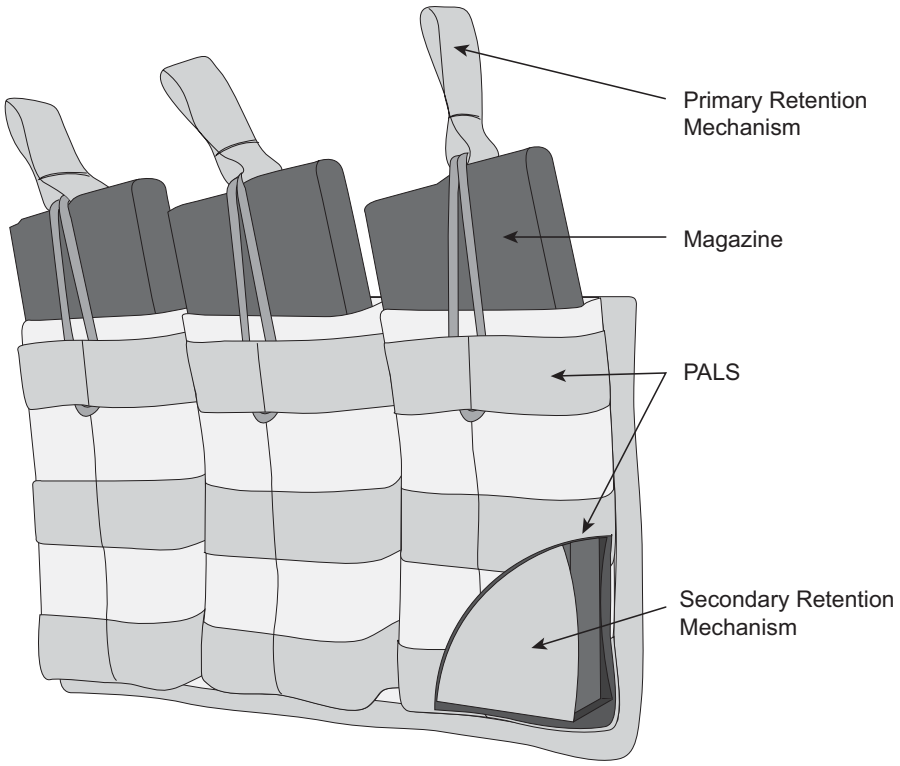


Figure 6 - Front View of a Conceptual 90 Round C7 Shingle Ammo Pouch

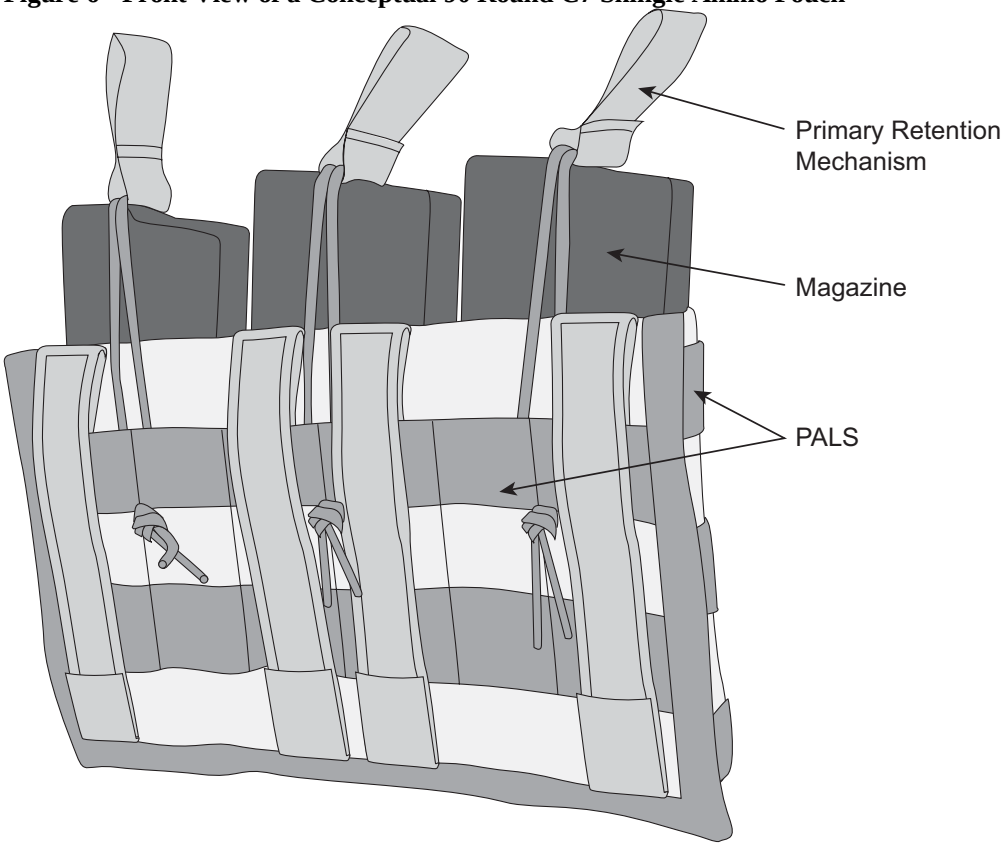


Figure 7 - Back View of a Conceptual 90 Round C7 Shingle Ammo Pouch

APPENDIX 4 – POUCH ATTACHMENT LADDER SYSTEM (PALS) DESCRIPTION

MODULAR LOAD CARRIAGE SYSTEM POUCHES

INTEGRATED SOLDIER SYSTEM

Appendix 4 – Pouch Attachment Ladder System (PALS) Description

1 General

Pouch Attachment Ladder System (PALS) is an attachment system that securely affixes pouches and other accessories to a platform. Such platform can be vests, rigs, packs or another pouch. The secure affixation is achieved by weaving an attachment strap of a pouch through a serial of webbings (PALS Grid) on a platform and on the back of the pouch, to create an interlocking weave. Weave until the pouch is secured along its entire length. Apply the hook and loop fastening tape to secure the end of the attachment strap.

2 Design

2.1 PALS Grid

PALS Grid (Figure 8) comprises of strips of webbing placed perpendicular and evenly spaced apart to create channels. The width and the space between the Platform Webbing shall be 1 inch. The stitching which holds the webbing in place on the mounting surface shall be 1.5 inch apart.

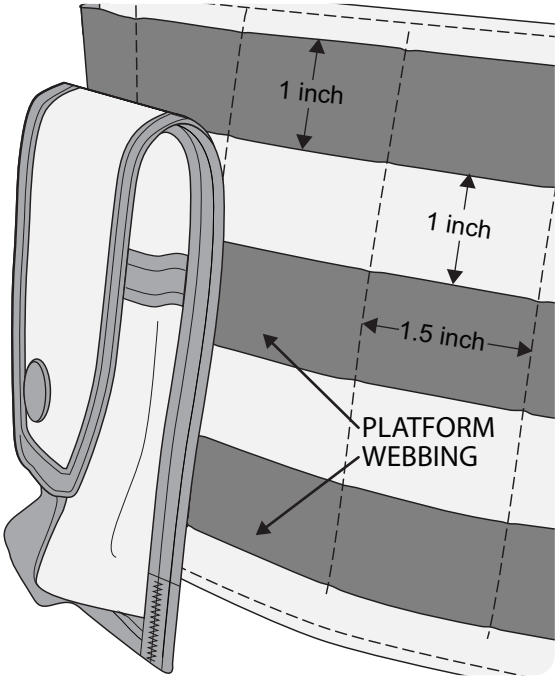


Figure 8 - Pouch Attachment Ladder System Grid

2.2 Pouch Attachment Strap

PALS compatible pouches shall have Pouch Attachment Strap(s) on the back in order to be attached to the Platform Webbing. Pouch Attachment Strap(s) are looped through the Pouch webbing on the back of the pouch is order to mount the pouch securely on the platform. Hook and loop fastener are used to attach the end of the strap(s) to back of the pouch. Figure 9 illustrates the back of a pouch.

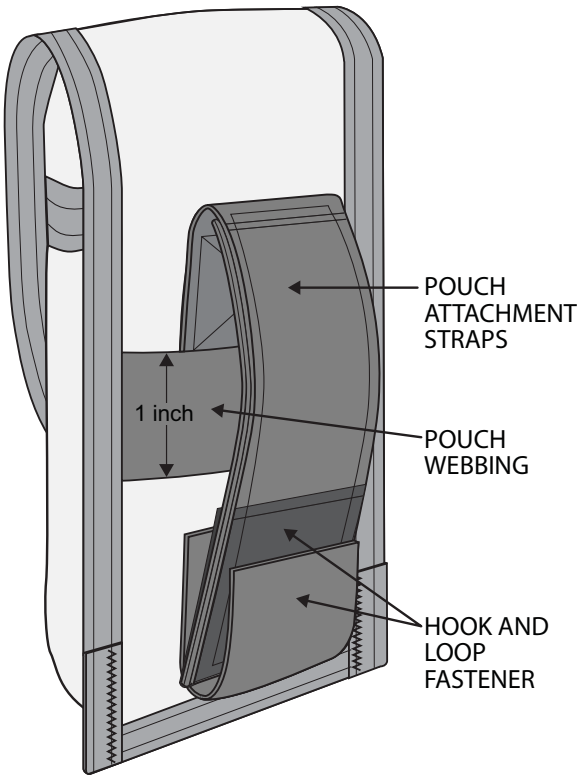


Figure 9 - Back of Pouch

2.3 Mounting

In order to attach a pouch to a platform, the end of the Pouch Attachment Strap is passed in sequence first through the platform webbing then through the pouch webbing and further back through the platform webbing in an interlocking fashion. It enables the pouch to be attached to the platform in a manner which is both easily accomplished and secured. After sequentially interlocking the various webbings, the end of each of the straps is securely fastened to the pouch with hook and loop fastener.

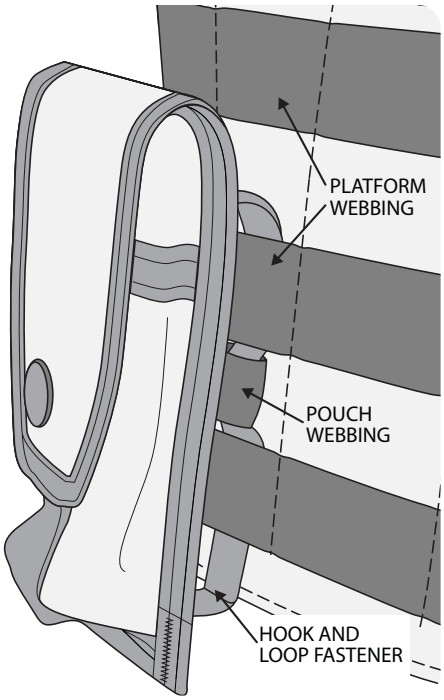


Figure 10 - The Correct Way to Attach

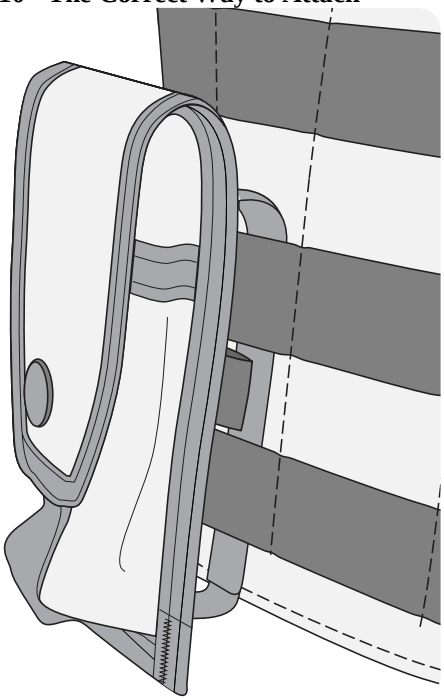


Figure 11 - The Wrong Way to Attach

ANNEX D - BIDDER INSTRUCTIONS

FOR THE ACQUISITION OF

MODULAR LOAD CARRIAGE SYSTEM

COMBAT POUCHES

FOR THE ISS-S

21 December 2016

1. Purpose
   1.1. This document details how the MLCS Combat Pouch Evaluation will be conducted.

2. Applicable Documents
   2.1. Annex A – Statement of Work
   2.2. Annex B - Deliverables
   2.3. Annex C - Specification Modular Load Carriage System Pouches

3. Instruction to Bidders
   3.1. The Bidder must fill-out the “Bidder’s Compliance” and “Bidder’s Response” columns of Table 4 - Managerial Requirements, Table 5 - Safety Requirements, Table 6 - Materials and Table 7 - Colour and Visible Near Infrared Spectral Requirements.

   3.2. For each requirement, the “Bidder’s Compliance” must clearly indicate commitment from the Bidder to meet the requirement. It is strongly suggested that the word “compliant” be used to indicate this.

   3.3. The Bidder must provide a Certificate of Compliance for each item listed in Table 6 - Materials and Table 7 - Colour and Visible Near Infrared Spectral Requirements.

      3.3.1. A Certificate of Compliance (C of C) is a written statement from the supplier guaranteeing the full compliance of the product to the specification, or portion thereof, referenced. This document must be on official company stationary, it must be current, it must make reference to the applicable specification and have the original signature of the company’s designated representative. The Crown reserves the right to verify the statements made in the C of C. Bidders can provide full test results, demonstrating the product’s compliance in lieu of a C of C. In this case, testing is to be performed by an independent accredited laboratory establishment and to be in accordance with the test methods detailed in the Requirement. The laboratory report and test results must be dated within six months of the Request for Proposal posting date

   3.4. For Managerial Evaluation (Annex D, Para 5.1) and Safety Requirements (Annex D, Para 5.2), the “Bidder’s Response” must clearly respond to the instructions found in the “Instructions to Bidder & Evaluation Criteria” column for the requirement. The response may reference specific sections of the Bidder’s submission to amplify the description or analysis and to provide support to the claim of compliance in order to prove compliance.

3.5. For Construction Requirements (Annex D, Para 5.5), the Bidder must provide one pre-award sample per each of the 11 pouches listed in para 3.1 of Annex A - SOW. See Table 1 for reference. Materials can be substituted with compatible equivalent materials if they are not available at the time of bidding. If the colour requirement of a material cannot be met at the time of bidding, equivalent material which may be of a different colour can be used. Any deviation should be listed clearly on a tag attached to the sample.

3.6. Bidder's pre-award samples will not be returned after the evaluation.

Num	NSN	Name	Description	DSSPM Sample ID	Reference
f	8465-20-007-6975	POCKET,AMMUNITION MAGAZINE	60 Round C7 Ammo / DAGR Pouch	DSSPM 415-13	DSSPM 10-4-87-478
g	8465-20-007-6976	POUCH,SMOKE GRENADE/ NIGHT VISION DEVICE	Smoke Grenade / Night Vision Device Pouch	DSSPM 416-13	DSSPM 10-4-87-478
h	8465-20-007-6981	CARRIER,GRENADE	Fragmentation Grenade Pouch	DSSPM 417-13	DSSPM 10-4-87-478
i	8465-20-007-6982	POUCH,UTILITY LARGE FASTEX	Large Utility Pouch	DSSPM 418-13	DSSPM 10-4-87-478
j	8465-20-007-6983	POUCH,UTILITY HYDRATION COVER	Utility Hydration Cover	DSSPM 419-13	DSSPM 10-4-87-478
k	8465-20-007-6984	POUCH,COMBAT FIRST AID MEDIC	Combat First Aid Medic Pouch	DSSPM 420-13	DSSPM 10-4-87-478
l	8465-20-007-7011	POUCH,MULTI TOOL	Multi Tool Pouch	DSSPM 421-13	DSSPM 10-4-87-478
m	8465-20-007-7014	POUCH,200 ROUND C9 AMMO DRUM	200 Round C9 Ammo Pouch	DSSPM 422-13	DSSPM 10-4-87-478
n	8465-20-007-6986	BAG,RADIO,CARRIER	AN/PRC 148/152 Radio Pouch	DSSPM 423-13	DSSPM 10-4-87-478
o	8465-20-007-6999	CARRIER,GRENADE	40mm X 4 M203 Grenade Pouch	DSSPM 424-13	DSSPM 10-4-87-478
p	TBD	POCKET,AMMUNITION MAGAZINE	30 Round C7 Ammo Shingle Pouch	Not Applicable	DSSPM 10-4-87-478

Table 1 - MLCS Combat Pouch Reference

4. Evaluation Methodology

4.1. Evaluation is composed of Bid Submission Requirements and Construction Requirements. All Bid Submission Requirements are mandatory. There are rated and mandatory Construction Requirements. Table 2 lists all evaluations.

Para		
4.1	Managerial Requirements	Mandatory
4.2	Safety Requirements	Mandatory
4.3	Materials Requirements	Mandatory
4.4	Colour and Visible Near Infrared Spectral Requirements	Mandatory
4.5	Constructions Requirements	
4.5.1	Rated Construction Requirements	
4.5.1.1	Build to Print Pouches	Rated
4.5.1.2	Design and Build Pouch	Rated
4.5.2	Mandatory Construction Requirements	
4.5.2.1	Build to Print Pouches	Mandatory
4.5.2.2	Design and Build Pouch	Mandatory

Table 2 - Evaluation Summary

4.2. Mandatory Bid Submission Requirements

4.2.1. Evaluation of Managerial Requirements (Para 5.1), Safety Requirements (Para 5.2), Materials Requirements (Para 5.3) and Colour and Visible Near Infrared Spectral Requirements (Para 5.4) will be based on the Bidder's responses included in the "Bidder's Response" column which should, when requested, include a written description of how the requirement is met.

4.2.2. All requirements are Mandatory. Failure to clearly indicate compliance or to follow the instructions to bidders & evaluation criteria for any requirement may result in a non-compliant bid.

4.3. Rated and Mandatory Construction Requirements

4.3.1. Evaluation of Construction Requirements (Para 5.5) is divided in two parts: rated and mandatory.

4.3.2. For rated requirements, three (3) Build to Print pouch samples and one (1) Design and Build pouch will be evaluated in cutting, sewing and marking label. The three (3) Build to Print pouch samples will be selected by the bid evaluation team and all bidders will be evaluated with the same type of pouches. Each requirement will be scored in a subtracting manner. Points will be deducted for each occurrence up to a maximum number listed. The Bidder must achieve at least 75% (360/480) of the total points of all Build to Print pouches (Para 5.5.1.1) and 75% (360/480) of the Design and Build pouch (Para 5.5.1.2).

4.3.2.1. An occurrence is defined as one continuous application. For example:

4.3.2.1.1. A start to finish of stitch line is considered as one continuous application.

4.3.2.1.2. An automated bar tack process is considered as one continuous application.

4.3.3. For mandatory requirements, each pouch will be evaluated practically with its intended content and PALS functionality.

4.3.4. Table 3 lists the equipment that will be used for evaluation by the bid evaluation team.

4.3.4.1. Failure to meet any Mandatory Construction Requirements may result in a non-compliant bid.

Item	NSN	Qty	Item Name	Description
1	6910-01-560-2411	3	TRAINING AID,SMALL ARMS WEAPON	Dummy 30 Rounds C7 Blue Resin Magazine
2	6910-01-571-4151	1	TRAINING AID,SMALL ARMS WEAPON	Flash Bang Def Tech No. 25
3	Blue Guns Part Code: FSBBG	1	FRAG GRENADE DUMMY	Blue Resin Frag Grenade
4	8465-01-495-6522	1	RESERVOIR,HYDRATION	Camelbak 3L Replacement Reservoir 18"L X 7.37"W
5	5110-01-434-3458	1	KNIFE,POCKET	Gerber Multi Tool
6	1005-21-898-7807	1	BOX ASSEMBLY,FEED	C9 200 Rounds Ammo Feed Box
7	Blue Guns Part Code: FSAB/PRC152	1	MBITR Radio PRC 152 TRG	Blue Resin MBITR Radio PRC 152
8	1310-21-921-0037	4	DUMMY CARTRIDGE, 40 MILLIMETER	Dummy 40mm Bronze Launcher Grenade
9	8465-20-006-7215	1	HARNESS ASSEMBLY,FRONT	MLCS Chest Rig Platform (Front) - Size Medium

10	8465-20-006-7211	1	HARNESS ASSEMBLY,BACK	MLCS Chest Rig Platform (Back)
11	8415-21-921-4297	1	GLOVES, COMBAT, TEMPERATE	CADPAT Leather Combat Gloves
12	8415-20-000-1672	1	GLOVES LIGHTWEIGHT THERMAL/MORTAR	Mortar Gloves
13	8415-21-921-2163	1	GLOVES,NUCLEAR,BIOLOGICAL,AND CHEMICAL CONTAMINANTS PROTECTIVE	CBRN Gloves

Table 3 - Equipment for Evaluation

5. Mandatory Bid Submission Requirements

5.1. Managerial Requirements

The Bidder needs to demonstrate that he/she has a proven experience and capability in managing contracts of comparable value, scope, complexity and expected production schedule as the MLCS Combat Pouches. These requirements form Table 4.

5.1.1. Contract Values

The Bidder must demonstrate the successful management and completion of at least one project of $1 million dollars in value or more during the last eight (8) years. The following project information must be included: Customer name and contact information, project start and finish dates, contracted value. Canada reserves the right to verify the accuracy of the provided information.

5.1.2. Years in Business and Reliability

The Bidder must demonstrate that the company has been in the manufacturing business for at least four (4) consecutive years.

5.1.3. Manufacturing Experience Evaluation

The Bidder must have experience and competence in the manufacturing of personal load carriage equipment. The bidder must demonstrate that it has successfully completed at least one contract producing personal load carriage equipment for military, para-military or first responder clients. Personal load carriage equipment includes but is not limited to back packs, load bearing vests, pouches, bags and belts designed and used to carry loads. The following contract information must be included: Customer name and contact information, contract start and finish dates, contracted value. Canada reserves the right to verify the accuracy of the provided information.

Reference	Requirement Title	Instructions to Bidder & Evaluation Criteria	Bidder's Compliance	Bidder's Response
4.1.1	Contract Values	The Bidder must describe how the requirement is met. The Bidder's proposal will be deemed compliant if the description indicates that the requirement is fulfilled.		
4.1.2	Years in Business and Reliability	The Bidder must describe how the requirement is met. The Bidder's proposal will be deemed compliant if the description indicates that the requirement is fulfilled.		
4.1.3	Manufacturing Experience Evaluation	The Bidder must describe how the requirement is met. The Bidder's proposal will be deemed compliant if the description indicates that the requirement is fulfilled.		

Table 4 - Managerial Requirements

5.2. Safety Requirements

The Bidder must provide an analysis to demonstrate compliance of safety requirements listed in Section 3.8.2 and 3.8.3 of DSSPM 10-4-87-478.

Reference (from DSSPM 10-4-87-478)	Requirement Title	Instructions to Bidder & Evaluation Criteria	Bidder's Compliance	Bidder's Response
3.8.2	The ISS Combat Pouches must not contain any Polychlorinated Biphenyls (PCBs), halocarbons or asbestos.	The Bidder must commit to use materials that meet the requirement found in DSSPM 10-4-87-478. The analysis must be provided by preproduction meeting.		
3.8.3	The Contractor must comply with the Products Containing Mercury Regulations "http://www.ec.gc.ca/lcpe-cepa/eng/regulations/detailreg.cfm?intReg=203" throughout the conduct of the Work and provide evidence of compliance when requested by Canada.	The Bidder must commit to use materials that meet the requirement and all sub-sections of the requirement found in DSSPM 10-4-87-478. The analysis must be provided by preproduction meeting.		

Table 5 - Safety Requirements

5.3. Materials Requirements

Bidders must provide a Certificate of Compliance for each item listed in Table 6 - Materials

Reference	Item	Bidder's Compliance	Bidder's Response
From Annex C - Specification Modular Load Carriage System Pouches			
Para 3.1.1	Shell Fabric		
Para 3.1.2	Lining Fabric		
Para 3.1.3	Hook and Loop Fastening Tape 25mm		
Para 3.1.3	Hook and Loop Fastening Tape 38mm		
Para 3.1.3	Hook and Loop Fastening Tape 50mm		
Para 3.1.3	Hook and Loop Fastening Tape 100mm		
Para 3.1.5	Side Release Adjustable Buckle Assembly - 25mm (1")		
Para 3.1.6	Side Release Buckle Assembly - 25mm (1") Surface Mounted		
Para 3.1.8	Webbing - 25mm (1")		
Para 3.1.8	Webbing - 38mm (1 ½")		
Para 3.1.8	Webbing - 50mm (2")		
Para 3.1.9	Woven Elastic - 25mm (1")		
Para 3.1.9	Woven Elastic - 38mm (1 ½")		
Para 3.1.9	Woven Elastic - 50mm (2")		
Para 3.1.9	Woven Elastic - 100mm (4")		
Para 3.1.10	Nylon Binding Tape - 19mm (¾")		
Para 3.1.10	Nylon Binding Tape - 25mm (1")		
Para 3.1.11	High Density Polyethylene (HDPE) 0.015"		
Para 3.1.11	High Density Polyethylene (HDPE) 0.055"		
Para 3.1.12	Cord, Plaited		
Para 3.1.13	Snap Fastener		
Para 3.1.14	Foam, Polymeric, Closed Cell, Physically Expended (PE/EVA 50kg/m^3)		
Para 3.1.16	Thread		
Para 3.1.17	Label		
Para 3.1.18	Slide Fastener		
From Annex C, Appendix 3 – Shingle Ammunition Magazine Pouch Specification			

Reference	Item	Bidder's Compliance	Bidder's Response
Para 3.2.5	Elastic Cord		

Table 6 - Materials

5.4. Colour and Visible Near Infrared Spectral Requirements

Bidders must provide a Certificate of Compliance for each item listed in Table 7.

Reference	Colour Requirements	Materials	Bidder's Compliance	Bidder's Response
From Annex C - Specification Modular Load Carriage System Pouches				
Para 3.6	Visible and near infrared spectral performance in accordance with D-80-001-500/SF-001	Shell Fabric		
Para 3.7	CADPAT (TW) in accordance with D-80-001-500/SF-001	Shell Fabric		
Table 4	Canadian Average Green in accordance with D-80-001-500/SF-001. Non-reflective and flat finish	Lining Fabric		
		Hook and Loop Fastening Tape 25mm, 38mm, 50mm and 100 mm		
		Side Release Adjustable Buckle Assembly– 25mm (1”)		
		Side Release Buckle Assembly– 25mm (1”) Surface Mounted		
		Webbing- 25mm (1”), 38mm (1 ½”), 50mm (2”)		
		Nylon Binding Tape- 19 mm (¾”), 25mm (1”)		
Table 5	Canadian Average Green in accordance with D-80-001-500/SF-001 or black. Non-reflective and flat finish	Nylon Slide Fastener Pull		
		Woven Elastic- 25mm (1”) 38mm (1 ½”), 50mm (2”), 100mm (4”)		
Table 6	Black. Non-reflective and flat finish	High Density Polyethylene (HDPE) 0.015”, 0.055”		
		Snap fastener		
		Foam, Polymeric, Closed Cell, Physically Expended (PE/EVA 50kg/m3)		
		Machine Embroidery		

Reference	Colour Requirements	Materials	Bidder's Compliance	Bidder's Response
Table 7	Good visual match to CAG in accordance with sealed pattern with DSSPM 281-01 and to specification D-80-001-500/SF-001. Non-reflective and flat finish.	Cord, Plaited		
		Thread		
		Slide Fastener		
Table 8	Good visual match to one of the colours found in the CADPAT TW pattern in accordance with sealed pattern DSSPM 259-01and to specification D-80-001-500/SF-001, but not black. Non-reflective and flat finish.	Label		
(from Annex C , Appendix 3 – Shingle Ammunition Magazine Pouch Specification				
Para 3.7	Canadian Average Green in accordance with D-80-001-500/SF-001 or Black. Non-reflective and flat finish.	Elastic Cord		
Para 3.7	Good visual match to one of the colours found in the CADPAT TW pattern in accordance with sealed pattern DSSPM 259-01and to specification D-80-001-500/SF-001. Non-reflective and flat finish.	Molded Polymer Inserts		

Table 7 - Colour and Visible Near Infrared Spectral Requirements

5.5. Construction Requirement

5.5.1. Rated Construction Requirements

5.5.1.1. Build to Print Pouches

Three (3) Build to Print pouches will be evaluated.

Reference *Annex C*	Build to Print Pouches	Point Deducted Per Non-Compliant Occurrence	Total Possible Points Available	Points Awarded
Para 3.2	Cutting			
	The shell and the lining fabrics shall be cut in the direction of the warp.	20	60	

Reference *Annex C*	Build to Print Pouches	Point Deducted Per Non-Compliant Occurrence	Total Possible Points Available	Points Awarded
	No process where the marking damages the shell fabric is permitted. There shall be no exposed drill holes.	20	60	
		Total	120	
Para 3.3	Sewing			
Para 3.3.2	All stitching shall be stitch Type 301 lockstitch 3-4 stitches/ cm (8-10 stitches/inch).	40	120	
Para 3.3.3	The ends of all lock stitched seams and stitching and breaks in thread shall be securely backstitched.	20	60	
Para 3.3.4	The stitches shall present a regular even appearance without fabric pucker and shall be free from skips that may result from faulty machine thread tension or other stitching malfunctions.	20	60	
Para 3.3.5	When stitching the front to the back panel, reinforce the top corners with a backstitch 2-3 times, 6-8 stitches in length. A 12.5 mm (½") long bar tack may also be used to reinforce the top corners.	20	60	
Para 3.3.6	All thermoplastic materials such as webbing, binding and cord shall be heat cut or fused to prevent fraying.	20	60	
		Total	360	
		Sub Total	480	
		75% Required	360	
			Met / Not met?	

Table 8 - Rated Build to Print Pouches Requirement

5.5.1.2. Design and Build pouch

Reference *Annex C, Appendix 3*	POCKET, AMMUNITION MAGAZINE	Point Deducted Per Non-Compliant Occurrence	Total Possible Points Available	Points Awarded
Para 3.1	General			

Reference *Annex C, Appendix 3*	**POCKET, AMMUNITION MAGAZINE**	**Point Deducted Per Non-Compliant Occurrence**	**Total Possible Points Available**	**Points Awarded**
Para 3.1.1	Retention Mechanism			
Para 3.1.1.1	Primary Retention Mechanism			
	Adjustable	20	20	
	Replaceable without any special tools	20	20	
	Pull tab operable with temperate combat gloves, Mortar gloves, and CBRN gloves	20	20	
Para 3.1.1.2	Secondary Retention Mechanism			
	Replaceable without any special tools	20	20	
Para 3.1.4	PALS			
	Can be mounted on another PALS item securely	20	20	
	Another PALS item can be mounted on top securely	20	20	
	Not use more than 6 PALS channels wide footprint on the platform	20	20	
	Not use more than 3 rows of PALS webbing footprint on the platform	20	20	
	For the back of the pouch: Include at least four (4) PALS attachment straps	20	20	
	For the front of the pouch: Include three (3) rows of PALS webbing and six (6) PALS channels	20	20	
		Total	200	
Para 3.3	Cutting			
	The shell and the lining fabrics shall be cut in the direction of the warp.	20	20	
	No process where the marking damages the shell fabric is permitted. There shall be no exposed drill holes.	20	20	
		Total	40	
Para 3.4	Sewing			
	All stitching shall be stitch Type 301 lockstitch 3-4 stitches/ cm (8-10 stitches/inch).	20	20	
	The ends of all lock stitched seams and stitching and breaks in thread shall be securely backstitched.	20	20	
	The stitches shall present a regular even appearance without fabric pucker and shall be free from skips that may result from faulty machine thread tension or other stitching malfunctions.	20	20	

Reference *Annex C, Appendix 3*	POCKET, AMMUNITION MAGAZINE	Point Deducted Per Non-Compliant Occurrence	Total Possible Points Available	Points Awarded
	When stitching the front to the back panel, reinforce the top corners with a backstitch 2-3 times, 6-8 stitches in length. A 12.5 mm (½") long bar tack may also be used to reinforce the top corners.	20	20	
	All thermoplastic materials such as webbing, binding and cord shall be heat cut or fused to prevent fraying.	20	20	
		Total	100	
		Sub Total	340	
		75% Required	255	
			Met / Not met?	

Table 9 - Rated Design and Build Pouch Requirement

5.5.2. Mandatory Construction Requirements
Each of the following mandatory requirements will be evaluated.

5.5.2.1. Build to Print Pouches
All ten (10) Build to Print Pouches will be evaluated.

NSN	Name	Met/Not met
8465-20-007-6974	POCKET,AMMUNITION MAGAZINE	
	Able to fit and hold 3 X item #1 from Table 3 (30 Rounds Magazine) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
	Another PALS item can be mounted on the pouch security	
8465-20-007-6975	POCKET,AMMUNITION MAGAZINE	
	Able to fit and hold 2 X item #1 from Table 3 (30 Rounds Magazine) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
8465-20-007-6976	POUCH,SMOKE GRENADE/ NIGHT VISION DEVICE	
	Able to fit and hold 1 X item #2 from Table 3 (Flash Grenade) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	

NSN	Name	Met/Not met
8465-20-007-6981	CARRIER,GRENADE	
	Able to fit and hold 1 X item #3 from Table 3 (Frag Grenade) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
8465-20-007-6982	POUCH,UTILITY LARGE FASTEX	
	Able to close and fasten the cover	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
	Another PALS item can be mounted on the pouch security	
8465-20-007-6983	POUCH,UTILITY HYDRATION COVER	
	Able to fit and hold a fully filled item #4 from Table 3 (3L Camelbak) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #10 from Table 3, MLCS Back Chest Rig) securely	
	Another PALS item can be mounted on the pouch security	
8465-20-007-6984	POUCH,COMBAT FIRST AID MEDIC	
	Able to close and fasten the cover	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
8465-20-007-7011	POUCH,MULTI TOOL	
	Able to fit and hold 1 X item #5 from Table 3 (Gerber Multi Tool) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
8465-20-007-7014	POUCH,200 ROUND C9 AMMO DRUM	
	Able to fit and hold 1 X item #6 from Table 3 (200 Rounds Ammo Feed Box) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
	Another PALS item can be mounted on the pouch security	
8465-20-007-6986	BAG,RADIO,CARRIER	
	Able to fit and hold 1 X item #7 from Table 3 (PRC 152 Radio) with the cover closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
8465-20-007-6999	CARRIER,GRENADE	
	Able to fit and hold 4 X item #8 from Table 3 (40mm Grenade with the covers closed and fastened	
	Pouch can be securely mounted on a PALS platform (item #9 from Table 3, MLCS Front Chest Rig) securely	
	Overall	

Table 10 – Mandatory Build to Print Pouches Requirement

5.5.2.2. Design and Build pouch

Reference Annex C, Appendix 3)	POCKET, AMMUNITION MAGAZINE	Met/Not met
Para 3.1	General	
Para 3.1.1	Retention Mechanism	
Para 3.1.1.1	Primary Retention Mechanism	
	Retains 3 X item #1 from Table 3 (30 Rounds Magazine) when the pouch is upside down for 10 mins without the secondary retention mechanism	
Para 3.1.1.2	Secondary Retention Mechanism	
	Retains 3 X item #1 from Table 3 (30 Rounds Magazine) when the pouch is upside down for 10 mins without the primary retention mechanism	
Para 3.1.2	Accessibility	
	Magazines accessible when the pouch mounted to another PALS item	
	Magazines accessible with another PALS item mounted on top	
	Overall	

Table 11 - Mandatory Design and Build Pouch Requirement