INCH-POUNDS

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DETAIL SPECIFICATION

SYSTEM SPECIFICATION
FOR THE
FAMILY OF IMPROVED LOAD BEARING EQUIPMENT

This document is approved for use by all Departments and Agencies of the Department of Defense (DoD)

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Summary of Changes

Paragraph 3.3.9: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.6
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.3 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.7
d. Thread as specified in 3.9.8.1 and 3.9.8.2
e. Hook and loop fastener as specified in 3.9.6
f. Foam as specified in 3.9.2.3
g. Stiffener as specified in 3.9.3.1
h. Ring as specified in 3.9.1.8.1
i. Oval slide as specified in 3.9.1.7.1"

Reasoning: To add the materials used in construction of the sub-belt.

Paragraph 3.3.10.1: Updated the repair parts to include a newly approved manufacturer.

Addition: YKK-USA 0089716 was added as a supplier of barrel locks.

Paragraph 3.3.10.2: Updated the repair parts to include a newly approved manufacturer.

Addition: YKK-USA 0089716 was added as a supplier of barrel locks.

Paragraph 3.7.1: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.1, 3.9.7.2, 3.9.7.6 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.3 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.1, 3.9.1.2.10, 3.9.1.2.16 and 3.9.1.2.22
d. Friction buckles as specified in 3.9.1.9.2
e. Slide fastener as specified in 3.9.9.5, 3.9.9.12 and 3.9.9.14
f. D-ring as specified in 3.9.1.3.2
g. Cord as specified in 3.9.10.3
h. Stiffener as specified in 3.9.3.3
i. Grommet as specified in 3.9.1.6.1
j. Foam as specified in 3.9.2.3 and 3.9.2.8
k. Hook and loop fastener as specified in 3.9.6 and 3.9.6.1
l. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.2: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2, 3.9.7.5 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.10 and 3.9.1.2.16
d. Slide fastener as specified in 3.9.9.13
e. D-ring as specified in 3.9.1.3.2
f. Cord as specified in 3.9.10.3
g. Grommet as specified in 3.9.1.6.1
h. Foam as specified in 3.9.2.2 and 3.9.2.9
i. Hook and loop fastener as specified in 3.9.6 and 3.9.6.1
j. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.3: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.3, 3.9.4.8 and 3.9.4.9
c. Buckles as specified in 3.9.1.2.18, 3.9.1.2.22 and 3.9.1.2.24
d. Slide fastener as specified in 3.9.9.13
e. Ring as specified in 3.9.1.8.2
f. Friction buckle as specified in 3.9.1.9.14
g. Elastic webbing as specified in 3.9.5.7 and 3.9.5.8
h. Cord as specified in 3.9.10.2 and 3.9.10.3
i. Eyelet as specified in 3.9.1.4.2
j. Barrel lock as specified in 3.9.1.1.2
k. Hook and loop fastener as specified in 3.9.6
l. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.4: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
c. Hook and loop fastener as specified in 3.9.6 and 3.9.6.1
d. Slide fastener as specified in 3.9.9.12
e. Stiffener as specified in 3.9.3.1 and 3.9.3.5
f. Snap fastener as specified in 3.9.1.5.1
g. Grommet as specified in 3.9.1.6.1
h. Elastic webbing as specified in 3.9.5.7

i. Cord as specified in 3.9.10.3
j. Foam as specified in 3.9.2.2
k. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.1: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2
b. Webbing as specified in 3.9.4.2
c. Hook and loop fastener as specified in 3.9.6
d. Stiffener as specified in 3.9.3.1
e. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.2: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
c. Hook and loop fastener as specified in 3.9.6
d. Slide fastener as specified in 3.9.9.13
e. Cord as specified in 3.9.10.3
f. Foam as specified in 3.9.2.9
g. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.3: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
c. Hook and loop fastener as specified in 3.9.6
d. Slide fastener as specified in 3.9.9.13
e. Cord as specified in 3.9.10.3
f. Foam as specified in 3.9.2.9
g. Thread as specified in 3.9.8.1 and 3.9.8.2

Paragraph 3.7.5.4: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2
b. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
c. Hook and loop fastener as specified in 3.9.6
d. Slide fastener as specified in 3.9.9.11
e. Cord as specified in 3.9.10.3
f. Foam as specified in 3.9.2.9
g. Snap fastener as specified in 3.9.1.5.1
h. Stiffener as specified in 3.9.3.5
i. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.5: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2
b. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
c. Hook and loop fastener as specified in 3.9.6
d. Slide fastener as specified in 3.9.9.11
e. Cord as specified in 3.9.10.3
f. Foam as specified in 3.9.2.9
g. Snap fastener as specified in 3.9.1.5.1
h. Stiffener as specified in 3.9.3.5
i. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.6: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2
b. Webbing as specified in 3.9.4.1
c. Hook and loop fastener as specified in 3.9.6
d. Buckle as specified in 3.9.1.2.24
e. Cord as specified in 3.9.10.3
f. Foam as specified in 3.9.2.9
g. Stiffener as specified in 3.9.3.1
h. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.7: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Tape as specified in 3.9.4.4, 3.9.4.8 and 3.9.4.9
c. Hook and loop fastener as specified in 3.9.6
d. Barrel lock as specified in 3.9.1.1.2
e. Eyelet as specified in 3.9.1.4.2
f. Cord as specified in 3.9.10.2
g. Stiffener as specified in 3.9.3.1
h. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.8: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Tape as specified in 3.9.4.5, 3.9.4.8 and 3.9.4.9
c. Hook and loop fastener as specified in 3.9.6
d. Barrel lock as specified in 3.9.1.1.2
e. Eyelet as specified in 3.9.1.4.2
f. Cord as specified in 3.9.10.2
g. Stiffener as specified in 3.9.3.1
h. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.7.5.9: Added materials "as specified in"

Addition:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Tape as specified in 3.9.4.8 and 3.9.4.9
c. Hook and loop fastener as specified in 3.9.6
d. Barrel lock as specified in 3.9.1.1.2
e. Eyelet as specified in 3.9.1.4.2
f. Cord as specified in 3.9.10.2
g. Stiffener as specified in 3.9.3.1
h. Thread as specified in 3.9.8.1 and 3.9.8.2

Reasoning: To add the materials used in construction of the Corpsman Assault System (CAS) components.

Paragraph 3.9.1.1.1: Added newly approved supplier

Addition: YKK-USA I/C 0089716.

Paragraph 3.9.1.1.2: Added newly approved supplier

Addition: YKK-USA I/C 0089716.

Paragraph 3.9.1.2.15: Added newly approved supplier

Addition: YKK-USA I/C 0098609

Paragraph 3.9.1.2.16: Added newly approved supplier

Addition: YKK-USA I/C 0098610

Paragraph 3.9.1.2.19: Added newly approved supplier

Addition: YKK-USA I/C 0069506

Paragraph 3.9.1.2.24: Changed section to "Toggle"

Addition: The toggle shall be ITW P/N GT Tactical Toggle 743-0200 or YKK-USA I/C 0090987, or equivalent.

Paragraph 3.9.1.3.1: Added newly approved supplier

Addition: YKK-USA I/C 0008208

Paragraph 3.9.1.9.1: Added newly approved supplier

Addition: YKK-USA I/C 0000836

Paragraph 3.9.1.9.7: Added newly approved supplier

Addition: YKK-USA I/C 0008235

Paragraph 3.9.1.9.11: Added newly approved supplier

Addition: YKK-USA I/C 0000912

Paragraph 3.9.4.7: Removed specification and added in requirements of material

Change: The 0.5-inch webbing shall be a thickness of 0.038 – 0.050 inches, weight per linear yard of 0.25 - 0.4 ounces, minimum breaking strength of 350 pounds and minimum of 48 yarns per inch filling. The webbing shall conform to the spectral reflectance requirements in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored, textured yarns may be used.

Reasoning: The material that is required was not in the previous specification listed.

Paragraph 3.9.5.8: Added in requirement for gripper elastic webbing

Addition: Webbing, elastic, grip. Width – 1.5 (± 0.060) inch, construction – knitted, warp – textured polyester 500d, filler – textured polyester 500d, rubber – natural or equivalent, rubber strands – 23 40g, thickness - 0.070-0.080, pics per inch 30 ±4 . The elastic webbing shall have two rows (4 strands in each row) of rubber elastic woven in.

Reasoning: Gripper elastic webbing is used on the CAS.

Paragraph 3.9.6.1: Added in requirement for hook and loop sheet material

Addition: The heavy duty knit loop fastener shall be Velcro P/N Loop 3001 or equivalent. The width shall be as required on patterns.

Reasoning: Hook and loop sheet material used in CAS.

Paragraph 3.9.7.7: Added in requirement for 70D ripstop

Addition: The cloth shall be 70 denier 1.9 ounce nylon ripstop. Yarns per inch shall be at a minimum of 97 in the fill direction and 105 in the warp direction. The nylon ripstop shall have a minimum spray rating of 100, 100, 100.

Reasoning: 70D ripstop is used on the CAS.

Paragraph 3.12.9.1: Added in materials exempted from spectral reflectance requirements

Addition: Additionally, paragraphs 3.9.6.1 (Fastener, loop, sheet), 3.9.7.5 (Cloth, mesh) and 3.9.7.6 (Cloth, mesh) are exempt from meeting infrared spectral reflectance requirements.

Reasoning: These materials cannot currently meet spectral reflectance requirements. They are used in areas that spectral reflectance issues are not of concern, i.e. on the inside of bags.

Table XIII: End Item Visual Examination

Change: Fixed #'s 225 and 130 which were reversed.

Reasoning: Formatting error.

Table XIV: End Item Dimensional Examination

Change: Removed the word "brass" from Eyelets and Grommets sections.

Reasoning: These components are not required to be brass.

1. SCOPE

1.1 Scope. This detail specification covers the Family of Improved Load Bearing Equipment (FILBE) utilized by the United States Marine Corps (USMC). The load bearing equipment system is designed to allow Marines to carry equipment required in support of combat operations. The system is modular in order to meet the unique needs of the warfighter. The load bearing equipment system shall maximize the ability to carry combat loads efficiently, minimize the burdens of weight, improve overall system compatibility and increase the combat effectiveness of the user.

1.2 Classification. The load bearing equipment shall be of the following classes:

1.2.1 Classes.

Class 1 – Coyote 498
Class 2 – Woodland MARPAT
Class 3 – Desert MARPAT
Class 4 – Snow MARPAT
Class 5 – Operational Camouflage Pattern (OCP)
Class 6 – Tan 499

1.3 FILBE Components. The FILBE shall consist of the following components:

1.3.1 USMC Pack System.

a. Main Pack
   (1) Frame
   (2) Shoulder Harness Assembly
   (3) Hip Belt
   (4) Main Bag
b. Assault Pack
c. Assault Pouch
d. Sustainment Pouch (Qty. 2)
e. Hydration Pouch (Qty. 2)
f. Hydration Carrier
g. Hydration Bladder System
   (1) Hydration Bladder
   (2) Hydration Tube with Cover
   (3) Tube Holder
   (4) Hydration Bite Valve with Cover
h. Sternum Cinch
i. Sub-Belt
j. Repair Kit

1.3.2 USMC Chest Rig.

a. USMC Chest Rig

1.3.3 USMC Equipment Pouches.

a. Illumination Flare Single Pouch
b. Shotgun Ammunition Pouch
c. Utility/Squad Automatic Weapon (SAW) Pouch
d. Smoke Grenade Pouch
e. M67 Grenade Pouch
f. Magazine Dump Pouch
g. 9mm, 15 Round, Magazine Pouch
h. M16/M4 Speed Reload Pouch
i. 40MM Grenade Pouch
j. M16/M4 Double/Single Magazine Pouch

1.3.4 USMC Holster.

a. Holster Body (left or right hand)
b. Leg shroud
c. Low Ride Belt Mount
d. PALS Mount
e. Quick Disconnect Adapters
f. Use and Care Instruction

1.3.5 Corpsman Assault System.

a. Medical Assault Pack
b. Medical Sustainment Bag
c. Modular Medical Pouch
d. Medical Thigh Rig
e. Medical Inserts
    (1) Narc Pouch
    (2) Medium Pouch (Qty. 2)
    (3) Large Pouch (Qty. 2)
    (4) Small Reversible Pouch (Qty. 2)
    (5) Medium Reversible Pouch (Qty. 2)
    (6) Elastic Panel (Qty. 2)
    (7) Double Pocket Panel
    (8) Triple Pocket Panel
    (9) Stacked Pocket Panel

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in Sections 3, 4 or 5 of this specification. This section does not include documents cited in other sections of the

specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in section 3, 4 or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

COMMERCIAL ITEM DESCRIPTIONS

A-A-55126	- Fastener Tapes, Hook and Loop, Synthetic
A-A-55301	- Webbing, Textile, Textured or Multifilament Nylon
A-A-55634	- Zippers (Fasteners, Slide Interlocking)
A-A-59826	- Thread, Nylon

DEPARTMENT OF DEFENSE SPECIFICATIONS

GL/PD 10-07	- Cloth, Duck, Textured Nylon
MIL-B-371	- Braid, Textile, Tubular
MIL-B-543	- Buckles, Tongueless and Web Strap
MIL-C-5040	- Cord, Fibrous, Nylon (Inactive)
MIL-C-8061	- Cloth, Nylon, Raschel Knit
MIL-C-43128	- Cloth, Plain Weave, Nylon: Water Repellant, OG-106
MIL-DTL-10884	- Fasteners, Snap
MIL-DTL-32075	- Label: For Clothing, Equipage, and Tentage, (General Use)
MIL-G-16491	- Grommet Metallic
MIL-PRF-5038	- Tape, Textile and Webbing, Textile, Reinforcing, Nylon
MIL-W-4088	- Webbing, Textile, Woven Nylon
MIL-W-17337	- Webbing, Textile, Woven Nylon

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-130	- Identification Marking of U.S. Military Property
MIL-STD-810G	- Environmental Engineering Considerations and Laboratory Tests

(Copies of these documents are available online at http://quicksearch.dla.mil/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

FEDERAL STANDARDS

FED-STD-191	-Textile Test Methods

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation or contract.

DRAWINGS

General Drawing Numbers:

2-1-2242; 40 MM PYROTECHNIC GRENADE GAUGE
2-1-2243; 40 MM HIGH EXPLOSIVE GRENADE GAUGE
2-6-110; M16 30 ROUND MAGAZINE GAUGE
2-6-111; GRENADE GAUGE ASSEMBLY
2-6-112; GRENADE GAUGE
2-6-113; STEM
2-6-114; LEVER

USMC Pack System Drawing Numbers:

2-6-0805; FRAME, USMC PACK
2-6-0887; HYDRATION POUCH ASSEMBLY, USMC PACK
2-6-0889; ASSAULT POUCH ASSEMBLY, USMC PACK
2-6-0890; HIP BELT ASSEMBLY, USMC PACK
2-6-0891; SUSTAINMENT POUCH ASSEMBLY, USMC PACK
2-6-0892; ASSAULT PACK ASSEMBLY, USMC PACK
2-6-0893; HYDRATION CARRIER ASSEMBLY, USMC PACK
2-6-0894; USMC MAIN PACK ASSEMBLY
2-6-0896; SHOULDER HARNESS ASSEMBLY, USMC PACK
2-6-0897; FRONT POCKET ASSEMBLY, ASSAULT PACK
2-6-0898; SHOULDER HARNESS ASSEMBLY, ASSAULT PACK
2-6-0902; SHOULDER HARNESS POCKET ASSY, ASSAULT PACK
2-6-0903; LID, USMC MAIN PACK ASSEMBLY
2-6-0904; IDENTIFICATION & INSTRUCTION LABEL
2-6-0905; HANDLE ASSEMBLY, ASSAULT PACK
2-6-0906; SHOULDER HARNESS, USMC PACK
2-6-0907; BLADDER, HYDRATION SYSTEM, USMC PACK
2-6-0908; FRONT POCKET, HYDRATION CARRIER, USMC PACK
2-6-0920; PATTERNS, HYDRATION CARRIER
2-6-0921; PATTERNS, HYDRATION POUCH
2-6-0922; PATTERNS, ASSAULT POUCH
2-6-0923; PATTERNS, HIP BELT
2-6-0924; PATTERNS, SUSTAINMENT POUCH
2-6-0925; PATTERNS, MAIN BAG
2-6-0926; PATTERNS, ASSAULT PACK
2-6-0927; PATTERNS, SHOULDER HARNESS
2-6-0964; PATTERNS SUB BELT ASSEMBLY
2-6-0965; SUB BELT ASSEMBLY

USMC Chest Rig Drawing Numbers:

2-3-0632; SINGLE BAR SIDE RELEASE FASTENER, 1 INCH
2-6-0792; ATTACHING STRAP, ASSEMBLY (MARINES)
2-6-0794; HARNESS ASSEMBLY (TAP)
2-6-0798; QUICK ATTACH, BUCKLE 1 INCH
2-6-0799; SINGLE, BAR SIDE RELEASE BUCKLE, 1 INCH
2-6-0801; MARINES, CHEST RIG, ASSEMBLY
2-6-0852; IMTV/PC ATTACHING STRAP, ASSEMBLY
2-6-2340; IDENTIFICATION/INSTRUCTION, LABELS MOLLE II

USMC Equipment Pouches Drawing Numbers:

2-6-0761; GROUND ILLUMINATION FLARE SINGLE POUCH ASSEMBLY
2-6-0762; PATTERNS, ILLUMINATION FLARE SINGLE
2-6-0763; SHOTGUN SHELL AMMUNITION POUCH ASSY, 12 GA., 10 ROUND
2-6-0764; PATTERNS, SHOTGUN AMMUNITION POUCH
2-6-0765; UTILITY/SQUAD AUTOMATIC WEAPON (SAW) AMMO POUCH ASSEMBLY WITH DIVIDER
2-6-0766; PATTERNS, UTILITY/SQUAD AUTOMATIC WEAPON POUCH
2-6-0767; SMOKE GRENADE POUCH ASSEMBLY
2-6-0768; PATTERNS, SMOKE GRENADE FBP POUCH
2-6-0769; M67 GRENADE POUCH ASSEMBLY
2-6-0770; PATTERNS, M67 GRENADE POUCH
2-6-0773; MAGAZINE DUMP POUCH ASSEMBLY
2-6-0774; PATTERNS, MAGAZINE DUMP POUCH
2-6-0775; 9MM, 15 ROUND, MAGAZINE POUCH ASSEMBLY
2-6-0776; PATTERNS, 9MM, 15 ROUNDS, MAGAZINE POUCH
2-6-0777; M16/M4 SPEED RELOAD POUCH ASSEMBLY
2-6-0778; PATTERNS, M16/M4 SPEED RELOAD POUCH
2-6-0779; 40MM GRENADE POUCH ASSEMBLY
2-6-0780; PATTERNS, 40MM GRENADE POUCH
2-6-0781; M16/M4 DOUBLE/SINGLE MAGAZINE POUCH ASSEMBLY
2-6-0782; PATTERNS, M16/M4 DOUBLE/SINGLE MAGAZINE POUCH

Corpsman Assault System Drawing Numbers:

2-6-0930; STACKED POCKET PANEL, CAS
2-6-0931; MEDICAL SUSTAINMENT BAG, CAS
2-6-0932; DOUBLE POCKET PANEL, CAS
2-6-0933; TRIPLE POCKET PANEL, CAS
2-6-0934; NARC POUCH, CAS
2-6-0935; ELASTIC PANEL, CAS
2-6-0936; SMALL REVERSIBLE POUCH, CAS
2-6-0937; MEDIUM REVERSIBLE POUCH, CAS
2-6-0938; MEDIUM POUCH, CAS

2-6-0939; LARGE POUCH, CAS
2-6-0940; MEDICAL ASSAULT PACK, CAS
2-6-0941; SHOULDER HARNESS ASSEMBLY, CAS
Corpsman Assault System Drawing Numbers (continued):
2-6-0942; SHOULDER HARNESS POCKET ASSEMBLY, CAS
2-6-0943; HANDLE ASSEMBLY, CAS
2-6-0944; CORPSMAN ASSAULT SYSTEM
2-6-0945; MEDICAL THIGH RIG. CAS
2-6-0946; BELT, MEDICAL THIGH RIG, CAS
2-6-0947; STRAP, UPRIGHT, MEDICAL THIGH RIG, CAS
2-6-0948; STRAP, MEDICAL, THIGH RIG, CAS
2-6-0949; MODULAR MEDICAL POUCH, CAS
2-6-0950; PATTERNS MEDICAL ASSAULT PACK, CAS
2-6-0951; PATTERNS, MEDICAL SUSTAINMENT BAG, CAS
2-6-0952; PATTERNS, MEDICAL THIGH RIG. CAS
2-6-0953; PATTERNS, MODULAR MEDICAL POUCH, CAS
2-6-0954; PATTERNS, NARC POUCH, CAS
2-6-0955; PATTERNS, MEDIUM POUCH, CAS
2-6-0956; PATTERNS, LARGE POUCH, CAS
2-6-0957; PATTERNS, SMALL REVERSIBLE POUCH, CAS
2-6-0958; PATTERNS, MEDIUM REVERSIBLE POUCH, CAS
2-6-0959; PATTERNS, ELASTIC PANEL, CAS
2-6-0960; PATTERNS, DOUBLE POCKET PANEL, CAS
2-6-0961; PATTERNS, TRIPLE POCKET PANEL, CAS
2-6-0962; PATTERNS, STACKED POCKET PANEL, CAS
2-6-0963; IDENTIFICATION & INSTRUCTION LABEL

(Copies of specifications, standards and drawings required by contractors in connection with specification procurement functions should be obtained from the procuring activity or as directed by the Contracting Officer).

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA INC.

AIA/NAS NASM 16491 - Grommet, Metallic, (General Specification for)
AIA/NAS NASM 20652/1 - Eyelets, Metallic, Rolled Flange Type and Eyelet Washer

(Copies are available online at http://www.aia-aerospace.org or from the Aerospace Industries Association of America Inc., 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928 or from the IHS Standards Store at https://www.ihs.com/industry/standards-and-regulations.html)

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

AATCC Method 8	- Colorfastness to Crocking: AATCC Crockmeter Method
AATCC Method 15	- Colorfastness to Perspiration
AATCC Method 16.2	- Colorfastness to Light: Carbon Arc
AATCC Method 16.3	- Colorfastness to Light: Xenon
AATCC Method 22	- Water Repellency: Spray Test
AATCC Method 61	- Colorfastness to Laundering: Accelerated
AATCC Method 119	- Color Change Due to Flat Abrasion (frosting) Screen Wire Method
AATCC Method 127	- Water Resistance: Hydrostatic Pressure Test
AATCC Procedure 1	- Gray Scale for Color Change
AATCC Procedure 2	- Gray Scale for Staining
AATCC Procedure 8	- AATCC 9-Step Chromatic Transference Scale
AATCC Procedure 9	- Visual Assessment of Color Difference of Textiles

(Copies of are available online at http://www.aatcc.org or from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215)

AMERICAN SOCIETY FOR QUALITY

ANSI/ASQ Z1.4	- Sampling Procedures and Tables for Inspection by Attributes

(Copies are available online at http://www.asq.org or from the American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203)

AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL

ASTM D204	-Standard Test Method for Sewing Threads
ASTM D1777	-Standard Test Method for Thickness of Textile Materials
ASTM D3574	-Standard Test Methods for Flexible Cellular Materials Slab, Bonded, and Molded Urethane Foams
ASTM D3575	-Standard Test Methods for Flexible Cellular Materials Made From Olefin Polymers
ASTM D3775	-Standard Test Method for Warp (End) and Filling (Pick) Count of Woven Fabrics
ASTM D3776	-Standard Test Methods for Mass per Unit Area (Weight) of Fabric
ASTM D5034	-Standard Test method for Breaking Strength and Elongation of Textile Fabrics: Grab Test
ASTM D5035	-Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)

ASTM D6193 -Standard Practice for Stitches and Seams
ASTM D6576 -Standard Specification for Flexible Cellular Rubber Chemically Blown

AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL (continued)

ASTM F1306 -Standard Test Method for Slow Rate Penetration Resistance of Flexible Barrier Films and Laminates

(Copies of documents are available online at http://www.astm.org or from the ASTM INTERNATIONAL, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959)

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO 527-3 - Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets

(Copies of this document are available online at http://www.iso.org or from International Organization for Standardization (ISO) 1, ch. de la Voie-Creuse, Case postale 56 CH 1211 Geneva 20, Switzerland)

REACH Regulation (EC) No. 1907/2006 & limits for Substances for Very High Concern

California Proposition 65: Regulation of substance known to cause cancer, birth defects or other reproductive harm.

UNITED STATES FOOD AND DRUG ADMINISTRATION

US FDA 21 CFR 175.300 - Compliance with FDA for resinous and polymeric coatings
US FDA 21 CFR 177.1020 - Compliance with FDA for ABS
US FDA 21 CFR 177.1210 - Compliance with FDA for polymer closures with sealing gaskets for food containers
US FDA 21 CFR 177.1520 - Compliance with FDA for olefin polymers
US FDA 21 CFR 177.1680 - Compliance with FDA for polyurethane resins
US FDA 21 CFR 177.2470 - Compliance with FDA for polyoxymethylene copolymers – Acetal (Delrin)
US FDA 21 CFR 177.2600 - Compliance with FDA for rubber articles
US FDA 21 CFR 180.22 - Compliance with FDA for acrylonitile copolymers
FD&C Act: 21 U.S.C. 348 - Food Contact Notice

(Copies of US FDA Standards are available online at http://www.fda.gov/ or from the Food and Drug Administration, 10903 New Hampshire Ave., Silver Spring, MD 20993-0002)

EUROPEAN UNION STANDARDS

Regulation EC 1935/2004	- European Community Regulation on materials and articles intended to come into contact with food
Regulation EU 10/2011	- Plastic materials and articles intended to come into contact with food
Directive 2002/72/EC	- Directive related to plastic material and articles intended to come into contact with foodstuffs

(Copies of EU Standards are available online at http://www.cen.eu/cen or from the European Committee for Standardization, CEN-CENELEC Management Centre Avenue, Marnix 17 B-1000 Brussels)

NATIONAL STANDARDS AUTHORITY OF IRELAND

EN 13868:2002	-Test Methods for Kinking of Single Lumen Catheters and Medical Tubing

2.4 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article test and lot acceptance test. Complete FILBE samples, unless otherwise stated, representing full production quality, shall be subjected to First Article Testing (FAT) in accordance with paragraph 4.3 and Quality Conformance Inspection in accordance with paragraph 4.4.

3.2 System requirements.

3.2.1 Fit. FILBE components shall fit the United States Marine Corps 2nd percentile female to 98th percentile male anthropometrics.

3.2.2 Compatibility. FILBE components shall be compatible with currently fielded ballistic protection equipment, individual equipment, uniforms and weapons.

3.2.3 Empty weight. When annotated, the FILBE components shall not exceed the maximum empty weight when tested as specified in paragraph 4.5.3. Empty weight is defined as dry component, free of external equipment while maintaining all functional capability.

3.2.3.1 USMC Pack System. The complete USMC Pack System with all system components shall not exceed 288.0 ounces:

a. Main Bag: The weight of one (1) main bag shall not exceed 80.0 ounces. One (1) main bag included per system.
b. Frame: The weight of one (1) frame shall not exceed 32.0 ounces. One (1) frame included per system.
c. Shoulder Harness: The weight of one (1) shoulder harness shall not exceed 35.0 ounces. One (1) shoulder harness included per system.
d. Hip Belt: The weight of one (1) hip belt shall not exceed 25.0 ounces. One (1) hip belt included per system.
e. Assault Pack: The weight of one (1) assault pack shall not exceed 70.0 ounces. One (1) assault pack per system.
f. Assault Pouch: The weight of one (1) assault pouch shall not exceed 7.0 ounces. One (1) assault pouch included per system.
g. Sustainment Pouch: The weight of one (1) sustainment pouch shall not exceed 7.0 ounces. Two (2) sustainment pouches included per system.
h. Hydration Pouch: The weight of one (1) hydration pouch shall not exceed 6.0 ounces. Two (2) hydration pouches included per system.
i. Hydration Bladder System: The weight of one (1) bladder system shall not exceed 9.0 ounces. One (1) hydration bladder system included per system.
j. Sternum Cinch: The weight of one (1) sternum cinch shall not exceed 4.0 ounces. One (1) sternum cinch included per system.

3.2.3.2 USMC Holster. The complete leg shroud platform with attached holster and quick disconnect adapters shall not exceed 28.0 ounces.

3.2.3.3 Corpsman Assault System. The complete Corpsman Assault System with all system components shall not exceed 192.0 ounces:

a. Medical Assault Pack: The weight of one (1) Medical Assault Pack shall not exceed 65.0 ounces. One (1) medical assault pack included per system.
b. Medical Sustainment Bag: The weight of one (1) Medical Sustainment Bag shall not exceed 34.0 ounces. One (1) medical sustainment bag included per system.
c. Medical Thigh Rig: The weight of one (1) Medical Thigh Rig shall not exceed 12.0 ounces. One (1) medical thigh rig included per system.
d. Modular Medical Pouch: The weight of one (1) Modular Medical Pouch shall not exceed 14.0 ounces. One (1) modular medical pouch included per system.
e. Narc Pouch: The weight of one (1) Narc Pouch shall not exceed 3.0 ounces. One (1) narc pouch included per system.
f. Medium Pouch: The weight of one (1) Medium Pouch shall not exceed 4.0 ounces. Two (2) medium pouches included per system.
g. Large Pouch: The weight of one (1) Large pouch shall not exceed 5.0 ounces. Two (2) large pouches included per system.
h. Small Reversible Pouch: The weight of one (1) small reversible Pouch shall

not exceed 5.0 ounces. Two (2) small reversible pouches included per system.

i. Medium Reversible Pouch: The weight of one (1) medium Reversible Pouch shall not exceed 7.0 ounces. Two (2) medium reversible pouches included per system.
j. Elastic Panel: The weight of one (1) Elastic Panel shall not exceed 3.0 ounces. Two (2) elastic panels included per system.
k. Double Pocket Panel: The weight of one (1) Double Pocket Panel shall not exceed 5.0 ounces. One (1) double pocket panel included per system.
l. Triple Pocket Panel: The weight of one (1) Triple Pocket Panel shall not exceed 6.0 ounces. One (1) triple pocket panel included per system.
m. Stacked Pocket Panel: The weight of one (1) Stacked Pocket panel shall not exceed 5.0 ounces. One (1) stacked pocket panel included per system.

3.2.4 Care and Use Manual/Instruction Card. All Care and Use Manuals/Instruction Cards (PCN 500 110032 00) shall provide the Marine with information necessary for installation, operation, maintenance, and training purposes.

3.2.5 Defects. FILBE Components shall be free of the defects listed in Table XIII.

3.2.6 Dimensions. The FILBE components shall conform to all the dimensions indicated in the drawings listed in paragraph 2.2.2 and Table XIV.

3.2.7 Berry Compliant. All components, materials, and items shall be compliant with the Berry Amendment.

3.3 USMC Pack. See paragraph 1.3.1 for a complete listing of USMC Pack subsystems and components.

3.3.1 Main Pack. The Main Pack of the USMC Pack is composed of one (1) Frame, one (1) Shoulder Harness Assembly, one (1) Hip Belt, and one (1) Main Bag. The sustainment pouches, hydration pouches, and assault pouch are attachable to the Main Pack's Pouch Attachment Ladder System (PALS) webbing. The main pack shall have no ruptured seams, visual damage to frame, fabric, or components when tested as specified in paragraph 4.8.2.

3.3.1.1 Frame. The USMC Pack Frame shall be capable of allowing the main pack to securely mount onto it without the use of tools. The frame shall be made of a lightweight, high strength polymer that is resistant to fracture. When used in conjunction with the hip belt and shoulder harness, the frame shall distribute the load contained in the pack onto the user's hips and shoulders. The frame shall be shaped in order to properly integrate with all fielded body armor systems. The frame shall be in accordance with USMC Pack drawing number 2-6-0805: Frame, USMC Pack. The Main Pack Frame shall be Down East Inc. P/N 1606MC or equivalent. Color shall be Coyote 498.

3.3.1.2 Shoulder Harness Assembly. The Shoulder Harness shall be able to be rigidly mounted onto the Main Pack Frame without the use of tools. The harness shall be able to be moved up or down on the frame in order to accommodate different torso lengths. The harness shall have

adjustable, padded shoulder straps that are used to carry the main pack. Adjustable load lifter straps shall attach the shoulder straps to the top of the harness in order to pull the load carried in closer to the user's body. A sternum strap attaching the two shoulder straps together shall allow the shoulder straps to be properly positioned on the user's body. In the case of an emergency doffing situation, the shoulder straps shall be able to be quickly separated using quick release hardware, allowing the pack to fall off the user. The shoulder harness assembly shall be constructed with the following specified materials.

a. Cloth as specified in 3.9.7.1 and 3.9.7.2
b. Buckles as specified in 3.9.1.2.1, 3.9.1.2.6, 3.9.1.2.8 and 3.9.1.2.9
c. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.5 and 3.9.4.8
d. Oval rings as specified in 3.9.1.8.1
e. Snap fasteners as specified in 3.9.1.5.1
f. Friction buckles as specified in 3.9.1.9.1 and 3.9.1.9.2
g. Stiffeners as specified in 3.9.3.3 and 3.9.3.6
h. Foam as specified in 3.9.2.4 and 3.9.2.8
i. Thread as specified in 3.9.8.1 and 3.9.8.2

The shoulder harness assembly shall be constructed in accordance with USMC Pack drawing numbers 2-6-0896: Shoulder Harness Assembly, USMC Pack; 2-6-0906: Shoulder Harness, USMC Pack; and 2-6-0927: Patterns, Shoulder Harness.

3.3.1.3 Hip Belt. The Hip Belt shall be able to be rigidly mounted onto the Main Pack Frame without the use of tools. The hip belt shall be able to be securely tightened around the user's hips and fastened with a buckle. The hip belt shall tighten with a forward motion. The hip belt shall transfer the majority of the load contained in the pack onto the user's hips, reducing the weight burden on the user's upper body. The hip belt shall be constructed with the following specified materials.

a. Cloth as specified in 3.9.7.1 and 3.9.7.2
b. Buckles as specified in 3.9.1.2.7 and 3.9.1.2.16
c. Webbing and tape as specified in 3.9.4.1, 3.9.4.3, and 3.9.4.8
d. Oval rings as specified in 3.9.1.8.1
e. Friction buckles as specified in 3.9.1.9.4 and 3.9.1.9.6
f. Stiffeners as specified in 3.9.3.3
g. Foam as specified in 3.9.2.5, 3.9.2.6 and 3.9.2.7
h. Thread as specified in 3.9.8.1 and 3.9.8.2

The hip belt shall be constructed in accordance with USMC Pack drawing numbers 2-6-0890: Hip Belt Assembly, USMC Pack and 2-6-0923: Patterns, Hip Belt.

3.3.1.4 Main Bag. The main bag shall consist of two (2) compartments separated by a shelf. The bag shall be able to be converted into one large compartment by opening a slide fastener located on the shelf. The bag shall be able to be closed at the top using cord and a locking hardware device. The bag shall have an extendable collar made of water resistant nylon material that extends approximately twelve inches and is capable of being independently closed. A lid containing a pocket shall cover the top of the main bag. The exterior of the bag

shall have PALS webbing used to mount modular pouches. One (1) large sleeve per each side shall be capable of retaining long items such as mortars or skis. Below each sleeve shall be a stretchable pocket in order to aid in the retention of the long item being carried. The bag shall have a handle on the top to aid in carrying when not worn on the back and two handles on the back to aid in donning. The bag shall have webbing straps attached to the exterior used to compress smaller loads carried. The bag shall be capable of internally carrying a radio. The radio pouch shall be able to accommodate the Single Channel Ground Airborne Radio System (SINCGARS) radio and the Advanced Lightweight SINCGARS Improved Program (ASIP) radio when tested as specified in paragraph The main bag shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2. and 3.9.7.5
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.3, and 3.9.4.8
c. Elastic webbing as specified in 3.9.5.1
d. Buckles as specified in 3.9.1.2.10, 3.9.1.2.16, and 3.9.1.2.23
e. D-rings as specified in 3.9.1.3.2
f. Oval ring as specified in 3.9.1.8.1
g. Slide fasteners as specified in 3.9.9.3, 3.9.9.4, 3.9.9.6, 3.9.9.7, and 3.9.9.8
h. Friction buckles as specified in 3.9.1.9.7
i. Barrel lock as specified in 3.9.1.1.2
j. Cord as specified in 3.9.10.3
k. Grommets as specified in 3.9.1.6.1
l. Thread as specified in 3.9.8.1 and 3.9.8.2
m. Hook and loop fasteners as specified in 3.9.6

The main bag shall be in accordance with USMC Pack drawing numbers 2-6-0894: USMC Main Pack Assembly; 2-6-0903: Lid, USMC Main Pack Assembly; and 2-6-0925: Patterns, Main Bag.

3.3.1.4.1 Volume, Main Bag. The approximate internal volume of the main pack shall be 3400 cubic inches in the main compartment and 1600 cubic inches in the lower compartment.

3.3.2 Assault Pack. The Assault Pack shall consist of one (1) main compartment and a fixed front pocket. The main compartment and the front pocket shall be able to be closed using slide fasteners. Mesh pockets on the inside of the main compartment and front pocket shall keep small items secure. A lightweight, removable plastic stiffener shall give the assault pack rigidity. The edges of the plastic stiffener shall have no sharp edges. The exterior of the assault pack shall have PALS webbing used to mount modular pouches. The assault pack shall have padded shoulder straps and a hip belt that can both be tucked away inside the assault pack when not being used. The assault pack shall be capable of attaching onto the top of the main pack. The assault pack shall have webbing straps attached to the exterior which can be used to compress smaller loads. The assault pack shall be capable of internally carrying a radio. The radio pouch shall be able to accommodate the SINCGARS radio and the ASIP radio when tested as specified paragraph 4.6.5.3. The assault pack shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.1, 3.9.7.2, 3.9.7.5, and 3.9.7.6
b. Webbings and tapes as specified in 3.9.4.1, 3.9.4.2, 3.9.4.3, and 3.9.4.8
c. Buckles as specified in 3.9.1.2.1, 3.9.1.2.10, 3.9.1.2.16, and 3.9.1.2.22
d. Friction buckles as specified in 3.9.1.9.2 and 3.9.1.9.7
e. Slide fasteners as specified in 3.9.9.5 and 3.9.9.7
f. Stiffeners as specified in 3.9.3.3
g. D-ring as specified in 3.9.1.3.2
h. Hook and loop fasteners as specified in 3.9.6
i. Thread as specified in 3.9.8.1 and 3.9.8.2
j. Cord as specified in 3.9.10.3
k. Grommet as specified in 3.9.1.6.1
l. Foam as specified in 3.9.2.3 and 3.9.2.8

The assault pack shall be constructed in accordance with the following USMC Pack drawing numbers:

a. 2-6-0892: Assault Pack Assembly, USMC Pack
b. 2-6-0897: Front Pocket Assembly, Assault Pack
c. 2-6-0898: Shoulder Harness Assembly, Assault Pack
d. 2-6-0902: Shoulder Harness Pocket Assembly, Assault Pack
e. 2-6-0905: Handle Assembly, Assault Pack
f. 2-6-0926: Patterns, Assault Pack

3.3.2.1 Volume, Assault Pack. The Assault Pack shall have an approximate internal volume of 1525 cubic inches in the main compartment and 300 cubic inches in the front pocket.

3.3.3 Assault Pouch. One (1) Assault Pouch shall be included with the USMC Pack. The pouch shall be capable of being mounted onto PALS webbing. The pouch shall have a means to allow water to drain from the bottom. A slide fastener along the top of the pouch shall secure the pouch closed. The assault pouch shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2
b. Webbing and tapes as specified in 3.9.4.1, 3.9.4.8
c. Slide fasteners as specified in 3.9.9.9
d. Cord as specified in 3.9.10.3
e. Grommet as specified in 3.9.1.6.1
f. Snap fastener as specified in 3.9.1.5.1
g. Stiffener as specified in 3.9.3.5
h. Thread as specified 3.9.8.1 and 3.9.8.2

The assault pouch shall be in accordance with USMC Pack drawing numbers 2-6-0889: Assault Pouch Assembly, USMC Pack and 2-6-0922: Patterns, Assault Pouch.

3.3.4 Sustainment Pouch. Two (2) Sustainment Pouches shall be included with the USMC Pack. The pouches shall be able to be mounted to PALS webbing. The pouches shall be able

to be closed using cord and a locking hardware device. A lid capable of being fastened down with a buckle shall cover the top opening of each pouch. Each pouch shall have an extendable collar made of water resistant nylon material that is independently capable of being closed. The pouches shall have a means to allow water to drain from the bottom. Each pouch shall have an approximate internal volume of 500 cubic inches. The sustainment pouch shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2, 3.9.7.3
b. Webbing and tapes as specified in 3.9.4.1 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.10 and 3.9.1.2.16
d. Grommet as specified in 3.9.1.6.1
e. Cord as specified in 3.9.10.3
f. Snap fastener as specified in 3.9.1.5.1
g. Barrel lock as specified in 3.9.1.1.2
h. Stiffener as specified in 3.9.3.5
i. Threat as specified in 3.9.8.1 and 3.9.8.2

The sustainment pouches shall be in accordance with USMC Pack drawing numbers 2-6-0891: Sustainment Pouch Assembly, USMC Pack and 2-6-0924: Patterns, Sustainment Pouch.

3.3.5 Hydration Pouch. Two (2) Hydration Pouches shall be included with the USMC Pack. The Hydration Pouches shall be capable of being mounted onto PALS webbing. Each pouch shall be capable of carrying one (1) full 100 ounce hydration bladder (also known as a reservoir). A hydration pouch lid capable of being fastened down with a buckle shall cover the top opening of each pouch. A loop, located at the top of the inside rear pouch panel, shall allow the bladder to be hooked onto the hydration pouch minimizing bladder movement. The pouch shall have a means to allow water to drain from the bottom. The hydration pouch shall be shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2
b. Webbing and tapes as specified in 3.9.4.1, 3.9.4.5, and 3.9.4.8
c. Buckles as specified in 3.9.1.2.10, 3.9.1.2.16
d. Grommets as specified in 3.9.1.6.1
e. Cord as specified in 3.9.10.3
f. Snap fastener as specified in 3.9.1.5.1
g. Thread as specified in 3.9.81 and 3.9.8.2
h. Stiffener as specified in 3.9.3.5

The hydration pouches shall be in accordance with USMC Pack drawing numbers 2-6-0887: Hydration Pouch Assembly, USMC Pack and 2-6-0921: Patterns, Hydration Pouch.

3.3.6 Hydration Carrier. The Hydration Carrier shall provide a Marine with the capability to drink while road marching with a loaded Main Pack, without the need to stop. The Hydration Carrier shall be capable of being worn with shoulder straps. Two (2) small pockets on the front of the carrier shall allow the user to secure small items. One (1) of the pockets shall be covered with PALS webbing in order to allow attachment of modular pouches and other mission essential items. A lid, secured with two slide fasteners, shall cover the top opening of

the carrier. The second pocket shall be located in the lid and shall be able to accommodate USMC microbiological filters and/or water treatment tablets. The Hydration Carrier shall come with four (4) ITW Grimloc buckles or equivalent (section 3.9.1.2.14). The buckles shall be placed in the front pocket of the Hydration Carrier. The Hydration Carrier shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2, 3.9.7.4, and 3.9.7.5
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.5, 3.9.4.7, 3.9.4.8, 3.9.4.9, and 3.9.4.10
c. Buckles as specified in 3.9.1.2.10, 3.9.1.2.14, 3.9.1.2.16, 3.9.1.2.20, and 3.9.1.2.21
j. Slide Fastener as specified in 3.9.9.1 and 3.9.9.2
k. Thread as specified in 3.9.8.1 and 3.9.8.2
l. Cord as specified in 3.9.10.3
m. Hook and loop fastener as specified in 3.9.6
n. Foam as specified in 3.9.2.9
o. Elastic Webbing as specified in 3.9.5.1 and 3.9.5.5
p. Friction buckles as specified in 3.9.1.9.3, 3.9.1.9.10 and 3.9.1.9.13
q. D-ring as specified in 3.9.1.3.1

The hydration carrier shall be in accordance with USMC Pack drawing numbers 2-6-0893: Hydration Carrier Assembly, USMC Pack; 2-6-0908: Front Pocket, Hydration Carrier, USMC Pack; and 2-6-0920: Patterns, Hydration Carrier.

3.3.7 Hydration Bladder System. The Hydration Bladder System shall fit securely in the Hydration Carrier (see 3.3.6) and shall include a front opening (fill port) to facilitate filling or emptying. The Hydration Bladder System shall include one (1) hydration bladder, one (1) hydration tube with cover, one (1) tube holder and one (1) hydration bite valve with cover. The Hydration System shall provide the Marine with an ability to transfer liquid from a hydration bladder to the Marine's mouth while on-the-move. The system shall self-seal when not activated and be able to be placed in a hands free mode (i.e. "on" position). All connection points on the hydration bladder shall be compatible with USMC microbiological filters and currently fielded hydration tubes. The entire system shall be able to support a static load of 500 pounds without leaking when the bite valve is self-sealed and all other valves are closed while at room temperature (see 3.3.7.4). The hydration bladder shall be in accordance with USMC Pack drawing numbers 2-6-0907: Bladder, Hydration System, USMC Pack. The Hydration Bladder System shall be CamelBak P/N 90817 (Bulk) or CamelBak P/N 90913 (Single), or equivalent.

3.3.7.1 Hydration Bladder. The bladder shall allow filling to full capacity while inserted or while not inserted into the carrier. The hydration bladder shall be able to maintain a sealed system when being removed or inserted into the hydration pouch or hydration carrier. The hydration bladder shall have a handle or grab point that allows for secure handling when opening, filling and closing. The hydration bladder shall meet following requirements.

3.3.7.1.1 Capacity. The bladder shall have a minimum capacity of 100 ounces (± 1.0 ounce).

3.3.7.1.2 Cap/fill port. The cap of the hydration bladder shall tighten securely but be designed so that it cannot be over-tightened. The cap of the bladder shall be able to be opened and closed with one hand while wearing USMC issued Mission Oriented Protective Posture (MOPP) gloves and Flame Resistant (FR) gloves. The cap shall be on a tether attached to a point on the Hydration Bladder System to prevent loss.

3.3.7.1.3 Bladder. The design of the bladder shall allow for a hand (80 millimeters minimum) to fit into the interior of the bladder in order for it to be cleaned. When fully filled with 100 ounces of water, the bladder thickness shall not exceed a total thickness of 3.0 inches.

3.3.7.1.4 Material. The bladder shall be constructed from rugged, puncture resistant film with high tensile strength and burst resistant seams. The hydration bladder film shall accept a shock and deform elastically. The following tests may be performed by the Government in order to determine conformance:

a. The bladder filled to capacity shall be laid flat and compressed at the midline with a 20 square inch round anvil on an Instron test machine with a 1000 pound cell. It shall be set at 500 pounds cyclic compression. Mechanical valves that restrict the flow of water to the bite valve shall be closed during the test. There shall be no damage or leakage after three (3) cycles at a speed of 0.5 inches/minute.

b. The hydration bladder film shall meet a minimum puncture force of 90 N when tested to ASTM F1306 with a stylus of 3.2 millimeters diameter moving at a velocity of 25 millimeters/minute.

c. Permanent deformation under stress shall be less than 25 percent (%) when tested to ISO 527-3 with the following conditions:

$$Test\ Challenge\text{:}\ \frac{L_t}{L_o} = 2.0 \qquad Pass\ Result\text{:}\ \frac{L_f}{L_o} < 1.25$$

L_o = Original Length
L_t = Test length
L_f = Final Length

3.3.7.1.5 Antimicrobial. The bladder and tube shall have an antimicrobial treatment in the bladder material that will continuously inhibit fungus and bacteria from growing on all surfaces. The antimicrobial agent shall not contain Triclosan or other compounds which can degrade to dioxin or other harmful byproducts. The bladder film shall meet with the requirements of water/drink containers and have an independent approval to meet either US FDA requirements for food-grade materials or European equivalents (see 2.3).

3.3.7.1.6 Quick Disconnect. The bladder shall have a female connection point where the tube connects via a male counterpart. The female connection point shall have a release button and an auto shut-off valve that engages when the tube is disconnected. The connection piece shall be

made from food-grade materials. The auto-shutoff mechanism, release button mechanism, and the corresponding mating components of the female connector shall be functionally and dimensionally compliant with CPC P/N 3038100 or equivalent. The opposite portion of the female connector which marries to the bladder may be of a different configuration than on P/N 3038100 to meet the specific requirements of the bladder.

3.3.7.2 Hydration Tube with Cover. The Hydration Tube shall contain one (1) on/off (shut off) switch integrated with a female connection point adjacent to the male hydration bite valve connection point. The male connector shall be functionally and dimensionally compliant with CPC P/N APC22004 or equivalent, manufactured in food-grade materials compliant with U.S. FDA standards (see 2.3). The female connector which marries to the delivery tube shall be functionally and dimensionally compliant with CPC P/N APC170-04 or equivalent. The shut off valve is a single operation type by a lever action.

a. When the male tube connector is detached from the female connection point on the hydration bladder, the female connection point on the hydration bladder shall automatically seal, preventing liquid from leaking from the bladder.

b. When the bite valve is detached from the bite valve female connection point and the shut off valve is in the "off" position, liquid shall not leak out of the bite valve female connection point. Note: if the bite valve is lost or removed, the user shall be able to drink liquid directly from the bite valve female connection point by turning the shut off valve to the "on" position. To stop the flow of liquid, the user shall be able to manually turn the shut off valve to the "off" position.

3.3.7.2.1 Tube Dimensions. The hydration tube length shall be a minimum of 100 centimeters long. The tube shall have an inside diameter of 5.5 millimeters minimum and an outside diameter of 11.0 millimeters maximum.

3.3.7.2.2 Tube Cover. The hydration tube shall be equipped with a Coyote 498 sleeve that protects the tube from both Ultraviolet (UV) exposure and abrasion.

3.3.7.2.3 Kink Distance. The hydration tube including installed sleeve shall meet a maximum kink distance of 7.5 inches (190 mm) when tested to EN 13868 Annex A (short term kink resistance).

3.3.7.2.4 Material. The hydration tube shall be free of hazardous phthalates as specified in the REACH Regulation (EC) No. 1907/2006 & limits for Substances for Very High Concern and California Proposition 65: Regulation of substance known to cause cancer, birth defects or other reproductive harm. The tube shall have fitment retention strength greater than 50 pounds between the tube and fittings tested at room temperature after a 6-hour heat cycle at 65°C and 85 percent (%) humidity. The water contact material of the tube shall meet with the requirements of water/drink containers and have independent approval to meet either US FDA requirements for food-grade materials or European equivalent (see 2.3).

3.3.7.3 Tube Holder. The Hydration Tube shall be equipped with an attaching mechanism that allows the user to attach the Hydration Tube to the body armor or shoulder area when worn. The attaching mechanism shall facilitate hands free drinking when the shut off valve is open. The Tube Holder shall be Camelbak P/N 90840 (Bulk) or Camelbak P/N 90837 (Single) or equivalent.

3.3.7.4 Hydration Bite Valve with Cover. The Hydration Bite Valve component shall be a straight design. The hydration bite valve shall be easy to remove and replace. The hydration bite valve shall be soft in the mouth with a return memory and allow hands free operation. The bite valve shall automatically self-seal when not activated to prevent entry of outside matter and prevent loss of water. The bite valve shall be equipped with a Coyote 498 cover tethered to prevent loss, and the cover shall encompass the entire soft mouth piece and protect it from dirt and debris.

3.3.7.5 Standards. The product shall comply with the following US or internationally recognized equivalent testing standards that govern the safety of plastics and other materials for water/food contact and consumption:

a. US FDA Standards
   (1) US FDA 21 CFR 175.300 - Compliance with FDA for resinous and polymeric coatings
   (2) US FDA 21 CFR 177.1020 - Compliance with FDA for ABS
   (3) US FDA 21 CFR 177.1210 - Compliance with FDA for polymer closures with sealing gaskets for food containers
   (4) US FDA 21 CFR 177.1520 - Compliance with FDA for olefin polymers
   (5) US FDA 21 CFR 177.1680 - Compliance with FDA for polyurethane resins
   (6) US FDA 21 CFR 177.2470 - Compliance with FDA for polyoxymethylene copolymers - Acetal (Delrin)
   (7) US FDA 21 CFR 177.2600 - Compliance with FDA for rubber articles
   (8) US FDA 21 CFR 180.22 - Compliance with FDA for acrylonitile copolymers
   (9) FD&C Act: 21 U.S.C. 348 - Food Contact Notice

b. EU standards
   (1) Regulation EC 1935/2004 - European Community Regulation on materials and articles intended to come into contact with food
   (2) Regulation EU 10/2011 - Plastic materials and articles intended to come into contact with food
   (3) Directive 2002/72/EC - Directive related to plastic material and articles intended to come into contact with foodstuffs

c. Additional relevant standards
   (1) REACH Regulation (EC) No. 1907/2006 & limits for Substances for Very High Concern
   (2) California Proposition 65: Regulation of substance known to cause

cancer, birth defects or other reproductive harm

3.3.8 Sternum Cinch. The Sternum Cinch shall be capable of attaching to all fielded body armor systems. When used properly, the sternum cinch shall prevent the pack's shoulder straps from sliding off the body armor while being worn and mitigate chaffing of the user's arms and under arms. The Sternum Cinch shall be Mystery Ranch P/N A1330 (Mystery Cinch – Coyote 498) or equivalent.

3.3.9 Sub-Belt. Unless otherwise specified, the Sub-Belt shall integrate with all FILBE components without causing interference and allow individual equipment items to be securely attached without the use of tools. The Sub-Belt shall be compatible with the drop down components of the pistol holster. The Sub-Belt shall be padded and contain three (3) rows of PALS webbing for at least 75% percent of the belt length. The Sub-Belt shall have oval rings that allow attachment of either "Y" or "H" styles of suspenders. The Sub-Belt shall be adjustable and secure closed with a side-release buckle. The Sub-Belt shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2 and 3.9.7.6
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.3 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.7
d. Thread as specified in 3.9.8.1 and 3.9.8.2
e. Hook and loop fastener as specified in 3.9.6
f. Foam as specified in 3.9.2.3
g. Stiffener as specified in 3.9.3.1
h. Ring as specified in 3.9.1.8.1
i. Oval slide as specified in 3.9.1.7.1

The Sub-Belt shall be in accordance with USMC Pack drawing numbers 2-6-0964: Patterns Sub Belt Assembly and 2-6-0965: Sub Belt Assembly.

3.3.10 Repair Kits.

3.3.10.1 USMC Pack Buckle Repair Kit, User Level. This repair kit shall facilitate common field repairs that can be accomplished by the individual user without special skills or equipment. One (1) USMC Pack Buckle Repair Kit, User Level shall be furnished with each USMC Pack system. The USMC Pack Buckle Repair Kit, User level (packed in a clear, re-sealable plastic bag) shall be placed inside the main bag lid. The USMC Pack Buckle Repair Kit, User Level shall contain the following items or equivalent:

1)	ITW 350-2000		
	or	Barrel Lock	Qty: 1
	YKK-USA 0089716		
2)	ITW 110-4100	Grimloc	Qty: 1
3)	ITW 100	GTLL Split-bar	Qty: 1
4)	ITW 810-1091		
	or	1" Male Side Release	Qty: 2

	National Molding 9700		
5)	National Molding 9378	1” Female Snap-on Repairable	Qty: 2

3.3.10.2 USMC Pack Buckle Repair Kit, Unit Level. The USMC Pack Buckle Repair Kit, Unit Level shall contain the following items or equivalent:

1)	ITW 350-2000		
	or	Barrel Lock	Qty: 500
	YKK-USA 0089716		
2)	ITW 110-4100	Grimloc	Qty: 1000
3)	ITW 100	GTLL Split-bar	Qty: 500
4)	ITW 09223-27	MQRB Latch	Qty: 250
5)	ITW 150-1150	1.5” TSR	Qty: 500
6)	MIL-DTL-10884H	Snap Fastener Style 2	Qty: 100
7)	MIL-G-16491	Grommet Ty III Cl 3 Sz 0	Qty: 100
8)	Mystery Ranch A1330	Mystery Cinch	Qty: 250
9)	ITW 810-1091		
	or	1” Male Side Release	Qty: 1000
	National Molding 9700		
10)	National Molding 9378	1” Female Snap-on Repairable	Qty: 1000

3.3.10.3 Hip Belt Buckle Repair Kit, Unit Level. The Hip Belt Buckle Repair Kit, Unit Level shall contain the following items or equivalent:

1)	National Molding 10151	2” Tensionlock Split-bar	Qty: 100
2)	National Molding 10140/5431		
	or	2” Single Bar Side Release	Qty: 100
	ITW 810-1077/810-1079		

3.3.11 USMC Pack Instruction Card. The system shall include an Instruction Card that provides the user with information necessary for installation, operation, maintenance, and training purposes (PCN 500 110032 00).

3.3.12 Load weight. The Main Pack and Assault Pack components (see 1.3) of the USMC Pack system shall be capable of carrying a maximum combined load of 120 pounds.

3.4 USMC Chest Rig. The Chest Rig shall provide the user with an alternate method of carrying the basic assault load on a body armor system and shall also be able to be used in a “stand-alone” configuration with a detachable harness. The Chest Rig shall allow Marines to rapidly transition fighting loads between USMC fielded body armor systems. The Chest Rig shall be compatible with the quick release system of USMC fielded body armor systems, eliminating interference with the quick release function.

The chest rig shall be in accordance with the following USMC Chest Rig drawing numbers: 2-3-0632: Single Bar Side Release Fastener, 1 inch; 2-6-0792: Attaching Strap, Assembly

(Marines); 2-6-0794: Harness Assembly (TAP); 2-6-0798: Quick Attach, Buckle, 1 inch; 2-6-0799: Single, Bar Side Release Buckle, 1 inch; 2-6-0801: Marines, Chest Rig, Assembly; 2-6-0852: IMTV/PC Attaching Strap, Assembly and 2-6-2340: Identification/Instruction, Labels MOLLE II.

3.4.1 USMC Chest Rig Capacity. The USMC Chest Rig shall internally accommodate the following basic assault load: six (6) fully loaded M4/M16 magazines, one PRC-148/153, one GPS system (or like size item), and other equipment carried as part of the Marine's Basic Assault Load. One (1) USMC Chest Rig includes the following components: (1) one Marine (USMC) Chest Rig Assembly, (1) one Chest Rig Buckle Kit, and (1) one Tri-Fold Instruction Card.

3.4.2 USMC Chest Rig Kits. The chest rig kits shall facilitate common field procedures that can be accomplished by the individual user without special skills or equipment. One (1) chest rig kit shall be furnished with each chest rig. Chest rig kits are as follows:

3.4.2.1 USMC Chest Rig Buckle Kit. This repair kit shall include the following buckles or equivalent:

ITW 810-1076-5679	1" Ouick Attach Surface Mount	Otv: 6	U/I: Each
ITW 810-1072-5679	1" Single Bar Repairable, Male	Qty: 2	U/I: Each
ITW 810-1082-5679	1" Wavloc Repairable, Female	Qty: 2	U/I: Each
ITW 810-1083-5679	1" Wavloc Repairable, Male	Qty: 2	U/I: Each

3.4.2.2 USMC Chest Rig Repair Kit. This repair kit shall include the following buckles and components. The buckles are stated item or equivalent. The USMC Chest Rig Repair Kit shall be placed in a re-sealable clear plastic bag and includes the following:

Drawing # 2-6-0792	Attaching Strap, Assembly (Marines)	Qty: 4	U/I: Each
Drawing # 2-6-0852	IMTV/PC Attaching Strap, Assembly	Qty: 4	U/I: Each
ITW 810-1076-5679	1" Quick Attach Surface Mount	Qty: 6	U/I: Each
ITW 810-1072-5679	1" Single Bar Repairable, Male	Qty: 2	U/I: Each
ITW 810-1082-5679	1" Wavloc Repairable, Female	Qty: 2	U/I: Each
ITW 810-1083-5679	1" Wavloc Repairable, Male	Qty: 2	U/I: Each

3.5 USMC Equipment Pouches. The USMC Equipment Pouches shall be compatible with the clothing and equipment commonly worn, carried and used by the individual Marine, to include all USMC body armor systems and FILBE components. The pouches shall be compatible with all individual airborne rigging procedures. Each pouch shall fit the intended combat item to be carried by the specified pouch.

3.5.1 Illumination Flare Single Pouch. The Illumination Flare Single Pouch shall be capable of securely holding a single ground illumination flare with a single closure device when tested as specified in paragraph 4.6.5. The Illumination Flare Single Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0761: Ground Illumination Flare Single Pouch Assembly and 2-6-0762: Patterns, Illumination Flare Single.

3.5.2 Shotgun Ammunition Pouch. The Shotgun Ammunition Pouch shall fit a 12-gauge shotgun shell when tested as specified in paragraph 4.6.5. The Shotgun Ammunition Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0763: Shotgun Shell Ammunition Pouch Assy, 12 GA., 10 Round and 2-6-0764: Patterns, Shotgun Ammunition Pouch.

3.5.3 Utility/SAW Pouch. The Utility/SAW Pouch shall fit a 100 round, 5.56mm Linked Ammunition box when tested as specified in paragraph 4.6.5. The Utility/SAW Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0765: Utility/Squad Automatic Weapon (SAW) Ammo Pouch Assembly With Divider and 2-6-0766: Patterns, Utility/Squad Automatic Weapon Pouch.

3.5.4 Smoke Grenade Pouch. The Smoke Grenade Pouch shall fit a smoke grenade and have a single closure device when tested as specified in paragraph 4.6.5. The pouch shall use a single closure device to keep the contents of the pouch secure until such time as the user desires. Neither the spoon nor safety pin shall protrude from the pouch. When not carrying a smoke grenade the pouch shall be able to hold at least one (1) flash bang. When not carrying a smoke grenade, the pouch shall be capable of holding at least one (1) flash bang. The Smoke Grenade Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0767: Smoke Grenade Pouch Assembly and 2-6-0768: Patterns, Smoke Grenade FBP Pouch.

3.5.5 M67 Grenade Pouch. The M67 Grenade Pouch shall fit a single M67 grenade when tested as specified in paragraph 4.6.5. The M67 Grenade Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0769: M67 Grenade Pouch Assembly and 2-6-0770: Patterns, M67 Grenade Pouch.

3.5.6 Magazine Dump Pouch. The Magazine Dump Pouch shall fit eight (8) empty M16/M4 magazines when tested as specified in paragraph 4.6.5. The Magazine Dump Pouch shall have a closure device and shall be adjustable by 2-inches in the vertical direction. The Magazine Dump Pouch shall be compatible with the martial arts belt and PALS webbing. The Magazine Dump Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0773: Magazine Dump Pouch Assembly and 2-6-0774: Patterns, Magazine Dump Pouch.

3.5.7 9mm, 15 Round, Magazine Pouch. The 9mm, 15 Round Magazine Pouch shall be capable of fitting a 9mm, 15 round magazine when tested as specified in paragraph 4.6.5. The 9mm, 15 Round, Magazine Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0775: 9mm, 15 Round, Magazine Pouch Assembly and 2-6-0776: Patterns, 9mm, 15 Round, Magazine Pouch.

3.5.8 M16/M4 Speed Reload Pouch. The M16/M4 Speed Reload Pouch shall allow easy accessibility in order to provide the shooter his first choice for reloading. The magazine shall have adequate retention in the pouch without the use of a closure device and must be able to remain in the pouch without the use of the closure device during normal combat operations. The pouch shall have a single closure device that can be undone with one hand and shall not

interfere with the quick reload capability. The pouch shall allow the magazine to be placed in the pouch with the rounds facing to either the left or right when tested as specified in 4.6.5. The M16/M4 Speed Reload Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0777: M16/M4 Speed Reload Pouch Assembly and 2-6-0778: Patterns, M16/M4 Speed Reload Pouch.

3.5.9 40mm Grenade Pouch. The 40mm Grenade Pouch shall be capable of retaining a 40mm grenade when tested as specified in 4.6.5. The 40mm Grenade Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0779: 40mm Grenade Pouch Assembly and 2-6- 0780: Patterns, 40mm Grenade Pouch.

3.5.10 M16/M4 Double/Single Magazine Pouch. The M16/M4 Double/Single Magazine Pouch shall fit two (2) M16/M4 magazines when tested as specified in paragraph 4.6.5. The M16/M4 Double/Single Magazine Pouch shall be in accordance with USMC Equipment Pouch drawing numbers 2-6-0781: M16/M4 Double/Single Magazine Pouch Assembly and 2-6-0782: Patterns, M16/M4 Double/Single Magazine Pouch.

3.6 USMC Holster System. The USMC Holster System shall provide a Marine with the ability to carry the fielded service pistol within the USMC Holster and to rapidly transition the USMC Holster between the leg, waist, and PALS location during simulated or actual combat operations. The USMC Holster System shall be comprised of one (1) Care and Use Instructions and four (4) pre-assembled components with associated quick disconnect adapters: leg shroud platform; low-ride belt mount platform; PALS mount platform and USMC Holster. The USMC Holster body, leg shroud, belt mount, PALS mount and all quick disconnect adapters shall be constructed of hard sided polymer and/or composite material. The USMC Holster System shall be available in either an ambidextrous or right and left hand configurations. The color of all visible areas of the USMC Holster System (less hardware) shall be Coyote 498 or Tan 499 by visual color matching. The USMC Holster System, to include all components, shall be certified to be operable in all climates from -60°F to 140°F.

3.6.1 USMC Holster System Right Hand Configuration (or ambidextrous equivalent). The USMC Holster System Right Hand Configuration (RHC) shall be Blackhawk P/N M990194CT-R or equivalent. The system shall include the following:

a. USMC Holster (specific variant) with male quick disconnect adapter attached – right handed shooter or ambidextrous equivalent.
b. Leg Shroud with female quick disconnect adapter attached – right handed shooter or ambidextrous equivalent.
c. Low-Ride Belt Mount with female quick disconnect adapter attached.
d. PALS mount with female quick disconnect adapter attached.
e. Care & Use Instructions.

3.6.2 USMC Holster System Left Hand Configuration (or ambidextrous equivalent). The USMC Holster System Left Hand Configuration (LHC) shall be Blackhawk P/N 0990194CT-L or equivalent. The system shall include the following:

a. USMC Holster (specific variant) with male quick disconnect adapter attached - left handed shooter or ambidextrous equivalent.
b. Leg Shroud with female quick disconnect adapter attached – left handed shooter or ambidextrous equivalent.
c. Low-Ride Belt Mount with female quick disconnect adapter attached.
d. PALS mount with female quick disconnect adapter attached.
e. Care & Use Instructions.

3.6.3 USMC Holster System Components. The USMC Holster System shall include the following components: one (1) USMC Holster with one (1) male quick disconnect adapter attached, one (1) single leg shroud platform with one (1) female quick disconnect adapter attached, one (1) single low-ride belt mount platform with one (1) female quick disconnect adapter attached, one (1) PALS mount platform with one (1) female quick disconnect adapter attached and one (1) Care and Use Instructions. The USMC Holster System Components shall be interoperable and compatible with the currently fielded USMC Holster System.

3.6.3.1 USMC Holster. The USMC Holster shall accommodate at least one of the currently issued service pistols as defined in section 3.6.3.1.A – 3.6.3.1.C. The USMC Holster shall be constructed of hard sided polymer and/or composite material. The USMC Holster shall cover the trigger, trigger guard and rear sights. The USMC Holster shall have one (1) passive/friction retention function and one (1) active/mechanical retention system. The USMC Holster shall allow for the safe carriage of the pistol with a round in the chamber and not require or cause the slide to be manipulated. The USMC Holster cant shall be adjustable and capable of being rotated 45% forward or backward on the PALS mount. The USMC Holster shall allow for the establishment of a proper firing grip without the need to re-establish the grip after the pistol is drawn.

a. USMC Holster – M9 and M9A1 without light. The USMC Holster - M9/M9A1 without light variant shall accommodate the M9 and M9A1 Service Pistol without light and be fully interoperable and compatible with the USMC Holster System.

b. USMC Holster - M9A1 with light. The USMC Holster - M9A1 with light variant shall accommodate the M9A1 Service Pistol with light and be fully interoperable and compatible with the USMC Holster System.

c. USMC Holster – M45. The USMC Holster - M45 variant shall accommodate the .45 caliber service pistol and be fully interoperable and compatible with the USMC Holster System.

3.6.3.2 Quick Disconnect Adapters. The Quick Disconnect Adapters shall be constructed of hard sided polymer and/or composite material. They shall allow for rapid transition, without tools, of the USMC Holster to all platforms within the USMC Holster System. They shall be fully operable with USMC MOPP and FR gloved hands.

a. Male Quick Disconnect Adapter. The male quick disconnect adapter shall fit into the Female Quick Disconnect Adapter included in the USMC Holster System. It

shall be able to be assembled to all variants of the USMC Holster without modification to the USMC Holster or any disconnect adapter. The male quick disconnect adapter shall be assembled on the USMC Holster within the USMC Holster System.

b. Female Quick Disconnect Adapter. The female quick disconnect adapters shall be compatible with the Male Quick Disconnect Adapter and be operable with gloved hands. It shall be able to be assembled to all platforms without modification to the disconnect adapter or platform. The female quick disconnect adapter shall be assembled to the respective platform (waist, leg, PALS) within the USMC Holster System. The Female Quick Disconnect Adapter shall be Blackhawk P/N 430952CT or equivalent.

3.6.3.3 Leg Shroud Platform. The Leg Shroud Platform shall allow the Marine to carry the USMC Holster on his thigh during simulated and actual combat operations. The Leg Shroud Platform shall attach to the Marine's belt in at least one (1) position and around the thigh in at least one (1) location in order to provide increased stability without impacting mobility. This platform shall be available in right and left handed configurations if it is not ambidextrous. The shell of the leg shroud shall be constructed of hard sided polymer and/or composite material. One (1) female quick disconnect adapter shall be assembled to the Leg Shroud Platform within the USMC Holster System.

3.6.3.4 Low-Ride Belt Mount Platform. The Low-Ride Belt Mount Platform shall allow the Marine to carry the USMC Holster on the waist belt or sub-belt. The Low-Ride Belt Mount Platform shall allow for attachment of the platform without tools. This platform shall be constructed of hard sided polymer and/or composite material. One (1) female quick disconnect adapter shall be assembled to the Low-Ride Belt Mount Platform within the USMC Holster System.

3.6.3.5 PALS Mount Platform. The PALS Mount Platform shall allow the Marine to carry the USMC Holster on the currently fielded body armor via PALS webbing. This platform shall provide a stable platform for the USMC Holster in order to reduce shifting or snags. This platform shall be constructed of hard sided polymer and/or composite material. One (1) female quick disconnect adapter shall be assembled to the PALS Mount Platform within the USMC Holster System. The PALS Mount Platform shall be Blackhawk P/N 38CL63CT or equivalent.

3.6.3.6 Care and Use Instructions. The Care and Use Instructions shall provide basic guidance of the form, fit and function of the USMC Holster System. One (1) set of instructions shall be included with each USMC Holster System.

3.7 USMC Corpsman Assault System. The complete listing of the USMC Corpsman Assault System (CAS), components and subsystems are specified in 1.3.5. The Corpsman Assault System shall be in accordance with the following Corpsman Assault System drawing numbers 2-6-0944: Corpsman Assault System and 2-6-0963: Identification & Instruction Label.

3.7.1 Medical Assault Pack. The Medical Assault Pack shall consist of one main compartment and a fixed lower pocket. The main compartment and the lower pocket shall be capable of being securely closed using slide fasteners. The Medical Assault Pack shall have a removable plastic frame sheet. The exterior of the Medical Assault Pack shall have PALS webbing used to mount modular pouches. The Medical Assault Pack shall have adjustable, padded shoulder straps and an adjustable webbing hip belt, used to carry the pack. The shoulder straps and hip belt shall be capable of being stowed inside the back panel of the pack when not being used. The Medical Assault Pack shall have webbing straps on the exterior used to compress loads carried. The webbing straps shall allow the Medical Sustainment Pack (see 3.7.2) to attach to the assault pack and allow the assault pack to attach onto the USMC Pack System's Main Pack (see 3.3.1). The Medical Assault Pack's interior shall have loop fastener used to mount Medical Inserts (see 3.7.5). The top of the assault pack shall have a handle to aid in carrying when not worn on the back and two (2) access ports used for routing hydration tubes or similar sized equipment out of the main compartment. A pocket underneath the handle capable of being secured closed using a slide fastener shall allow small mission essential items to be easily accessed. The assault pack shall have a means of allowing water to drain out. The Medical Assault Pack shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.1, 3.9.7.2, 3.9.7.6 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.3 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.1, 3.9.1.2.10, 3.9.1.2.16 and 3.9.1.2.22
d. Friction buckles as specified in 3.9.1.9.2
e. Slide fastener as specified in 3.9.9.5, 3.9.9.12 and 3.9.9.14
f. D-ring as specified in 3.9.1.3.2
g. Cord as specified in 3.9.10.3
h. Stiffener as specified in 3.9.3.3
i. Grommet as specified in 3.9.1.6.1
j. Foam as specified in 3.9.2.3 and 3.9.2.8
k. Hook and loop fastener as specified in 3.9.6 and 3.9.6.1
l. Thread as specified in 3.9.8.1 and 3.9.8.2

The Medical Assault Pack shall be in accordance with Corpsman Assault System drawing numbers: 2-6-0940: Medical Assault Pack, CAS; 2-6-0941: Shoulder Harness Assembly, CAS; 2-6-0942: Shoulder Harness Pocket Assembly, CAS; 2-6-0943: Handle Assembly, CAS; and 2-6-0950: Patterns, Medical Assault Pack, CAS.

3.7.2 Medical Sustainment Bag. The Medical Sustainment Bag shall consist of one main compartment. The main compartment shall be capable of being securely closed using a slide fastener. The Medical Sustainment Bag shall have adjustable shoulder straps used to carry the bag. The shoulder straps shall be capable of being stowed inside the back panel of the bag when not being used. The Medical Sustainment Bag shall have webbing straps on the exterior used to compress loads carried. The webbing straps shall allow the Medical Sustainment Bag to attach to the Medical Assault Pack (see 3.7.1). The sustainment bag interior shall have loop fastener used to mount Medical Inserts (see 3.7.5). The top of the

sustainment bag shall have a handle to aid in carrying when not worn on the back and to allow the bag to be hung open for ease of access. The sustainment bag shall have a means of allowing water to drain out. The Medical Sustainment Bag shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2, 3.9.7.5 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2 and 3.9.4.8
c. Buckles as specified in 3.9.1.2.10 and 3.9.1.2.16
d. Slide fastener as specified in 3.9.9.13
e. D-ring as specified in 3.9.1.3.2
f. Cord as specified in 3.9.10.3
g. Grommet as specified in 3.9.1.6.1
h. Foam as specified in 3.9.2.2 and 3.9.2.9
i. Hook and loop fastener as specified in 3.9.6 and 3.9.6.1
j. Thread as specified in 3.9.8.1 and 3.9.8.2

The Medical Sustainment Bag shall be in accordance with Corpsman Assault System drawing numbers 2-6-0931: Medical Sustainment Bag, CAS and 2-6-0951: Patterns, Medical Sustainment Bag, CAS.

3.7.3 Medical Thigh Rig. The Medical Thigh Rig shall consist of one compartment that is capable of being securely closed using a slide fastener. The Medical Thigh Rig shall have a webbing adjustment strap that allows the user to mount the thigh rig at a desired location on the thigh. The adjustment strap shall attach to user's body armor system, sub-belt or other individual equipment using a hook and loop fastener assembly. The thigh rig shall be capable of being attached/detached from the hook and loop fastener assembly using a side-release buckle. Elastic grip webbing and a side-release buckle shall firmly attach the thigh rig to the user's thigh and prevent the thigh rig from moving. The interior of the thigh rig shall contain various pockets, elastic webbing loops and round cord to securely hold medical supplies. The Medical Thigh Rig shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1, 3.9.4.2, 3.9.4.3, 3.9.4.8 and 3.9.4.9
c. Buckles as specified in 3.9.1.2.18, 3.9.1.2.22 and 3.9.1.2.24
d. Slide fastener as specified in 3.9.9.13
e. Ring as specified in 3.9.1.8.2
f. Friction buckle as specified in 3.9.1.9.14
g. Elastic webbing as specified in 3.9.5.7 and 3.9.5.8
h. Cord as specified in 3.9.10.2 and 3.9.10.3
i. Eyelet as specified in 3.9.1.4.2
j. Barrel lock as specified in 3.9.1.1.2
k. Hook and loop fastener as specified in 3.9.6
l. Thread as specified in 3.9.8.1 and 3.9.8.2

The Medical Thigh Rig shall be in accordance with the following Corpsman Assault System

drawing numbers: 2-6-0945: Medical Thigh Rig, CAS; 2-6-0946: Belt, Medical Thigh Rig, CAS; 2-6-0947: Strap, Upright, Medical Thigh Rig, CAS; 2-6-0948: Strap, Medical Thigh Rig, CAS; 2-6-0952: Patterns, Medical Thigh Rig, CAS.

3.7.4 Modular Medical Pouch. The Modular Medical Pouch shall consist of one compartment that is capable of being securely closed using two slide fasteners. The pouch shall be capable of being mounted onto PALS webbing. The interior of the pouch shall have loop fastener used to mount Medical Inserts (see 3.7.5). The Modular Medical Pouch shall have a means of allowing water to drain out. The Modular Medical Pouch shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2 and 3.9.7.7
b. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
c. Hook and loop fastener as specified in 3.9.6 and 3.9.6.1
d. Slide fastener as specified in 3.9.9.12
e. Stiffener as specified in 3.9.3.1 and 3.9.3.5
f. Snap fastener as specified in 3.9.1.5.1
g. Grommet as specified in 3.9.1.6.1
h. Elastic webbing as specified in 3.9.5.7
i. Cord as specified in 3.9.10.3
j. Foam as specified in 3.9.2.2
k. Thread as specified in 3.9.8.1 and 3.9.8.2

The Modular Medical Pouch shall be in accordance with Corpsman Assault System drawing numbers 2-6-0949: Modular Medical Pouch, CAS and 2-6-0953: Patterns, Modular Medical Pouch, CAS.

3.7.5 Medical Inserts.

3.7.5.1 Narc Pouch. The Narc Pouch shall consist of a single pocket used to hold a hard-sided plastic case. The pocket shall secure the plastic case using a webbing strap. The Narc Pouch shall be capable of being mounted into the Medical Assault Pack (see 3.7.1) or the Medical Sustainment Bag (see 3.7.2) using hook fastener. One (1) Narc Pouch shall be included with the CAS. The Narc Pouch shall be constructed with the following materials:

a. Cloth as specified in 3.9.7.2
b. Webbing as specified in 3.9.4.2
c. Hook and loop fastener as specified in 3.9.6
d. Stiffener as specified in 3.9.3.1
e. Thread as specified in 3.9.8.1 and 3.9.8.2

The Narc Pouch shall be in accordance with Corpsman Assault System drawing numbers 2-6-0934: Narc Pouch, CAS and 2-6-0954: Patterns, Narc Pouch, CAS.

3.7.5.2 Medium Pouch. The Medium Pouch shall be capable of being securely closed using a slide fastener. The pouch shall be capable of being mounted into the Medical

Assault Pack (see 3.7.1) or the Medical Sustainment Bag (see 3.7.2) using hook fastener. Two (2) Medium Pouches shall be included with the CAS. The Medium Pouch shall be constructed with the following materials:

h. Cloth as specified in 3.9.7.2 and 3.9.7.7
i. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
j. Hook and loop fastener as specified in 3.9.6
k. Slide fastener as specified in 3.9.9.13
l. Cord as specified in 3.9.10.3
m. Foam as specified in 3.9.2.9
n. Thread as specified in 3.9.8.1 and 3.9.8.2

The Medium Pouch shall be in accordance with Corpsman Assault System drawing numbers 2-6-0938: Medium Pouch, CAS and 2-6-0955: Patterns, Medium Pouch, CAS.

3.7.5.3 Large Pouch. The Large Pouch shall be capable of being securely closed using a slide fastener. The pouch shall be capable of being mounted into the Medical Assault Pack (see 3.7.1) or the Medical Sustainment Bag (see 3.7.2) using hook fastener. Two (2) Large Pouches shall be included with the CAS. The Large Pouch shall be constructed with the following materials:

h. Cloth as specified in 3.9.7.2 and 3.9.7.7
i. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
j. Hook and loop fastener as specified in 3.9.6
k. Slide fastener as specified in 3.9.9.13
l. Cord as specified in 3.9.10.3
m. Foam as specified in 3.9.2.9
n. Thread as specified in 3.9.8.1 and 3.9.8.2

The Large Pouch shall be in accordance with Corpsman Assault System drawing numbers 2-6-0939: Large Pouch, CAS and 2-6-0956: Patterns, Large Pouch, CAS.

3.7.5.4 Small Reversible Pouch. The Small Reversible Pouch shall be capable of being secured closed using a reversible slide fastener. The pouch shall be capable of being mounted into the Medical Assault Pack (see 3.7.1) or the Medical Sustainment Bag (see 3.7.2) using hook fastener. The pouch shall be capable of being turned inside out and mounted onto PALS webbing. Two (2) Small Reversible Pouches shall be included with the CAS. The Small Reversible Pouch shall be constructed with the following materials:

j. Cloth as specified in 3.9.7.2
k. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
l. Hook and loop fastener as specified in 3.9.6
m. Slide fastener as specified in 3.9.9.11
n. Cord as specified in 3.9.10.3
o. Foam as specified in 3.9.2.9

p. Snap fastener as specified in 3.9.1.5.1
q. Stiffener as specified in 3.9.3.5
r. Thread as specified in 3.9.8.1 and 3.9.8.2

The Small Reversible Pouch shall be in accordance with Corpsman Assault System drawing numbers 2-6-0936: Small Reversible Pouch, CAS and 2-6-0957: Patterns, Small Reversible Pouch, CAS.

3.7.5.5 Medium Reversible Pouch. The Medium Reversible Pouch shall be capable of being secured closed using a reversible slide fastener. The pouch shall be capable of being mounted into the Medical Assault Pack (see 3.7.1) or the Medical Sustainment Bag (see 3.7.2) using hook fastener. The pouch shall be capable of being turned inside out and mounted onto PALS webbing. Two (2) Medium Reversible Pouches shall be included with the CAS. The Medium Reversible Pouch shall be constructed with the following materials:

j. Cloth as specified in 3.9.7.2
k. Webbing and tape as specified in 3.9.4.1 and 3.9.4.8
l. Hook and loop fastener as specified in 3.9.6
m. Slide fastener as specified in 3.9.9.11
n. Cord as specified in 3.9.10.3
o. Foam as specified in 3.9.2.9
p. Snap fastener as specified in 3.9.1.5.1
q. Stiffener as specified in 3.9.3.5
r. Thread as specified in 3.9.8.1 and 3.9.8.2

The Medium Reversible Pouch shall be in accordance with Corpsman Assault System drawing numbers 2-6-0937: Medium Reversible Pouch, CAS and 2-6-0958: Patterns, Medium Reversible Pouch, CAS.

3.7.5.6 Elastic Panel. The Elastic Panel shall have four (4) rows of various sized elastic webbing loops used to secure medical supplies. An adjustable round cord shall allow a tape roll(s) to be secured and easily accessed. The panel shall be capable of being mounted into the Medical Assault Pack (see 3.7.1) or the Medical Sustainment Bag (see 3.7.2) using hook fastener. Two Elastic Panels shall be included with the CAS. The Elastic Panel shall be constructed with the following materials:

i. Cloth as specified in 3.9.7.2
j. Webbing as specified in 3.9.4.1
k. Hook and loop fastener as specified in 3.9.6
l. Buckle as specified in 3.9.1.2.24
m. Cord as specified in 3.9.10.3
n. Foam as specified in 3.9.2.9
o. Stiffener as specified in 3.9.3.1
p. Thread as specified in 3.9.8.1 and 3.9.8.2

The Elastic Panel shall be in accordance with Corpsman Assault System drawing numbers 2-

6-0935: Elastic Panel, CAS and 2-6-0959: Patterns, Elastic Panel, CAS.

3.7.5.7 Double Pocket Panel. The Double Pocket Panel shall have two (2) pockets adjacent to one another. The openings of the pockets shall be capable of being tightened using elastic cord and barrel locks. The panel shall be capable of being mounted into the Medical Assault Pack (see 3.7.1), Medical Sustainment Bag (see 3.7.2) or Modular Medical Pouch (see 3.7.4) using hook fastener. One (1) Double Pocket Panel shall be included with the CAS. The Double Pocket Panel shall be constructed with the following materials:

i. Cloth as specified in 3.9.7.2 and 3.9.7.7
j. Tape as specified in 3.9.4.4, 3.9.4.8 and 3.9.4.9
k. Hook and loop fastener as specified in 3.9.6
l. Barrel lock as specified in 3.9.1.1.2
m. Eyelet as specified in 3.9.1.4.2
n. Cord as specified in 3.9.10.2
o. Stiffener as specified in 3.9.3.1
p. Thread as specified in 3.9.8.1 and 3.9.8.2

The Double Pocket Panel shall be in accordance with Corpsman Assault System drawing numbers 2-6-0932: Double Pocket Panel, CAS and 2-6-0960: Patterns, Double Pocket Panel, CAS.

3.7.5.8 Triple Pocket Panel. The Triple Pocket Panel shall have three (3) pockets adjacent to one another. The openings of the pockets shall be capable of being tightened using elastic cord and barrel locks. The panel shall be capable of being mounted into the Medical Assault Pack (see 3.7.1) or Medical Sustainment Bag (see 3.7.2) using hook fastener. One (1) Triple Pocket Panel shall be included with the CAS. The Triple Pocket Panel shall be constructed with the following materials:

i. Cloth as specified in 3.9.7.2 and 3.9.7.7
j. Tape as specified in 3.9.4.5, 3.9.4.8 and 3.9.4.9
k. Hook and loop fastener as specified in 3.9.6
l. Barrel lock as specified in 3.9.1.1.2
m. Eyelet as specified in 3.9.1.4.2
n. Cord as specified in 3.9.10.2
o. Stiffener as specified in 3.9.3.1
p. Thread as specified in 3.9.8.1 and 3.9.8.2

The Triple Pocket Panel shall be in accordance with Corpsman Assault System drawing numbers 2-6-0933: Triple Pocket Panel, CAS and 2-6-0961: Patterns, Triple Pocket Panel, CAS.

3.7.5.9 Stacked Pocket Panel. The Stacked Pocket Panel shall have two (2) different sized pockets. The smaller pocket shall be placed on top of the larger pocket allowing easier access to the contents contained within. The openings of the pockets shall be capable of

being tightened using elastic cord and barrel locks. The panel shall be capable of being mounted into the Medical Assault Pack (see 3.7.1), Medical Sustainment Bag (see 3.7.2) or Modular Medical Pouch (see 3.7.4) using hook fastener. One (1) Stacked Pocket Panel shall be included with the CAS. The Stacked Pocket Panel shall be constructed with the following materials:

i. Cloth as specified in 3.9.7.2 and 3.9.7.7
j. Tape as specified in 3.9.4.8 and 3.9.4.9
k. Hook and loop fastener as specified in 3.9.6
l. Barrel lock as specified in 3.9.1.1.2
m. Eyelet as specified in 3.9.1.4.2
n. Cord as specified in 3.9.10.2
o. Stiffener as specified in 3.9.3.1
p. Thread as specified in 3.9.8.1 and 3.9.8.2

The Stacked Pocket Panel shall be in accordance with 2-6-0930: Stacked Pocket Panel, CAS and 2-6-0962: Patterns, Stacked Pocket Panel, CAS.

3.8 Standard Sample. The finished cloths or findings shall match the standard samples for shade and appearance and shall match the standard sample with respect to all characteristics for which the standard sample is referenced.

3.9 Materials and Components. The contractor shall select the materials that meet all applicable specifications, standards, and patterns specified herein when tested in accordance with paragraph 4.6 and 4.7. All part or component manufacturers are listed in alphabetical order, not by preference. Parts and components are determined to be equivalent solely by the Government. During determination of equivalency, the Government reserves the right to perform any of the inspections set forth in this document where such inspections are deemed necessary to ensure the supplies conform to prescribed requirements.

3.9.1 Hardware. All part numbers are listed in alphabetical order by manufacturer, not by preference. Unless otherwise specified, all hardware shall be compatible with FILBE components and their associated hardware. Unless otherwise specified, the color of all hardware shall be Coyote 498 for Classes 1, 2 and 3, Arctic White 488 for Class 4, and Tan 499 for Classes 5 and 6. Unless otherwise specified, all classes shall meet the applicable infrared spectral reflectance requirements as specified in Table X of paragraph 3.12.9 when tested as specified in paragraph 4.8.4.

3.9.1.1 Barrel locks.

3.9.1.1.1 Barrel lock. The barrel lock shall be ITW P/N GTSP Cordloc 350-6000 or YKK-USA I/C 0089716, or equivalent.

3.9.1.1.2 Barrel lock. The barrel lock shall be ITW P/N Toaster Ellipse Cordloc 350-2000 or YKK-USA I/C 0089716, or equivalent. The barrel lock shall be in the “closed” position (i.e. cinching the cord).

3.9.1.1.3 Barrel lock. The barrel lock shall be National Molding P/N Pop Lock 6523 or equivalent.

3.9.1.2 Buckles.

3.9.1.2.1 Buckle, nonslip double bar. The 1.0-inch quick release nonslip buckle shall conform to MIL-B-543 Type V Class III. The nonslip buckle shall be ITW Waterbury P/N 00648-09 or equivalent.

3.9.1.2.2 Buckle, repairable, female. The 1.0-inch female repairable buckle shall be ITW P/N 810-1082 or equivalent.

3.9.1.2.3 Buckle, repairable, male. The 1.0-inch male repairable buckle shall be ITW P/N 810-1083 or equivalent.

3.9.1.2.4 Buckle, repairable, single-bar, male. The 1.0-inch male single-bar repairable buckle shall be ITW P/N 810-1072 or equivalent.

3.9.1.2.5 Buckle, quick attach, female. The 1.0-inch female quick attach surface mount buckle shall be ITW P/N 810-1076 or equivalent.

3.9.1.2.6 Buckle, side release. The 1.0-inch side release buckle shall be National Molding P/N 5000, 5707, 5709 or equivalent.

3.9.1.2.7 Buckle, side-release. The 2.0-inch side-release buckle shall be ITW P/N GTSR 810-1093/1095 or equivalent.

3.9.1.2.8 Buckle, quick-release, female. The 1.0-inch metal quick release buckle housing shall be ITW P/N 09223-26 or equivalent.

3.9.1.2.9 Buckle, quick-release, male. The 1.0-inch metal quick release buckle latch shall be ITW P/N 09223-27 or equivalent.

3.9.1.2.10 Buckle, friction. The 1.0-inch male friction buckle shall be ITW P/N GTSR Wavloc XL Latch 810-1091 or National Molding P/N Techno Grab 9700 or equivalent.

3.9.1.2.11 Buckle, friction. The 1.0-inch female friction buckle shall be ITW P/N GTSR WavLoc XL Body 810-1096 or National Molding P/N Techno Grab 10023 or equivalent.

3.9.1.2.12 Buckle, repairable. The 1.0-inch male repairable buckle shall be National Molding P/N Snap On Repairable 9739 or equivalent.

3.9.1.2.13 Buckle, repairable. The 1.0-inch female repairable buckle shall be National Molding P/N Snap On Repairable 9378 or equivalent.

3.9.1.2.14 Buckle. The buckle shall be ITW P/N Grimloc 110-4100 or equivalent.

3.9.1.2.15 Buckle, side-release. The 1.0-inch side release buckle shall be National Molding P/N Heavy Duty Mojave Buckle 8781 or YKK-USA I/C 0098609, or equivalent.

3.9.1.2.16 Buckle, side-release. The 1.0-inch side release buckle shall be ITW P/N GTSR 810-1057 or National Molding P/N Heavy Duty Mojave Buckle 8762 or YKK-USA I/C 0098610, or equivalent.

3.9.1.2.17 Buckle, side-release. The single-bar 2.0-inch side release buckle shall be ITW P/N GTSR Loop 810-1077/810-1079 or National Molding P/N Lock Monster 10140/5431, or equivalent.

3.9.1.2.18 Buckle, side-release. The 2.0-inch side release buckle shall be ITW P/N 2-inch Contoured Waist Belt Buckle TSR200 815-0006/815-0007 or equivalent.

3.9.1.2.19 Buckle, side-release. The 0.75-inch side release buckle shall be National Molding P/N Mojave Side Squeeze Buckle Male 5205 and Female 5206 or YKK-USA I/C 0069506, or equivalent.

3.9.1.2.20 Buckle, side-release. The 0.75-inch side release buckle shall be ITW P/N TSR 3/4-inch 150-0075 or equivalent.

3.9.1.2.21 Buckle, side-release. The 1.0-inch side release buckle shall be ITW P/N TSR 1.0-inch 150-0100 or equivalent.

3.9.1.2.22 Buckle, side-release. The 1.5-inch side release buckle shall be ITW P/N TSR 150-1150 or equivalent.

3.9.1.2.23 Buckle, side-release. The 1.0-inch female side release buckle shall be ITW P/N GTSR Ladderloc 810-1070 or National Molding P/N Dual Adjustment Side Squeeze Buckle 5317, or equivalent.

3.9.1.2.24 Toggle. The toggle shall be ITW P/N GT Tactical Toggle 743-0200 or YKK-USA I/C 0090987, or equivalent.

3.9.1.2.25 Buckle, side-release. The 1.0 inch male side release buckle shall be ITW P/N GTSR 810-1071 or National Molding P/N Heavy Duty Mojave Buckle 8761 or equivalent.

3.9.1.3 D-rings.

3.9.1.3.1 D-ring, plastic. The 1.0-inch plastic D-ring shall be ITW P/N 110-0100 or National Molding P/N 4275 or YKK-USA I/C 0008208, or equivalent.

3.9.1.3.2 D-ring, metal. The metal D-ring shall be ITW P/N 01047-20 or equivalent.

3.9.1.4 Eyelets.

3.9.1.4.1 Eyelet. The metal eyelets shall conform to NASM 20652/1 dash numbers BBE-114, BBW101, brass and have a dull chemical finish suitable for copper alloys.

3.9.1.4.2 Eyelet. The metal eyelets shall conform to NASM 20652/1 dash number ABE-131, aluminum with a chemical finish.

3.9.1.5 Fasteners.

3.9.1.5.1 Fastener, snap (regular wire spring clamp type). The snap fasteners shall conform to MIL-DTL-10884, Style 2. The snap fasteners shall have a black chemical finish, except button cap shells be color as specified, baked on enamel finish. The enamel shall be uniformly coated over the top surface of the shell including the visible portion of the edge. The gloss for the black chemical finish and the enamel finish shall be no more than 40. The enamel shall be capable of withstanding attachment operations without removal of any enamel. The enamel coating shall be smooth and free of sags, runs and streaks.

3.9.1.5.2 Fastener, snap (small wire spring clamp type). The snap fasteners shall conform to MIL-DTL-10884, Style 2A. The snap fasteners shall have a black chemical finish, except button cap shells be color as specified, baked on enamel finish. The enamel shall be uniformly coated over the top surface of the shell including the visible portion of the edge. The gloss for the black chemical finish and the enamel finish shall be no more than 40. The enamel shall be capable of withstanding attachment operations without removal of any enamel. The enamel coating shall be smooth and free of sags, runs and streaks.

3.9.1.6 Grommets.

3.9.1.6.1 Grommet. The grommets shall conform to NASM 16491, Type III, Class 3, Size 0.

3.9.1.6.2 Grommet. The grommets shall conform to NASM 16491, Type III, Class 3, Size 1.

3.9.1.7 Oval Slide.

3.9.1.7.1 Oval slide, rounded. The 1.0-inch rounded oval slide shall be ITW Waterbury P/N 08090-22 or equivalent.

3.9.1.8 Ring.

3.9.1.8.1 Ring, oval. The 1.0-inch oval ring shall be ITW Waterbury P/N 01004-20 or equivalent. The ring shall be welded.

3.9.1.8.2 Ring, oval. The 2.0-inch oval ring shall be ITW Waterbury P/N 00012-20 or equivalent. The ring shall be welded.

3.9.1.9 Buckles, friction.

3.9.1.9.1 Tri-glide. The 1.0-inch tri-glide shall be ITW P/N 105-0100 or National Molding P/N Heavy Duty Sliplock 4783 or YKK-USA I/C 0000836, or equivalent.

3.9.1.9.2 Buckle, sternum. The 1.0-inch sternum buckle shall be ITW P/N Sternum Triglide 642-0100 or National Molding P/N Heavy Duty Sternum Slider 9382 or equivalent.

3.9.1.9.3 Buckle, sternum. The repairable sternum buckle shall be ITW P/N Split Bar Triglide 646-2025 or National Molding P/N Heavy Duty Sternum Slider 9380, or equivalent.

3.9.1.9.4 Buckle, lock. The 2.0-inch lock buckle shall be National Molding P/N 10177 or equivalent.

3.9.1.9.5 Buckle, lock. The 2.0-inch lock buckle shall be ITW P/N GT Ruck 200 or equivalent.

3.9.1.9.6 Buckle, lock. The 1.0-inch repairable lock buckle shall be ITW P/N GTLL 100 Split–bar or equivalent.

3.9.1.9.7 Buckle, lock. The 1.0-inch lock buckle shall be ITW P/N GTLL 154-0200 or YKK-USA I/C 0008235, or equivalent.

3.9.1.9.8 Buckle, lock. The 1.0-inch lock buckle shall be National Molding P/N Mega Duckbill with Hole 7352 or equivalent.

3.9.1.9.9 Buckle, lock. The 2.0-inch repairable lock buckle shall be National Molding P/N 10151 Split Bar or equivalent.

3.9.1.9.10 Buckle, lock. The 0.5-inch lock buckle shall be National Molding P/N Standard Tensionlock 4925 or equivalent.

3.9.1.9.11 Buckle, lock. The 1.0-inch lock buckle shall be ITW P/N Ladderloc 104-0100 or National Molding P/N Standard Tensionlock 4199 or YKK-USA I/C 0000912, or equivalent.

3.9.1.9.12 Buckle, lock. The 1.0-inch repairable lock buckle shall be ITW P/N Ladderloc Split-bar 104-3100 or equivalent.

3.9.1.9.13 Hook. The hook shall be National Molding P/N Glove Hook 4891 or equivalent. Color shall be black.

3.9.1.9.14 Tri-glide. The 1.5-inch triglide shall be ITW P/N Low-Pro Triglide 105-2150 or equivalent.

3.9.2 Foams.

3.9.2.1 Foam. The 0.5-inch thick foam padding shall conform to ASTM D6576

Type II, grade C, condition soft, color black.

3.9.2.2 Foam. The 0.25-inch thick foam padding shall conform to ASTM D6576 Type II, grade C, condition soft, color black.

3.9.2.3 Foam. The foam shall be closed cell cross-linked ethylene vinyl acetate copolymer foam with a thickness of 0.375-inch. The foam shall conform to the properties specified in Table I when tested in accordance with paragraph 4.5.8.

3.9.2.4 Foam. The foam shall be closed cell cross-linked ethylene vinyl acetate copolymer foam with a thickness of 0.625-inch. The foam shall conform to the properties specified in Table I when tested in accordance with paragraph 4.7.

Table I: Foam Characteristics

Characteristic	Requirement
Density (lb./ft³)	3.15 (± 0.15)
Compression Strength (psi) @ 25% deflection @ 50% deflection	 6.5 (± 0.5) 15.5 (± 0.5)
Elongation at Break (%)(min) Tear Resistance (lb./in)(min) Water Absorption of Surface (lb./ft²)(max)	220 19 0.04

3.9.2.5 Foam, molded hip-belt. The molded hip belt foam shall be UFP P/N MOLLE II Molded Waistbelt USMC variant using a four way stretch woven fabric as the facing, or equivalent.

3.9.2.6 Foam. The reinforcing foam shall be 10 lb./ft³ (± 10 percent density), cross-linked polyethylene foam with a thickness of 0.25-inch.

3.9.2.7 Foam. The foam shall be open-cell polyether based polyurethane foam with a thickness of 1.0-inch. The foam shall conform to the properties in Table II when tested in accordance with paragraph 4.7.

3.9.2.8 Foam. The foam shall be open-cell polyether based polyurethane foam with a thickness of 0.75-inch. The foam shall conform to the properties in Table II when tested in accordance with paragraph 4.7.

Table II: Foam Characteristics

Characteristic	Requirement
Density (lb./ft³)	2.5 (± 0.25)

Indentation Force Deflection (lb./50 in²) @ 25% deflection @ 65% deflection	 130 (± 10) 230 (± 10)
Elongation at Break (%)(min) Tensile Strength (psi)(min)	100 25

3.9.2.9 Foam. The foam shall be low-density, cross-linked polyethylene foam with a thickness of 0.1875-inch.

3.9.3 Stiffener.

3.9.3.1 Stiffener, plastic. The plastic stiffener shall be high density polyethylene, 0.030-inch thick. Color shall be natural.

3.9.3.2 Stiffener, plastic. The plastic stiffener shall be high density polyethylene, 0.045-inch thick. Color shall be natural.

3.9.3.3 Stiffener, plastic. The plastic stiffener shall be high density polyethylene, 0.060-inch thick. Color shall be natural or black.

3.9.3.4 Stiffener, plastic. The plastic stiffener shall be high density polyethylene, 0.125-inch thick. Color shall be black.

3.9.3.5 Stiffener, plastic. The plastic stiffener shall be polyester strapping with dimensions 0.5-inch by 0.028-inch. Length shall be as specified on patterns. The stiffener shall have a minimum tensile strength of 820 (± 10) pounds. Color shall be black.

3.9.3.6 Stiffener, fiberglass. The fiberglass pultrusion strip shall be 1/8-inch in height by 3/8-inch wide. Length shall be 8.5-inches. Color shall be natural.

3.9.4 Webbing and tapes. Webbings and tapes shall be heat cut smooth with no burrs or residual melt. Unless otherwise specified the color shall be Coyote 498 for Classes 1, 2 and 3, Arctic White 488 for Class 4, OCP (4-Color) for Class 5, and Tan 499 for Class 6. Unless otherwise specified, the applicable color shall meet the requirements in specified in Tables IV through Table XI of paragraph 3.12.9 when tested as specified in paragraph 4.8.4. Webbings and tapes shall conform to the following requirements and 3.11.

3.9.4.1 Webbing, 1.0-inch. The 1.0-inch webbing shall conform to A-A-55301, Type III, except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored, textured yarns may be used.

3.9.4.2 Webbing, 1.5-inch. The 1.5-inch webbing shall conform to A-A-55301, Type VI,

except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored, textured yarns may be used. When used, thickness shall be 0.039-inch (minimum); weight shall be 0.90 ounce per yard (minimum).

3.9.4.3 Webbing, 2.0-inch. The 2.0-inch webbing shall conform to MIL-W-17337, except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored, textured yarns may be used. When used, continuous filament textured nylon yarn denier shall be 1000 warp and 500 fill; breaking strength shall be 1450 pounds (minimum); thickness shall be 0.042- inch (minimum) to 0.054-inch (maximum); filling yarns per inch shall be 40; full warp ends shall be 160; and width binder ends shall be 38.

3.9.4.4 Webbing, 3.0-inch. The 3.0-inch webbing shall conform to MIL-W-17337, Class 2. Continuous filament textured nylon shall be used.

3.9.4.5 Webbing, nylon. The 0.75-inch webbing shall conform to MIL-W-4088, Type Ia, Class 2, except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored, textured yarns may be used. When used, the continuous filament textured nylon webbing shall have a tensile strength of 600 pounds (minimum); thickness shall be 0.035-inch (minimum); weight shall be 0.35 ounces per yard (minimum).

3.9.4.6 Webbing, nylon. The 2.0-inch woven nylon webbing shall conform to MIL-W-4088, Type VIIIb, Class 2.

3.9.4.7 Webbing, nylon. The 0.5-inch webbing shall be a thickness of 0.038 – 0.050 inches, weight per linear yard of 0.25 - 0.4 ounces, minimum breaking strength of 350 pounds and minimum of 48 yarns per inch filling. The webbing shall conform to the spectral reflectance requirements in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored, textured yarns may be used.

3.9.4.8 Tape, 1.0-inch. The 1.0-inch tape shall conform to MIL-PRF-5038, Type III, Class 2. Continuous filament textured yarns shall be used except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4.

3.9.4.9 Tape, 0.375-inch. The 0.375-inch tape shall conform to MIL-PRF-5038 Type III. Continuous filament textured yarns shall be used except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4.

3.9.4.10 Tape, 0.875-inch. The 0.875-inch bias tape shall conform to MIL-PRF-5038, except that the spectral reflectance requirements shall be in accordance with paragraph 3.12.9 and Tables IV through XI when tested in accordance with paragraph 4.8.4. Producer colored,

textured yarns may be used. When used, the continuous filament textured nylon tape shall have a tensile strength of 300 pounds (minimum); thickness shall be 0.020-inch (minimum); weight shall be 0.20 ounces per yard (minimum).

3.9.5 Webbing, elastic. Elastic webbing shall be heat cut smooth with no burrs or residual melt. Unless otherwise specified the color shall be Coyote 498 for Classes 1, 2 and 3, Arctic White 488 for Class 4, and Tan 499 for Classes 5 and 6. Unless otherwise specified, the applicable color shall meet the requirements in paragraph 3.12.9 and Tables IV through XI when tested as specified in paragraph 4.8.4. Elastic webbings shall conform to the following requirements.

3.9.5.1 Webbing, elastic. Width – 1.0 (± 0.060) inch, construction – knitted, warp – textured polyester 150/1, filler – textured polyester 750 denier total, rubber – natural or equivalent, rubber strands – 60, thickness - 0.040-0.045, picks per inch – 50 (±4), stretch – 110 (±15) percent (%).

3.9.5.2 Webbing, elastic. Width – 1.5 (± 0.060) inch, construction – knitted, warp – textured polyester 150/1, filler – textured polyester 750 denier total, rubber – natural or equivalent, rubber strands – 60, thickness - 0.040-0.045, picks per inch – 50 (±4), stretch – 110 (±15) percent(%).

3.9.5.3 Webbing, elastic. Width – 3.0 (± 0.060) inch, construction – knitted, warp – textured polyester 150/1, filler – textured polyester 750 denier total, rubber – natural or equivalent, rubber strands – 60, thickness - 0.040-0.045, picks per inch – 50 (±4), stretch – 110 (±15) percent(%).

3.9.5.4 Webbing, elastic. Width – 4.0 (± 0.060) inch, construction – knitted, warp – textured polyester 150/1, filler – textured polyester 750 denier total, rubber – natural or equivalent, rubber strands – 60, thickness - 0.040-0.045, picks per inch – 50(±4), stretch – 110 (±15) percent(%).

3.9.5.5 Webbing, elastic. Width – 0.5 (± 0.060) inch, construction – knitted, warp – textured polyester 150/1, filler – textured polyester 750d total, rubber – natural or equivalent, rubber strands – 60, thickness - 0.040-0.045, pics per inch – 50 ±4, stretch – 110% ±15%.

3.9.5.6 Webbing, elastic. Width – 0.75 (± 0.060) inch, construction – knitted, warp – textured polyester 150/1, filler – textured polyester 750 denier total, rubber – natural or equivalent, rubber strands – 60, thickness - 0.040-0.045, picks per inch – 50 (±4), stretch – 110 (±15) percent(%).

3.9.5.7 Webbing, elastic. Width – 1.0 (± 0.060) inch, construction – knitted, warp – textured polyester 150/2, filler – textured polyester 150/1, rubber – natural or equivalent, thickness - 0.060-0.080, stretch – 110% ±15%.

3.9.5.8 Webbing, elastic, grip. Width – 1.5 (± 0.060) inch, construction – knitted,

warp – textured polyester 500d, filler – textured polyester 500d, rubber – natural or equivalent, rubber strands – 23 40g, thickness - 0.070-0.080, pics per inch 30 ±4 . The elastic webbing shall have two rows (4 strands in each row) of rubber elastic woven in.

3.9.6 Fasteners, hook and loop. Hook and loop fasteners shall conform to A-A-55126, Type II, Class 1 or Class 4, in 0.625-inch, 0.75-inch, 1.0-inch, 1.5-inch, 2.0-inch, and 4.0-inch widths. Unless otherwise specified the color shall be Coyote 498 for Classes 1, 2 and 3, Arctic White 488 for Class 4, and Tan 499 for Classes 5 and 6. Unless otherwise specified, the applicable color shall meet the requirements in paragraph 3.12.9 and Tables IV through XI when tested as specified in paragraph 4.8.4.

3.9.6.1 Fastener, loop, sheet. The heavy duty knit loop fastener shall be Velcro P/N Loop 3001 or equivalent. The width shall be as required on patterns.

3.9.7 Cloth. Unless otherwise specified, the color of the cloths shall be Coyote 498 for Class 1, Woodland MARPAT for Class 2, Desert MARPAT for Class 3, Snow MARPAT for Class 4, OCP for Class 5, and Tan 499 for Class 6. The infrared spectral reflectance of the finished cloths shall conform to the applicable requirements in paragraph 3.12.9 and Tables IV through XI when tested as specified in paragraph 4.8.4.

3.9.7.1 Cloth, nylon. The 1000 denier textured nylon duck cloth shall conform to GL/PD 10-07 Type I Class 3.

3.9.7.2 Cloth, nylon. The 500 denier textured nylon duck shall conform to GL/PD 10-07 Type III Class 3.

3.9.7.3 Cloth, nylon. The water repellent nylon plain weave cloth shall conform to MIL-C-43128.

3.9.7.4 Cloth, nylon. The 420 denier nylon plain weave cloth shall have a 0.75-ounce urethane back coating, durable water repellant treatment and weigh not more than 5.75 ounces per square yard. The cloth shall have a minimum fabric count of 55 yarns per inch in the warp direction and 38 yarns per inch in the fill direction. The minimum breaking strength shall be 150 pounds in the warp direction and 75 pounds in the fill direction; maximum shrinkage of 3 percent in both directions; initial minimum spray rating of 90, 90, 80 and 80, 80, 80 after one laundering; minimum hydrostatic resistance of 20 centimeters.

3.9.7.5 Cloth, mesh. The raschel knit nylon cloth shall conform to MIL-C-8061 Type II.

3.9.7.6 Cloth, mesh. The mesh cloth shall be Dri-lex P/N Aerospacer #622 or equivalent.

3.9.7.7 Cloth, nylon. The cloth shall be 70 denier 1.9 ounce nylon ripstop. Yarns per inch shall be at a minimum of 97 in the fill direction and 105 in the warp direction. The nylon ripstop shall have a minimum spray rating of 100, 100, 100.

3.9.8 Thread. Unless otherwise specified the color shall be Coyote 498 for Classes 1, 2 and 3, Arctic White 488 for Class 4, and Tan 499 for Classes 5 and 6. Unless otherwise specified, the applicable color shall meet the requirements in paragraph 3.12.9 and Tables IV through XI when tested as specified in paragraph 4.8.4. The thread as specified shall conform to the following requirements.

3.9.8.1 Thread. The nylon thread shall conform to A-A-59826, Type II, Class A, 90-112 Tex (Size F).

3.9.8.2 Thread. The nylon thread shall conform to A-A-59826, Type II, Class A, 70-76 Tex (Size E).

3.9.8.3 Thread. The nylon thread shall conform to A-A-59826, Type II, Class A, 135-160 Tex (Size FF).

3.9.9 Fastener, slide. Unless otherwise specified the color shall be black and shall conform to the following requirements.

3.9.9.1 Fastener, slide. The slide fastener shall be chain #5 continuous element coil, closed on both sides, with two sliders in throat-to-throat configuration. The tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 18. The color shall be Coyote 498.

3.9.9.2 Fastener, slide. The slide fastener shall be #5 continuous element coil, closed on both sides, with a single slider. The tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fasteners shall conform to A-A-55634, Type 1, Style 6. The color shall be Coyote 498.

3.9.9.3 Fastener, slide. The slide fastener shall be chain #10 individual element molded plastic, separating, with a double-pull reversible slider. The slide fastener shall be YKK P/N Vislon #10 or equivalent. The color shall be Black.

3.9.9.4 Fastener, slide. The slide fastener shall be chain #10 continuous element coil, closed on both sides, with two (2) sliders in throat-to-throat configuration. The 0.75-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 18. The color shall be Black.

3.9.9.5 Fastener, slide. The water-resistant slide fastener shall be chain #10 continuous element coil, closed on both sides, with two (2) sliders in throat-to-throat configuration. A

round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fasteners shall be YKK P/N Uretek coil #10 with 0.75-inch matte black tape or equivalent. The color shall be Black.

3.9.9.6 Fastener, slide. The slide fastener shall be chain #8 continuous element coil, closed on both sides, with two (2) sliders in throat-to-throat configuration. The 0.625-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 18. The color shall be Black.

3.9.9.7 Fastener, slide. The slide fastener shall be #8 continuous element coil, closed on both sides, with a single slider. The 0.625-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 6. The color shall be Black.

3.9.9.8 Fastener, slide. The water-resistant slide fastener shall be chain #10 continuous element coil, closed on both sides, with two (2) sliders in mouth-to-mouth configuration. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall be YKK P/N Uretek coil #10 with 0.75-inch matte black tape or equivalent. The color shall be Black.

3.9.9.9 Fastener, slide. The water-resistant slide fastener shall be chain #8 continuous element coil, closed on both sides, with two (2) sliders in throat-to-throat configuration. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall be YKK P/N Uretek coil #8 with 0.625-inch matte black tape or equivalent. The color shall be Black.

3.9.9.10 Fastener, slide. The slide fastener shall be chain #10 continuous element coil, closed on both sides, with a single slider. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 6. The color shall be Coyote 498.

3.9.9.11 Fastener, slide. The slide fastener shall be chain #9 continuous element coil, closed on both sides, with two (2) double-pull reversible sliders in throat-to-throat configuration. The 0.625-inch tape shall have a water repellant treatment. A round cord thong shall be used

in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type II, Style 7. The color shall be Coyote 498.

3.9.9.12 Fastener, slide. The slide fastener shall be chain #8 continuous element coil, closed on both sides, with a single slider. The 0.625-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider body (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 6. The color shall be Coyote 498.

3.9.9.13 Fastener, slide. The slide fastener shall be chain #8 continuous element coil, closed on both sides, with two (2) sliders in throat-to-throat configuration. The 0.625-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 18. The color shall be Coyote 498.

3.9.9.14 Fastener, slide. The slide fastener shall be chain #10 continuous element coil, closed on both sides, with two (2) sliders in throat-to-throat configuration. The 0.75-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 18. The color shall be Coyote 498.

3.9.9.15 Fastener, slide. The slide fastener shall be chain #8 continuous element coil, closed on both sides, with two (2) sliders in mouth-to-mouth configuration. The 0.625-inch tape shall have a water repellant treatment. A round cord thong shall be used in place of a pull on the slider bodies (see 3.9.10.3). The two (2) ends of the cord shall be seared and tightly tied together using an overhand knot. The finished length of the thong shall measure 2.0 (± 0.25) inches. The slide fastener shall conform to A-A-55634, Type 1, Style 15. The color shall be Coyote 498.

3.9.10 Cord.

3.9.10.1 Braid, tubular. The 0.344-inch tubular braid shall conform to MIL-B-371 Type VII Class 2.

3.9.10.2 Cord, elastic. The 0.125-inch elastic cord shall be Hope Webbing Style 2831 round or equal.

3.9.10.3 Cord, round. The round cord shall conform to MIL-C-5040 Type II. This specification is inactive; however, for the purposes of this document the specification remains applicable.

3.9.10.4 Cord, flat. The flat cord shall conform to MIL-C-5040 Type IIA. This specification is inactive; however, for the purposes of this document the specification remains applicable.

3.10 Construction.

3.10.1 Hook and loop fastener. Hook and loop fasteners shall not be stitched in the selvage edge to prevent associated fraying durability problems in repeated use. If Class 4 is used, the hook and loop fasteners shall be stitched 0.125-inch from the edge.

3.10.2 Stitching. Stitching shall conform to ASTM D 6193, 9-11 stitches per inch. End of seams and stitches (stitch type 301) that are not caught in other seams or stitching shall be securely back tacked or back stitched. Thread breaks or bobbin run-outs occurring during sewing shall be secured by stitching back of the break a minimum of 0.5-inch. There shall be no stitch run-off allowed. Thread tension shall be maintained so that there will be no loose stitching resulting in loose bobbin or top thread, or excessively high stitching resulting in puckering of the materials being sewn. Thread ends shall be trimmed to a length of not more than 0.25-inch.

3.10.3 Automatic stitching. Automatic stitching machines may be used to perform any of the stitching patterns provided the requirements for the stitch pattern, stitches per inch, size and type of thread are met, and at least three or more tying, overlapping, or back stitches are used to secure the ends of the stitching.

3.10.4 Bartacks. There shall be no needle cutting by bartack. Double bartacks (one on top of the other) shall be avoided to prevent needle cutting and weakening of the attachment point.

3.10.5 Bartack Alignment for Pouch Attachment Ladder System. The required spacing of vertical bartacks which is needed for physical compatibility of PALS components on FILBE is specified below:

a. Distance between vertical bartacks on horizontal webbing shall be 1.5-inch (-0/ +0.0625).
b. Distance between non-consecutive horizontal webbing shall be 1.125-inch (±0.0625).
c. Vertical bartacks on consecutive horizontal webbing rows shall be vertical aligned with an offset of 0.75-inch (-0/ +0.0625) bottom to top in a vertical straight line.

3.10.6 Buttonholes. Buttonholes shall be straight cut. Position in accordance with the marks indicated on the pattern, with the ends of the buttonholes securely tacked. Size as indicated on drawings.

3.10.7 Snap Setting. A hole shall be pre-punched to receive the button and eyelet components of the snap fastener. The hole shall be smaller than the outside diameter of the

button and eyelet barrels. The fastener shall be securely clinched without cutting the adjacent materials, and no splits shall occur in the button or eyelet barrels.

3.10.8 Snap fastener reinforcement. Snap fastener reinforcement shall not ravel on any single fabric layer application.

3.10.9 Binding. All ends of binding not completely encased shall be seared or turned under.

3.11 Physical requirements of cloth.

3.11.1 Color matching. The color of the finished cloths shall match the standard sample when tested as specified in paragraph 4.6.

3.11.1.1 Color matching, webbing. The color of the webbing shall match the solid shade shell standard sample when tested as specified in paragraph 4.7.

3.11.2 Colorfastness.

3.11.2.1 Colorfastness, Coyote 498 (Class 1) and Tan 499 (Class 6). The dyed and printed finished cloth in Coyote 498 and Tan 499 shall meet the following colorfastness requirements in Table III when tested in accordance with paragraph 4.5.8 for the following characteristics.

Table III: Colorfastness Examination (Class 1 and Class 6)

Colorfastness Characteristics	Requirements
Fastness to laundering (after 3 launderings)	Equal to or better than "3-4" rating on AATCC Gray Scale for Color Change and Staining when compared to the unlaundered sample.
Fastness to Accelerated laundering (black print only)	Equal to or better than "3-4" rating on AATCC Gray Scale for Color Change when compared to the unlaundered sample
Fastness to light (after 40 hours)	Equal to or better than "3-4" rating on AATCC Gray Scale for Color Change.
Fastness to Crocking	Equal to or better than "3.5" rating on AATCC Gray Scale for Staining.
Frosting Rating	Equal to or better than "4.0" rating on AATCC Gray Scale for Color Change.

3.11.2.2 Colorfastness, Woodland MARPAT (Class 2). The finished camouflage printed cloth shall show fastness to: light (after 40 AATCC Fading Units (AFU) or 170 kilojoules); laundering (after 3 cycles); and perspiration (acid and alkaline). The colorfastness of the cloth shall be equal to or better than the standard sample, or equal to or better than a rating of “3-4” using the AATCC Procedure 1 Gray Scale for Color Change and a rating of “3-4” using the AATCC Procedure 2 Gray Scale for Staining for each of the colors. The finished cloth shall

show fastness to crocking equal to or better than the standard sample or shall have an AATCC Procedure 8 Chromatic Transference Scale Rating not lower than 3.5 for all the colors.

3.11.2.3 Colorfastness, Desert MARPAT (Class 3). The finished camouflage printed cloth shall show fastness to: light (after 40 AFUs or 170 kilojoules); laundering (after 3 cycles); and perspiration (acid and alkaline). The colorfastness of the cloth shall be equal to or better than the standard sample, or equal to or better than a rating of "3-4" using the AATCC Procedure 1 Gray Scale for Color Change and a rating of "3-4" using the AATCC Procedure 2 Gray Scale for Staining for each of the colors. The finished cloth shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Procedure 8 Chromatic Transference Scale Rating not lower than 3.5 for all the colors.

3.11.2.4 Colorfastness, Snow MARPAT (Class 4). The finished camouflage printed cloth shall show fastness to: light (after 40 AFUS or 170 kilojoules); laundering (after 4 cycles); and perspiration (acid and alkaline) and crocking. The colorfastness of the cloth shall be equal to or better than the standard sample, or equal to or better than a rating of "4" using the AATCC Procedure 1 Gray Scale for Color Change and a rating of "3-4" using the AATCC Procedure 2 Gray Scale for Staining for each of the colors. The finished cloth shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Procedure 8 Chromatic Transference Scale Rating not lower than 4.0 for all the colors.

3.11.2.5 Colorfastness, Operational Camouflage Pattern (OCP) (Class 5). The finished camouflage printed cloth shall show fastness to: light (after 40 AFUs or 170 kilojoules); laundering (after 3 cycles); and perspiration (acid and alkaline). The colorfastness of the cloth shall be equal to or better than the standard sample, or equal to or better than a rating of "3-4" for Dk. Green 528, Brown 529 and Dk. Brown 530 and equal to or better than a rating of "3" for Cream 524, Tan 525, Pale Green 526 and Olive 527 using the AATCC Procedure 1 Gray Scale for Color Change and the AATCC Procedure 2 Gray Scale for Staining. The finished cloth shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Procedure 8 Chromatic Transference Scale Rating not lower than 3.5 for all the colors.

3.11.3 Hydrostatic Resistance to DEET, POL, Sweat, and Sea Water. The cloths used to comprise the outer layers of FILBE components shall show no leakage below a hydrostatic height of 35 centimeters when exposed to DEET, POL, sweat, and sea water when tested as specified in paragraph 4.7.

3.12 Performance.

3.12.1 Function. All components of the FILBE shall be able to be readily donned and doffed. When in use, the entire system or individual components shall not impede proper head rotation of the user while standing or in a prone position, or carrying and shouldering of weapons in all firing positions.

3.12.2 Reliability. The components of the FILBE shall have a minimum service life of 360

operational hours of field use, unless otherwise specified. Additionally, the fabric used for the primary components shall be rot and mildew resistant and non-fabric parts of primary components shall be salt water-resistant.

3.12.3 Durability.

3.12.3.1 Durability, USMC Pack. The main pack with frame, hip-belt and shoulder harness shall be capable of withstanding a Free Fall Drop test in accordance with paragraph 4.8.2.2 and an Airdrop Slide Impact test in accordance with paragraph 4.8.2.1. There shall be no rupture of seams or visual damage to the frame, fabric or components. Two separate items shall be used for the Free Fall Drop test and Airdrop Slide Impact test. Verification tests may be performed by the Government.

3.12.4 Environment. The FILBE shall be used in all climatic categories during day and night operations. All hardware components shall be easily operable when wearing either USMC issued MOPP or FR gloves, while operating during periods of darkness, and shall provide for a secure connection of the components.

3.12.4.1 Resistance to Chemicals and Fluids. All systems shall be resistant and not experience any performance degradation when exposed to common chemicals and fluids, including, but not limited to: petroleum, oils, lubricants, and DEET.

3.12.4.2 Operating Temperatures. All systems shall be operable with no component breakages or failures in temperatures ranging from -40°C to +140°C.

3.12.4.3 Sand and Dust. All systems shall withstand the effects of airborne sand and dust with no component failures or breakages.

3.12.4.4 Salt Fog. All systems shall withstand the effects of exposure to salt fog with no component failures or breakages.

3.12.4.5 Fungus. All systems shall be resistant to fungal growth. The visual effects shall be less than 2 when using the Evaluation Scheme for Visible Effects from MIL-STD-810.

3.12.5 Compatibility. The FILBE shall be compatible with the clothing and equipment commonly worn, carried and used by the individual Marine, to include body armor systems and ballistic helmets. All components of the system shall be compatible with each other. Integration of the components shall be accomplished with minimum use of straps/belts or hardware.

3.12.6 Pouch attachment. The Pouch Attachment Ladder System (PALS) shall be used to attach modular pouches to the Chest Rig, Main Pack and Assault Pack.

3.12.7 Drainage. All loadbearing components shall provide a durable means of allowing water to readily drain.

3.12.8 Quick release mechanism. The shoulder straps shall have a quick release buckle. The activator shall be located on the upper portion of the shoulder strap within 4.0-inches of the release buckle and be capable of being activated by either hand, with or without gloves on. Upon activation of the mechanism, the shoulder strap shall separate, allowing the pack system to fall away from the body.

3.12.9 Spectral reflectance. All finished cloth, hardware, and webbing shall meet the spectral reflectance values (in percent) for the visible/near infrared wavelength range for the applicable colors as specified in Tables IV through XI when tested as specified in paragraph 4.8.4.

3.12.9.1 Spectral reflectance exemptions. Any components made from food-grade materials where the impact of IR treatment may affect compliance to either US FDA requirements or European equivalent are exempt from meeting infrared spectral reflectance requirements. These components include the bladder material and fitments, hydration tube, tube connectors, bite valve, and bite valve cover. Additionally, paragraphs 3.9.6.1 (Fastener, loop, sheet), 3.9.7.5 (Cloth, mesh) and 3.9.7.6 (Cloth, mesh) are exempt from meeting infrared spectral reflectance requirements.

Table IV: Infrared Spectral Reflectance Requirements for Coyote 498 (Class 1) and Tan 499 (Class 6)

WAVELENGTH (nm)	REFLECTANCE (%)			
	Coyote 498		Tan 499	
	Min	Max	Min	Max
600	8	20	8	26
620	8	20	8	26
640	8	22	8	30
660	8	24	8	34
680	12	24	12	38
700	12	34	12	40
720	16	42	16	46
740	22	46	22	50
760	30	50	30	50
780	34	54	34	54
800	36	56	36	56
820	38	58	38	58
840	38	58	38	58
860	40	60	40	60

Table V: Infrared Spectral Reflectance Requirements for Woodland MARPAT (Class 2)

WAVELENGTH (nm)	REFLECTANCE (%)					
	Coyote 476		Green 474 & Khaki 475		Black 477	
	Min	Max	Min	Max	Min	Max

600	8	20	3	9	---	---
620	8	20	4	9	---	---
640	8	20	5	9	---	---
660	8	20	6	12	---	---
680	10	30	7	14	---	---
700	18	50	8	28	---	20
720	22	54	9	44	---	30
740	30	56	10	52	---	33
760	35	58	11	56	---	33
780	40	62	12	56	---	34
800	55	80	13	56	---	34
820	55	80	14	60	---	35
840	55	82	15	60	---	35
860	60	82	16	60	---	35

Table VI: Infrared Spectral Reflectance Requirements for Desert MARPAT (Class 3)

WAVELENGTH (nm)	**REFLECTANCE (%)**					
	Lt. Tan 479		**Lt. Coyote 481 Highland 480**		**Urban Tan 478**	
	Min	Max	Min	Max	Min	Max
700	38	53	19	36	25	48
720	38	58	20	36	25	52
740	39	62	20	36	25	54
760	40	66	21	36	26	56
780	41	72	21	38	27	57
800	43	76	22	43	28	58
820	45	76	23	45	30	58
840	48	78	24	46	33	58
860	50	78	25	46	36	59

Table VII: Infrared Spectral Reflectance Requirements for Snow MARPAT (Class 4)

WAVELENGTH (nm)	**REFLECTANCE (%)**					
	White Snow 506		**Light Snow Gray 507**		**Medium Snow Gray 508**	
	Min	Max	Min	Max	Min	Max
600	80	98	46	66	28	36

620	80	98	47	66	30	40
640	78	98	48	66	30	44
660	78	98	49	68	34	44
680	78	98	50	72	36	48
700	78	98	51	72	40	56
720	78	98	52	72	40	56
740	78	98	53	72	42	56
760	78	98	54	72	44	56
780	78	98	55	74	46	58
800	78	98	56	74	46	60
820	78	98	57	76	48	64
840	76	99	58	76	48	66
860	76	99	59	76	50	66

Table VIII: Infrared Spectral Reflectance Requirements for OCP (Class 5)

WAVELENGTH (nm)	**REFLECTANCE (%)**					
	Cream 524 Tan 525		**Pale Green 526 Olive 527, Brown 529**		**Dark Green 528 Dark Brown 530**	
	Min	Max	Min	Max	Min	Max
600	22	44	10	30	3	12
620	24	45	11	30	3	12
640	24	45	11	32	4	12
660	25	45	12	32	4	13
680	28	48	14	35	4	18
700	28	54	19	40	6	25
720	30	58	22	43	6	27
740	32	60	25	46	10	29
760	36	61	27	48	14	33
780	38	62	28	50	18	36
800	40	62	29	50	20	37
820	44	65	30	51	20	38
840	46	66	32	51	21	39
860	48	67	33	52	21	40

Table IX: Infrared Spectral Reflectance Requirements for 4 Color Webbing

WAVELENGTH (nm)	REFLECTANCE (%)					
	Tan 499		Olive 527 Brown 529		Dark Green 528	
	Min	Max	Min	Max	Min	Max
600	8	20	10	30	3	12
620	8	20	11	30	3	12
640	8	22	11	32	4	12
660	8	24	12	32	4	13
680	12	24	14	35	4	18
700	12	34	19	40	6	25
720	16	42	22	43	6	27
740	22	46	25	46	10	29
760	30	50	27	48	14	33
780	34	54	28	50	18	36
800	36	56	29	50	20	37
820	38	58	30	51	20	38
840	38	58	32	51	21	39
860	40	60	33	52	21	40

Table X: Infrared Spectral Reflectance Requirements for Acetal Hardware

WAVELENGTH (nm)	REFLECTANCE (%)			
	Coyote 498		Tan 499	
	Min.	Max.	Min.	Max
600	8	20	16	26
620	8	20	18	26
640	8	22	20	30
660	8	24	22	34
680	12	24	26	38
700	12	34	30	40
720	16	42	32	46
740	22	46	36	50
760	30	50	36	54
780	34	54	38	58
800	36	56	40	59
820	38	58	42	60
840	38	58	44	60

860	40	60	48	60

Table XI: Infrared Spectral Reflectance Requirements for Black 357

WAVELENGTH (nm)	REFLECTANCE (%)	
	Min	Max
700	N/A	20
720	N/A	30
740	N/A	33
760	N/A	33
780	N/A	34
800	N/A	34
820	N/A	35
840	N/A	35
860	N/A	35

3.13 Support and Ownership Requirements. Each component of the FILBE shall meet the following support and ownership requirements.

3.13.1 Identification and instruction label. Each component of the FILBE shall have an identification and instruction label (exceptions noted) conforming to MIL-DTL-32075. Labels shall be readable under low light conditions; moonlight and red or blue filtered flashlight. The label shall be permanently affixed (i.e. sewn). The label shall be of sufficient strength to withstand repeated abrasion during field use and cleaning. The color of the label shall be Coyote 498 and the marking medium shall be black. The printing shall be legible and shall not show off- setting, smearing or bleeding. All printing shall be in capitals except where otherwise indicated on the instruction label. Size of the characters shall be in accordance with MIL-STD-130N. The identification portion of the label shall contain item description, National Stock Number (NSN), contract number, lot number and contractor's name.

3.13.2 Health and Safety. Each FILBE component shall be safe to use and not contain any harmful materials. FILBE components shall be non-hazardous (non-explosive and have no toxicological or electromagnetic radiation effects) to the user and/or to any troops in the surrounding area.

3.13.3 Hazardous Materials. Hazardous materials that can be exposed to personnel or the environment during any operational (to include fabrication, transportation, and setup/tear down) or maintenance procedures, or exposed as a result of damage to equipment, or requiring special disposal procedures, shall be eliminated, consistent with operational requirements. Environmentally acceptable substitutes shall be used without degrading operational function and maintaining cost effectiveness. Hazardous material exposed to personnel shall be controlled to levels below the Occupational Safety and Health

Administration Permissible Exposure Limits. FILBE components shall not present any uncontrolled health hazard throughout the component's life-cycle. The following shall be included when manufacturing the FILBE:

a. Avoid use of materials that cause skin irritation or allergies.
b. Utilize materials that are resistant to fungus and bacterial growth.
c. Allow for easy cleaning and/or replacement of parts that could present health hazards to the wearer.

3.13.4 Responsibility for compliance. All items shall meet all requirements of section 3 and 4 of this specification. The absence of any inspection requirements shall not relieve the contractor of the responsibility of ensuring that all items submitted to the government for acceptance shall comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the government to accept defective material. If there is a conflict between the stated requirements and the ANSI standard, the more restrictive requirement shall apply.

4. VERIFICATION

4.1 General. This section establishes the verification methods that will be used to ensure the requirements of Section 3 are met.

4.2 Classification of Inspections. The inspection requirements specified herein shall be classified as outlined below. Unless otherwise specified, the contractor is responsible for the performance of all inspection requirements specified herein. The Government reserves the right to perform any of the inspections set forth in this document where such inspections shall be deemed necessary to ensure the supplies conform to prescribed requirements.

a. First Article Test (see paragraph 4.3)
b. Quality Conformance Inspection (see paragraph 4.4)

4.3 First article test. For FAT, the end item shall be examined for design and construction (Section 3), compatibility and interchangeability of components, inspection requirements (see 4.6), data, certificate, or compliance for testing requirements (see 4.4, 4.5, and 4.6), and overall workmanship (see 4.6, 4.7, and 4.8).

4.4 Quality conformance inspection. Unless otherwise specified, at a minimum, the contractor's quality plan shall be performed in accordance with ANSI/ASQ Z1.4 with the inspection level as specified in the contract or solicitation. The lot size shall be expressed in units of complete systems or individual components (when components are purchased separately). A sample unit shall be one (1) system. Quality Conformance Inspection shall be in accordance with paragraphs 4.5, 4.6, 4.7, and 4.8.

4.5 Requirements and Verifications. The following are performance requirements

verified through visual methods, including physical measurements in order to determine that no deficiencies exist. Table XII outlines the requirement and the corresponding verification paragraph.

Table XII: Requirements and Verifications

Characteristic	Requirement Paragraph	Verification Paragraph	FAT	LAT/Conformance Lot Inspection
System Requirements	***3.2***	4.6		
Fit	3.2.1	4.8	X	N/A
Compatibility	3.2.2	4.6.1	X	COC
Empty Weight	3.2.3	4.6.2	X	X
Care and Use Manual	3.2.4	4.6	X	X
Defects	3.2.5	4.6.3	X	X
Dimensions	3.2.6	4.6.4	X	X
Berry Compliant	3.2.7	4.6	X	COC
USMC Pack System	3.3		X	X
Main Pack Frame Shoulder Harness Assy. Hip Belt Main Bag	3.3.1 3.3.1.1 3.3.1.2 3.3.1.3 3.3.1.4	4.6, 4.6.5.3 (radio pouch)	X	X
Assault Pack	3.3.2	4.6	X	X
Assault Pouch	3.3.3	4.6	X	X
Sustainment Pouch	3.3.4	4.6	X	X
Hydration Pouch	3.3.5	4.6	X	X
Hydration Carrier	3.3.6	4.6	X	X
Hydration Bladder System Hydration Bladder Hydration Tube Tube Holder Hydration Bite Valve	3.3.7 3.3.7.1 3.3.7.2 3.3.7.3 3.3.7.4	4.6	X	X
Sternum Cinch	3.3.8	4.6	X	X
Sub-Belt	3.3.9	4.6	X	X
Repair Kits	3.3.10	4.6	X	X
Instruction Card	3.3.11	4.6	X	X
Load Weight	3.3.12	4.8.1	X	N/A
Chest Rig	3.4	4.6	X	X
Equipment Pouches	3.5	4.6	X	X
Illumination Flare Single Pouch	3.5.1	4.6, 4.6.5.8	X	X
Shotgun Ammunition Pouch	3.5.2	4.6, 4.6.5.5	X	X
Utility/SAW Pouch	3.5.3	4.6, 4.6.5.7	X	X

Smoke Grenade Pouch	3.5.4	4.6, 4.6.5.11	X	X
M67 Grenade Pouch	3.5.5	4.6, 4.6.5.4	X	X
Magazine Dump Pouch	3.5.6	4.6, 4.6.5.10	X	X
9mm, 15 Round, Magazine Pouch	3.5.7	4.6, 4.6.5.2	X	X
M16/M4 Speed Reload Pouch	3.5.8	4.6, 4.6.5.9	X	X
40mm Grenade Pouch	3.5.9	4.6, 4.6.5.6	X	X
M16/M4 Double/Single Magazine Pouch	3.5.10	4.6, 4.6.5.1	X	X
USMC Holster System	3.6	4.6	X	X
Holster System Right Hand Configuration	3.6.1	4.6	X	X
Holster System Left Hand Configuration	3.6.2	4.6	X	X
Holster System Components	3.6.3	4.6	X	X
Corpsman Assault System	3.7	4.6	X	X
Medical Assault Pack	3.7.1	4.6	X	X
Medical Sustainment Bag	3.7.2	4.6	X	X
Medical Thigh Rig	3.7.3	4.6	X	X
Modular Medical Pouch	3.7.4	4.6	X	X
Medical Inserts Narc Pouch	3.7.5 3.7.5.1	4.6	X	X
Medium Pouch Large Pouch Small Reversible Pouch Medium Rev. Pouch Elastic Panel Double Pocket Panel Triple Pocket Panel Stacked Pocket Panel	3.7.5.2 3.7.5.3 3.7.5.4 3.7.5.5. 3.7.5.6 3.7.5.7 3.7.5.8 3.7.5.9			
Standard Sample	3.8	4.6	X	N/A
Materials and Components	3.9	4.7	X	
Hardware Barrel locks Buckles D-Rings Eyelets Fasteners Grommets Oval Slide Ring Buckles, Friction	3.9.1 3.9.1.1 3.9.1.2 3.9.1.3 3.9.1.4 3.9.1.5 3.9.1.6 3.9.1.7 3.9.1.8 3.9.1.9	4.7	X	COC
Foam	3.9.2	4.7	X	COC

Stiffener	3.9.3	4.7	X	COC
Webbing and Tapes	3.9.4	4.7	X	COC
Webbing, elastic	3.9.5	4.7	X	COC
Fasteners, hook and loop	3.9.6	4.7	X	COC
Cloth	3.9.7	4.7	X	COC
Thread	3.9.8	4.7	X	COC
Fastener, Slide	3.9.9	4.7	X	COC
Cord	3.9.10	4.7	X	COC
Construction	3.10	4.6	X	
Hook and Loop fastener	3.10.1	4.6	X	X
Stitching	3.10.2	4.6	X	X
Automatic Stitching	3.10.3	4.6	X	X
Bartacks	3.10.4	4.6	X	X
Bartack Alignment for PALS	3.10.5	4.6	X	X
Buttonholes	3.10.6	4.6	X	X
Snap Setting	3.10.7	4.6	X	X
Snap Fastener Reinforcement	3.10.8	4.6	X	X
Binding	3.10.9	4.6	X	X
Physical Requirements of Cloth	3.11	4.7	X	
Color Matching	3.11.1	4.7	X	COC
Colorfastness	3.11.2	4.7	X	COC
Hydrostatic Resistance	3.11.3	4.7	X	COC
Performance	3.12	4.8	X	
Function	3.12.1	4.8.1	X	N/A
Reliability	3.12.2	4.8.1	X	N/A
Durability	3.12.3	4.8.2	X	COC
Environment	3.12.4	4.8.3	X	N/A
Compatibility	3.12.5	4.8.1	X	COC
Pouch Attachment	3.12.6	4.6	X	X
Drainage	3.12.7	4.6	X	X
Quick Release Mechanism	3.12.8	4.6	X	X
Spectral Reflectance	3.12.9	4.8.4	X	COC
Support and Ownership Requirements	***3.13***		X	
Identification and Instruction Label	3.13.1	4.9	X	X
Health and Safety	3.13.2	4.9	X	COC
Hazardous Materials	3.13.3	4.9	X	COC
Responsibility for Compliance	3.13.4	4.9	X	

4.5.1 Certificate of compliance. Certificates of Compliance (COC) shall be provided when

requested by the Government. The Government reserves the right to inspect any item to determine the validity of the certification.

4.6 Inspection of system end item. The system shall be visually inspected for conformance to the requirements in section 3.

4.6.1 Compatibility. FILBE components shall be examined to verify compatibility between components (attaching/detaching).

4.6.2 Weight measurement. Each FILBE component will be examined for weight. Weights shall be taken on a tared scale and measured to the nearest 0.01 lb.

4.6.3 End item visual inspection. The end items shall be inspected for the defects listed in Table XIII. The lot size shall be expressed in units of complete systems, or individual components (when components are purchased separately). A sample unit shall be one (1) complete system or individual component. The number of sample units selected for sampling shall be dictated by the inspection level as specified in the contract or solicitation. The number of allowable major or minor defects shall be as specified in the contract or solicitation.

Table XIII: End Item Visual Examination

EXAMINE	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
Fabric	Hole, cut, tear, smash, broken or missing yarn, or open place clearly visible at normal inspection distance (approximately 3 feet).	101	
	Shade bar or abrasion mark.		201
	Defective or partially omitted coating		202
Webbing	Any hole, cut, tears, or smash.	102	
	Not firmly and tightly woven, edges frayed or scalloped.	103	
	Multiple floats		203
	Abrasion mark, slub, or broken end or pick.	104	
	Cut ends of webbing not fused as specified.	105	
Fastener Tape	Any hole, cut, or tear.	106	
	Hooks flattened, broken, or missing. Impairing function.	107	
Hardware	Broken or malformed, failing to serve intended purpose, corroded area, burr or sharp edge.	108	
	Finish omitted, not as specified, or area of partial or no finish.	110	
	Any required component improperly installed causing failure to serve intended purpose.	111	
	Not assembled as specified.	112	
	Size or type not as specified.		205

Snap Fasteners	Any fastener not functioning properly. I.e. fails to snap closed, provide a secure closure, or to open freely. NOTE: The fasteners shall be snapped and un-snapped twice to determine whether parts of fastener separate freely; and also affect a secure closure.	113	
	Clinched excessively tight, cutting adjacent material.	114	
	Clinched loosely, permitting any component to rotate freely.		206
	Clinched loosely to the degree that components can be expected to become detached during use. NOTE: Incomplete roll of end of button or eyelet barrel is evidence of improper and insecure clinching.	115	
	Incorrect style.	116	
	Any splits in eyelet or button barrels.		207
Drawstrings	Cut, chafed, or abraded.	117	
	Ends not fused.		208
	Not threaded through grommets or knotted as specified.		209
	Omitted.	118	
Barrel Lock	Not as specified.		210
Sub-Assemblies/ Components	Not attached as specified.		211
Grommets and Eyelets	Clinched excessively tight, cutting adjacent material.	119	
	Insecurely clinched to a degree that grommet or eyelet may be detached from material.	120	
	Washer installed on incorrect side of material.		212
	Eyelet barrel split.		213
Slide Fastener	Not functioning properly, failing to effect a secure closure or to open freely.	121	
	Not specified type or size.		214
	Slider jams or fails to interlock.	122	
	Thong omitted (if applicable).	123	
	Fastener tape cut or torn.	124	
SEAMS AND STITCHING:			
Open Seam/Run-Off	1/2-inch or less.		215

	More than 1/2-inch. NOTE: A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more consecutive skipped or run-off stitches occur. On double stitched seams, a seam shall be considered open when either one or both sides of the seam are open.	125	
Raw Edge (on edge required to be finished)	More than 1/2-inch when securely caught in stitching. NOTE: Raw edge not securely caught in stitching shall be classified as an open seam.		216
Seam and Stitch Type	Wrong seam or stitch type.	126	
Bartacks	Any bartack omitted.	127	
	Any bartack not as specified or not in specified location.		217
	Loose stitching, incomplete or broken.		218
Stitch Tension	Loose, resulting in loose bobbin or top thread.		219
	Excessively tight, resulting in puckering of material.		220
Stitches per inch	Up to two stitches less than minimum specified.		221
	Three or more stitches less than minimum specified.	128	
	One or more stitches in excess of maximum specified. NOTE: Variation in the number of stitches per inch caused by the operator speeding up the machine and pulling the fabric in order to sew over heavy seams, or in turning corner shall be classified as follows: a) Within the minor defect classification no defect. b) Within the major defect classification minor defect.		222
Stitching Ends	Not secured as specified.		223
Thread Breaks, Skipped Stitches, or Run-Offs	Not overstitched as specified. NOTE: Thread breaks or two or more consecutive skipped or run-off stitches not overstitched shall be classified as open seams.		224
Rows of Stitching	Any row missing except on box, and box-x stitching.	129	

	On box, and box-x stitching: - one row of stitching omitted. - two or more rows of stitching omitted.	130	225
Component and Assembly	Any component part omitted or not as specified or any operation omitted or not as specified (unless otherwise classified herein).	131	
	Any component or assembly not in accordance with specified drawings.	132	
	Needle chews.	132	
	Any mend, darn, patch, splice or other unauthorized repair.	133	
	Any material pleated or caught in stitching where not specified.		226
Plastic frame; Stiffener or Film	Chip, cut, crack, splinter, broken end or space, failing to serve intended purpose.	134	
	Edges not rounded in accordance with patterns.		227
	Sharp, rough finish on edge of stiffeners.		228
Binding	Loosely applied but not exposing raw edge of material.		229
	Loosely applied exposing raw edge of material.	135	
	Ends of binding on pocket flap and on ammunition pockets not caught in seams.		230
	Ends of binding on pocket flap and on grenade pockets not caught in seams.		231
Darts (on pouch pocket flaps)	Not formed and sewn separately on pouch pocket flap as specified	136	
	One or more omitted.		232
Pouch, Pocket and Flap	Flaps improperly set or distorted failing to affect a full and smooth closure.	137	
	Pocket or flap not formed as specified.		233
	Binding tape not securely attached.		234
Cleanness	Grease, oil, dirt or ink stains clearly noticeable.		235
	Thread ends not trimmed as specified.		236
Location Markings	Drilled or Permanent	138	
	Printed marking more than 1/32 inch in width or not covered by component part.		237
Identification and Instructions	Omitted, incorrect, illegible, or misplaced, or size of characters not as specified.		238
Manual and Checklist	Omitted, incorrect, illegible.		239
Color	Incorrect shade, not matching	139	

4.6.4 Dimensional Examination. The completed systems or individual components shall be examined for the defects listed in Table XIV. A sample unit shall be one (1) complete system or individual component. The number of sample units selected for sampling shall be dictated by the inspection level as specified in the contract or solicitation.

Table XIV: End Item Dimensional Examination

EXAMINE	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
Dimensions (overall)	Smaller than nominal dimensions and applicable minus tolerance indicated on drawings.	140	
	Larger than nominal dimensions and applicable plus tolerance.	141	
Component and Location Dimensions	Not within specified tolerance.		240
Stitch Margin or Gage	Not within specified tolerance.		241
Box, Box-x and Stitching	Dimensions not within specified tolerance.		242
Eyelets	Not spaced on equipment within specified dimensions.		243
Grommets	Set off center on hems by more than 1/4-inch.	142	

4.6.5 End item fit examination. When specified, the completed systems or individual components shall be examined for the defects listed in Table XV. A sample unit shall be one (1) complete system or individual component. The number of sample units selected for sampling will be dictated by the inspection level as specified in the contract or solicitation. The gauges used to determine proper fit of the magazine clips and the grenades, if applicable, shall be furnished by the Government. The gauges shall be constructed in accordance with drawings 2-1-2242; 2-1-2243; 2-6-110; and 2-6-111 through 2-6-114.

Table XV: End Item Fit Examination

EXAMINE	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
Gauge fit into pocket/ pouches & closure of flaps	Failure of gauge to fit properly within pocket/pouches without excessive force. Inability to completely close flap down in order to secure the fastener without applying excessive force.	143	

4.6.5.1 Thirty Round M4/M16 Magazine Pouch fit. Two M4/M16 magazine gauges shall be inserted into the appropriate magazine pouches. The open ends of the gauges shall face down with the outline of the ammunition at the closed end and be able to be orientated to either the left or right. The gauges shall be inserted into the pouch without effort other than

that necessary to overcome reasonable friction between the gauges and the pocket. A defect shall be scored if any gauge must be forced into the pocket. With the gauge(s) in the pocket, the pocket flap shall be closed and the fastener(s) secured. A defect shall be scored if the pocket body or the flap is too short causing inability to secure the fastener without applying excessive force to the flap to secure the fastener(s).

4.6.5.2 9mm, 15 Round, Magazine Pouch fit. A 9mm magazine gauge shall be inserted into the 9mm magazine speed reload pouch. The top flap shall be in the speed reload position and the pouch inverted. The pouch shall retain the magazine without any slippage. A defect shall be scored if the pouch does not fully retain the magazine gauge when inverted.

4.6.5.3 SINCGARS/ASIP Radio Pouch fit. A SINCGARS gauge measuring 10-3/4 x 14-1/2 x 3-1/2 inches shall be inserted lengthwise into the radio pouch to determine proper fit of the radio. The ASIP gauge shall measure 5-3/8 x 3-3/8 x 10-inches. The gauges shall be fully inserted within each pouch without effort other than that necessary to overcome reasonable friction between the gauge and the pouch. A defect shall be scored if the gauge fails to fit properly within the pouch.

4.6.5.4 Grenade Pouch Fit. A M67 grenade gauge shall be inserted into the pouch with the safety pin on top. The gauge shall be fully inserted within each pouch without effort other than that necessary to overcome reasonable friction between the gauge and the pouch. A defect shall be scored if the gauge must be forced into the pouch.

4.6.5.5 Shotgun Ammunition Pouch fit. A 12-gauge shotgun shell or dummy round shall be inserted into each of the elastic loops. Each shell or dummy round shall be cylindrical in shape measuring 51/64 (± 1/64) inches in diameter and 2-13/32 (± 1/32) inches long. The shell or dummy round must be fully inserted within each loop without effort other than that necessary to overcome reasonable friction between the shell or dummy round and the elastic webbing. The loaded panel shall be shaken three (3) times in a sharp downward motion. If any shotgun shell or dummy rounds come loose, a defect shall be scored.

4.6.5.6 40mm Grenade Pouch fit. The 40mm pyrotechnic and high explosive grenade gauges shall be inserted into each high explosive grenade pouch. The flat ends of the fit gauges shall face towards the tab/flap of the pouch. A defect shall be scored if the gauge must be forced into the pouch.

4.6.5.7 Utility/SAW Pouch fit. A wooden gauge measuring 5-9/16 inch x 4-5/8 inch x 2-5/8 inch that represents a 100 round 7.62mm Linked Ammunition box shall be inserted lengthwise into the Utility/SAW pouch to determine proper fit. The gauge shall be fully inserted within each pocket without effort other than that necessary to overcome reasonable friction between the gauge and the pouch. A defect shall be scored if the gauge fails to fit properly within the pouch. A wooden block 7-3/4 inch x 6-1/2 inch x 3-1/8 inch representing a 200 round SAW drum shall be inserted lengthwise into the 200 round SAW drum pouch to determine proper fit. The gauge shall be fully inserted within each pouch without effort other than that necessary to overcome reasonable friction between the gauge and the pouch. A defect shall be

scored if the drum fails to fit.

4.6.5.8 Ground Illumination Flare Single (Pop Up) Pouch fit. A dummy ground illumination flare shall be inserted into the pouch with the cap facing up without effort other than that necessary to overcome reasonable friction between the flare and the pouch. A defect shall be scored if the flare fails to fit properly.

4.6.5.9 Thirty Round M4/M16 Speed Reload Pouch fit. A dummy or actual thirty (30) round M4/M16 magazine shall be inserted into the pouch without effort other than that necessary to overcome reasonable friction between the magazine and the pouch. A defect shall be scored if the magazine fails to fit properly.

4.6.5.10 Magazine Dump Pouch fit. Eight dummy or actual thirty (30) round M4/M16 magazines shall be inserted into the pouch without effort other than that necessary to overcome reasonable friction between the magazine and the pouch. A defect shall be scored if the magazines fails to fit properly.

4.6.5.11 Smoke Grenade Pouch fit. A dummy smoke grenade shall be inserted into the pouch without effort other than that necessary to overcome reasonable friction between the grenade and the pouch. A defect shall be scored if the grenade fails to fit properly.

4.7 Material tests. The finished foams, stiffeners, webbings, tapes, cloths and threads shall be tested for the characteristics listed in Table XVI.

Table XVI: Material Tests

Characteristic	Paragraph Referenced	Test Method
Hardware (see 3.9.1)		
Dimensions/ Size	3.9.1, 3.9.3, 3.9.4	Physical Measurement (Paragraph 4.6.4)
Color	3.9.1	Visual Inspection (Paragraph 4.6.3)
Spectral reflectance	3.9.1; 3.12.9; Table X	4.8.4
Foam (see 3.9.2)		
Thickness	3.9.2	ASTM D3575
Color	3.9.2	Visual Inspection
Density (lb./ft³)	3.9.2.3 and 3.9.2.4	ASTM D3575
Compression Strength (psi) @ 25% deflection @ 50% deflection	 3.9.2.3 and 3.9.2.4 3.9.2.3 and 3.9.2.4	 ASTM D3575 ASTM D3575
Elongation at Break (%)(min)	3.9.2.3 and 3.9.2.4	ASTM D3575
Tear Resistance (lb./in)(min)	3.9.2.3 and 3.9.2.4	ASTM D3575
Water Absorption of Surface (lb./ft²)(max)	3.9.2.3 and 3.9.2.4	ASTM D3575
Density (lb./ft³)	3.9.2.7 and 3.9.2.8	ASTM D3574

Indentation Force Deflection (lb./50 in²) @ 25% deflection @ 65% deflection	 3.9.2.7 and 3.9.2.8 3.9.2.7 and 3.9.2.8	 ASTM D3574 ASTM D3574
Elongation at Break (%)(min)	3.9.2.7 and 3.9.2.8	ASTM D3574
Tensile Strength (psi)(min)	3.9.2.7 and 3.9.2.8	ASTM D3574
Stiffeners (see 3.9.3)		
Thickness	3.9.3	Physical Measurement (Paragraph 4.6.4)
Color	3.9.3	Visual Inspection (Paragraph 4.6.3)
Webbing and Tape (see 3.9.4)		
Color	3.9.4	Visual Inspection (Paragraph 4.6.3)
Visual color matching	3.9.4 and 3.11.1.1	1/
Dimension/size	3.9.4.1 to 3.9.4.10	Physical Measurement (Paragraph 4.6.4)
Spectral reflectance	3.9.4; 3.12.9; Table IV-Table XI	4.8.4
1-inch webbing	3.9.4.1	A-A-55301
1.5-inch webbing	3.9.4.2	A-A-55301
Weight	3.9.4.2	ASTM D 3776
Thickness	3.9.4.2	ASTM D 1777
Spectral reflectance	3.9.4.2; 3.12.9; Table IV-Table XI	4.8.4
2-inch webbing	3.9.4.3	MIL-W-17337
Weight	3.9.4.3	ASTM D 3776
Breaking strength	3.9.4.3	ASTM D 5035
Thickness	3.9.4.3	ASTM D 1777
Yarns per inch (filling)	3.9.4.3	ASTM D 3775
Warp Ends	3.9.4.3	ASTM D 3775
Binder ends	3.9.4.3	ASTM D 3775
Spectral reflectance	3.9.4.3; 3.12.9; Table IV-Table XI	4.8.4
3- inch webbing	3.9.4.4	MIL-W-17337
0.75-inch webbing	3.9.4.5	MIL-W-17337
Weight	3.9.4.5	ASTM D 3776
Breaking strength	3.9.4.5	ASTM D 5035
Thickness	3.9.4.5	ASTM D 1777
2-inch webbing	3.9.4.6	MIL-W-4088
0.5-inch webbing	3.9.4.7	MIL-W-17337
Weight	3.9.4.7	ASTM D 3776
Breaking strength	3.9.4.7	ASTM D 5035
Thickness	3.9.4.7	ASTM D 1777
1-inch tape	3.9.4.8	MIL-PRF 5038

0.375-inch tape	3.9.4.9	MIL-PRF 5038
0.875-inch tape	3.9.4.10	MIL-PRF 5038
Webbing, elastic (see 3.9.5)		
Color	3.9.5	Visual Inspection (Paragraph 4.6.3)
Colorfastness to:		
Laundering	3.9.5 and 3.11.2	AATCC-61 3/
Light (40 hours or 170 kJ)	3.9.5 and 3.11.2	AATCC-16.2 or 16.3
Crocking	3.9.5 and 3.11.2	AATCC 8
Dimension/size	3.9.5.1 to 3.9.5.5	Physical Measurement (Paragraph 4.6.4)
Thickness	3.9.5.1 to 3.9.5.5	ASTM D 1777
Spectral reflectance	3.9.5; 3.12.9; Table IV-Table XI	4.8.4
1-inch elastic webbing	3.9.5.1	FED-STD-191
Hook and Loop (see 3.9.6)		
Color	3.9.6	Visual Inspection (Paragraph 4.6.3)
Dimension/size	3.9.6	Physical Measurement (Paragraph 4.6.4)
Spectral reflectance	3.9.6; 3.12.9; Table IV-Table XI	4.8.4
Fabric (see 3.9.7) (all Classes)		
Color	3.9.7	Visual Inspection (Paragraph 4.6.3)
Spectral reflectance	3.9.7; 3.12.9; Tables IV-XI	4.8.4
Nylon (420 D)	3.9.7.4	
Weight	3.9.7.4	ASTM D 3776 option C
Yarns per inch	3.9.7.4	ASTM D 3775
Breaking strength	3.9.7.4	ASTM D 5034
Dimensional Shrinkage	3.9.7.4	2/
Colorfastness to:		
Laundering, after 3 cycles	3.9.7.4 and 3.11	AATCC-61 3/
Laundering (accelerated black print	3.9.7.4 and 3.11	AATCC-61 3/
Perspiration (acid and alkaline) (Class 2, 3, 4 and 5	3.9.7.4 and 3.11.2	AATCC-15
Light (40 hours or 170 kJ)	3.9.7.4 and 3.11.2	AATCC-16.2 or 16.3
Crocking	3.9.7.4 and 3.11.2	AATCC-8
Resistance to frosting, for carbon black	3.9.7.4 and 3.11.2	AATCC-119 4/
Water repellency: Spray rating	3.9.7.4	AATCC-22
Hydrostatic resistance	3.11.3	AATCC-127

Nylon, mesh	3.9.7.5	MIL-C-8061
Thread (see 3.9.8)		
Color	3.9.8	Visual Inspection (Paragraph 4.6.3)
Breaking strength	3.9.8	ASTM D 204

1/ when viewed using the AATCC Evaluation Procedure 9, Option A, with sources simulating artificial daylight D75 illuminant with a color temperature of 7500 (± 200)°K illumination of 100 (± 20) foot candles, and shall be a good match to the standard sample under incandescent lamplight at 2856 (± 200)°K.
2/ As specified in contract.
3/ Use Test 1A, Table I with the following changes: Temperature = 100 (± 4)°F, total liquid volume is 100 ml, time = 30 minutes.
4/ Except that the number of abrasion cycles shall be 300.

4.8 Performance verification.

4.8.1 Verification Tests. Verification field tests may be conducted to verify requirements in Section 3 for which standard test methods are not available. The following requirements shall be verified via field tests:

a. Compatibility with clothing and equipment.
b. Compatible with individual airborne equipment items and rigging procedures.
c. Individual components - Not impede head rotation while standing or in prone position.
d. Individual components - Not impede shouldering or firing weapons in all firing position.
e. Ease of attaching/detaching components.
f. Secure connection of components to vest and frame.
g. Durability of thread/stitching and fabric.
h. Easily field repairable.
i. Carry varied combat loads up to 120 pounds through multiple mission profiles.
j. Main pack and frame withstand Airdrop Slide Impact test (see 4.5.7.1).
k. Fit 2nd percentile female through 98th percentile male Marine population.
l. Service Life

4.8.2 Durability verification.

4.8.2.1 Airdrop slide impact test. The main pack with frame, hip-belt and shoulder harness shall be uniformly loaded with sand bags and cloth ballast to a capacity of 120 pounds. The loaded pack shall be slid down a wire at 45 degrees from vertical and reach a final velocity of 31 to 34 feet per second upon impacting the surface. The test shall be conducted three (3) times with impact on the frame and an additional three (3) times with impact on the main pack. Both slide impact tests shall be conducted on asphalt or concrete surfaces. There shall be no rupture of seams or visual damage to the frame, fabric or components. The sample unit shall be one (1) frame and one (1) main pack.

4.8.2.2 Free fall drop test. The main pack with frame, hip-belt and shoulder harness shall be uniformly loaded with sand bags and cloth ballast to a capacity of 120 pounds. From a height of 10 feet, the loaded pack shall be dropped three (3) times with impact on the frame. The same item shall be dropped from a height of 10 feet an additional three (3) times with impact on the main pack. Both drop tests shall be conducted on asphalt or concrete surfaces. There shall be no rupture of seams or visual damage to the frame, fabric or components. The sample unit shall be one (1) frame and one (1) main pack.

4.8.3 Environmental resistance verification.

4.8.3.1 Resistance to chemical and fluids. The systems compliance with 3.12 4.1 shall be verified by applying the specified chemicals to various surfaces and components of the system and allowing it to rest for a period of at least four hours. After the rest period has expired, the system shall be washed and inspected for any damage or loss of functionality.

4.8.3.2 Operating Temperature. The system compliance with 3.12.4.2 shall be verified by placing the system into a temperature chamber programmed to reach the extremes of the specified operating temperature range per the guidelines of MIL-STD-810G Methods 501.5 and 502.5 Procedure II (Operation). When the temperature cycle is complete, the thermal chamber shall be returned to room temperature and the system and system hardware shall be inspected for physical damage or loss of functionality.

4.8.3.3 Sand and Dust. The system compliance with 3.12.4.3 shall be verified by the conducting the procedures outlined in MIL-STD-810G Method 510.5 Test Procedure I (Blowing Dust) and Test Procedure II (Blowing Sand). The system and system hardware shall be inspected for physical damage or loss of functionality at the conclusion of each procedure.

4.8.3.4 Salt Fog. The system compliance with 3.12.4.4 shall be verified by the procedure outlined in MIL-STD-810G method 509.5. The system and system hardware shall be inspected for physical damage or loss of functionality at the conclusion of each procedure.

4.8.3.5 Fungus. The system compliance with 3.12.4.5 shall be verified through the use of certified materials and coupon sampling. Tests shall be performed in accordance with Method 508.6 of MIL-STD-810.

4.8.4 Spectral Reflectance Measurements. Spectral reflectance data shall be obtained from 700 to 860 nanometers (nm) at 20 nm intervals for Desert MARPAT and 600 to 860 nanometers (nm) at 20 nm intervals for all other classes, on a spectrophotometer (see 6.3) relative to a barium sulfate standard, the preferred white reference standard. Other white reference materials may be used, provided they are calibrated to absolute white; e.g., Halon, magnesium oxide, or vitrolite tiles (see paragraph 6.4). Reflectance measurements may be made by either the monochromatic or polychromatic mode of operation. When the polychromatic mode is used, the spectrophotometer shall operate with the specimen diffusely illuminated with the full emission of a source that simulates either CIE Source A or CIE Source D65. Measurements shall be taken on a minimum of two (2) different areas and the data averaged. The measured areas should be at least 6.0 inches away from the selvage. The

specimen shall be measured as a single layer backed with layers of the same fabric and shade as follows: Class 1, Coyote 498, three (3) backing layers shall be used; Class 2, Woodland MARPAT, four (4) backing layers for Green 474, Khaki 475 and Coyote 476 and two (2) backing layers for Black 477; Class 3, Desert MARPAT, four (4) backing layers of the same shade; Class 4, Snow MARPAT, six (6) backing layers of the same shade; Class 5, Universal Camouflage Pattern, four (4) backing layers of the same shade. Loop fastener tape shall be measured as a single layer. The specimen shall be viewed at an angle not greater than 10 degrees from normal with the specular component included. Photometric accuracy of the spectrophotometer shall be within 1 percent and wavelength accuracy within 2.0 nm. The standard aperture size used in the color measurement device shall be 1.0 to 1.25 inches in diameter for Class 1 – Coyote 498 and 0.3725 inches or larger for Class 2 – Woodland MARPAT, Class 3 – Desert MARPAT, Class 4 – Snow MARPAT and Class 5 – OCP. When the measured reflectance values for any color at four or more wavelengths do not meet the limits specified in Table IV through XI it shall be a test failure.

4.9 Support and Ownership Verification.

4.9.1 Identification and Instruction Label. The label shall be inspected for conformance to requirement 3.13.1.

4.9.2 Health and Safety. The contractor shall provide information which certified that the system does not contain any harmful substances or provide any hazards to the user.

4.9.3 Hazardous Materials. The contractor shall provide information which certifies that the systems does not contain any hazardous materials.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order. When actual packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Department or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature, which may be helpful, but is not mandatory).

6.1 Intended Use. The FILBE system is intended for use by Marines for man-transportation of mission essential items.

6.2 Standard Samples, Specifications/Drawings and Pattern Drawings. For access to the standard samples of finished fabrics, address the contracting activity issuing the

invitation for bids or request for proposal.

6.3 Spectrophotometers. Suitable spectrophotometers for measuring spectral reflectance in the visible/near-infrared are the Diano Hardy, Diano Match Scan, Hunter D54-IR, Hunter VIS/NIR spectrocolorimeter and Macbeth 1500 with IR option.

6.4 Source of Material. Barium sulfate of suitable quality for use as white standard is available from Eastman Kodak Co. The same source has available magnesium reagent (ribbon) and Halon. Suitable tiles can be obtained from the National Bureau of Standards or from the instrument manufacturers.

6.5 Water Repellency. Approval of such compounds and combinations is the responsibility of the U.S. Army, Natick Soldier Center, Natick, MA 01760-5014, and is based on more extensive tests, including those for toxicity, which are not set forth in this document. Because of the time necessary to conduct full evaluation (approximately 6 months), only those chemical treatments already approved and so listed in the invitation for bids or request for proposal shall be considered acceptable for the related procurement.