

**U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE**

SPECIFICATION

PACK, PERSONAL GEAR

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for the personal gear pack and tent bag fabricated from coated nylon duck cloth, nylon webbing, and acetal plastic hardware.

1.2 Classification.

Personal Gear Pack
Tent Bag

2. APPLICABLE DOCUMENTS

of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

2.1.1 Government specifications and standards.

SPECIFICATIONS

FEDERAL

A-A-55126 - Fastener Tapes, Hook and Pile, Synthetic
A-A-55301 - Webbing, Textile, Textured or Multifilament Nylon
A-A-55634 - Zippers (Interlocking Slide Fasteners)
DDD-L-20 - Label: For Clothing, Equipment, and Tentage (General Use)
V-T-295 - Thread, Nylon
L-P-375 - Plastic Film, Flexible, Vinyl Chloride

MILITARY

MIL-W-4088 - Webbing, Textile, Woven Nylon

Beneficial comments (recommendations, additions, deletions) and any pertinent data that may be used in improving this document should be addressed to: USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59804-7294 by using the Specification Comment Sheet at the end of this document or by letter.

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USDA FOREST SERVICE

5100-86 - Cloth, Duck, Nylon (Polyurethane Coated)

STANDARDS

FEDERAL

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

FED-STD-376 - Preferred Metric Units for General Use By the Federal Government

(Unless otherwise indicated, copies of federal and military specifications and standards are

Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59804-7294.)

2.1.2 Government drawings. The following form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the solicitation or agreement.

DRAWINGS

USDA FOREST SERVICE

MTDC-667 - Pack, Personal Gear

MTDC-949 - Pack, Personal Gear, Tent Bag

(Copies are available from the USDA Forest Service, Missoula Technology and Development Center, Building 1, Fort Missoula, Missoula, MT 59804-7294.)

extent specified herein. Unless otherwise specified, the issues of these documents are those in effect on the date of the solicitation or agreement.

AMERICAN SOCIETY FOR QUALITY CONTROL (ASQC)

ANSI/ASQC Z1.4 - Sampling Procedures and Tables for Inspection By Attributes

(Copies are available from the American Society for Quality Control, 611 East Wisconsin Ave., Milwaukee, WI 53202.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 1974 - Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Shipping Containers

D 3951 - Standard Practice for Commercial Packaging

D 5118 - Standard Practice for Fabrication of Fiberboard Shipping Boxes

D 6193 - Standard Practice for Stitches and Seams

(Copies are available from ASTM, 100 Barr Harbor Dr., West Conshohocken, PA 19428-2959.)

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NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

National Motor Freight Classification

libraries or other informational services.)

2.3 Order of precedence. In the event of conflict between the text of this document and the

3. REQUIREMENTS

3.2.1 Cloth, duck, nylon (polyurethane coated). The nylon duck shall conform to type III of Forest Service specification 5100-86 and shall be bright red to match the standard shade sample (see 6.3).

3.2.2.1 3/4 inch. The 3/4 inch webbing shall conform to class 2 of MIL-W-17337. The color shall be black.

3.2.2.2 1 inch. The 1 inch webbing shall conform to type III or type III (alternate) of A-A-55301. The color shall be black.

3.2.2.3 1-15/16 inch. The 1-15/16 inch webbing shall conform to type XXIV, class 2 of MIL-W-4088. The color shall be black.

3.2.4 Tape, nylon 1 inch. The 1 inch nylon tape shall conform to type III of MIL-T-5038. The color shall be black.

black.

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3.2.6 Fastener, slide, interlocking. The slide fasteners shall conform to type I, style 2 (nonlocking

pounds minimum. The crosswise breaking strength shall be performed as specified in A-A-55634 except the fastener shall be preconditioned.

3.2.6.4 Slide fastener tape. The slide fastener tape shall be $3/4 \pm 1/16$ inch wide, color black, and shall be water repellent treated. The tape shall show good fastness to laundering.

3.2.6.5 Fastener slider and pull. The fasteners shall have sliders conforming to the standard long

same company to ensure compatibility of components (see 6.5).

3.2.7.1 Buckle, 3/4 inch. The 3/4 inch buckle shall conform to ITW Waterbury Side Release

3.2.7.2 Buckle, 1 inch. The 1 inch buckle shall conform to ITW Waterbury Side Release Buckle, part no. 101-0100; National Molding Corp. Mojave Side Squeeze Buckle, part nos. 5000/5001 (male/female); or American Cord & Webbing part no. BSR-1 inch.

Trovato Ladderloc, part no. 154-0100; National Molding Corp. Tensionlock Buckle, part no. 4199; or American Cord & Webbing Double Bar Single Lock, part no. DB 1".

3.2.7.4 2 to 1 reducer. The 2 to 1 reducer shall conform to ITW Waterbury 2-1 Reducer, part no. 111-2201; National Molding Corp. Curvette Retainer/Reducer, part no. 4978; or American Cord & Webbing Reducer Loop, part no. RL 1"-2".

3.2.8 Plastic film, flexible, vinyl chloride. The vinyl chloride film shall conform to the requirements

a sewn-on coated cloth label conforming to type VI, class 5 of DDD-L-20. The size of inscription characters shall be 1/4 -0/+1/16 inch for the identification part and 1/8 -0/+1/32 inch for the cleaning part. The contents shall dictate label size and shall be in the following format:

**PACK, PERSONAL GEAR or TENT BAG (PERSONAL GEAR PACK)^{1/}
[NSN]^{2/}
USFS Spec. 5100-215
[CONTRACT NO.]^{2/}
[MANUFACTURER'S NAME]^{2/}
DATE OF MANUFACTURE: [mm/yy]^{2/}**

CLEANING

**DIRT - LET DRY; REMOVE WITH STIFF BRISTLE BRUSH.
LIGHT OIL - BRUSH WITH WARM WATER DETERGENT SOLUTION;
RINSE THEN DRY.
HEAVY OIL - DEGREASE WITH PERCHLOROETHYLENE; BRUSH
WITH SPRAY CLEANERS OR DETERGENT AND WATER;
RINSE THEN DRY.**

DO NOT BLEACH!

^{1/} As applicable.

^{2/} The contractor shall insert the applicable information indicated.

3.2.9.1 Label margins. The label shall be provided with a 1/4 ±1/16 inch blank margin on all four sides for sewing purposes.

3.2.9.2 Date of manufacture. The date of manufacture shall be the month and year the item is manufactured.

3.3 Construction. The construction shall conform in all respects to the referenced drawing, MEDC-667 and MTDC-949 and as specified herein.

3.3.1 Stitches, seams, and stitchings. All stitching, except bartacking, shall conform to type 301 of ASTM D 6193, 6 to 8 stitches per inch.

3.3.1.1 Type 301 stitching. Ends of all stitching shall be backstitched or overstitched not less than 1

be embedded in the materials sewn.

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3.3.1.1.1 Repairs of type 301 stitching. Repairs of type 301 stitching shall be as follows (when making the following repairs, the ends of the stitching are not required to be backstitched):

- a. When thread breaks or bobbin runouts occur during stitching, except presewing, the stitching

The stitching shall start a minimum of 1 inch in back of the defective area (1/2 inch on box-x), continue over the defective area to a minimum of 1 inch into existing stitching. Loose or excessively tight stitching shall be repaired by removing the defective stitching, without damaging the materials, and restitching in the required manner.

3.3.1.2 Bartacking. Bartacking shall be free from thread breaks and loose stitching. Unless otherwise specified, bartacks shall be as follows:

<u>Length</u>	<u>Width</u>	<u>Length Tolerance</u>	<u>Width Tolerance</u>	<u>Stitches Per Bartack</u>
3/4 inch	1/8 inch	±1/16 inch	±1/32 inch	42
7/8 inch	1/8 inch	±1/16 inch	±1/32 inch	42

3.3.1.3 Automatic stitching. Automatic machines may be used to perform any of the stitch patterns

3.3.1.5 Lubrication of thread. There shall be no lubrication of the thread by any means, before or during sewing (see 4.3.2).

3.3.1.6 Stitching margins. Unless otherwise specified, all stitching margins shall be 1/8 inch.

3.3.2 Fusing ends of nylon webbing. All ends of webbing shall be fused before assembly for

3.3.4 Repairs. Repairs such as mends, darns, patches, or splices are not permitted on the personal gear pack or tent bag.

and 4.3.4.2 shall be removed from production and replaced with nondefective and properly matched components.

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3.3.7 Coated cloth surface. The coated side of the cloth shall face the inside of the completed personal gear pack and the completed tent bag.

3.4 Marking. The letters "FSS" shall be silk screened to the cloth of both items with a black medium in the locations shown on drawings MEDC-667 and MTDC-949. Markings shall conform to type IV, class 9 of DDD-L-20. Fastness of the class 9 marking shall be as specified for class 5 marking. The color of the cloth components shall not be visible under the markings.

3.5 Dimensions. Unless otherwise specified, all dimensions except pattern sizes are finished dimensions.

no defects that affect use, appearance, or serviceability.

3.8 Metric products. Products manufactured to metric dimensions will be considered on an equal

Regulation (FAR).

4. QUALITY ASSURANCE PROVISIONS

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.

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4.1.2 Responsibility for dimensional requirements. Unless otherwise specified in the contract or requirements.

4.1.3 Certification of compliance. Unless otherwise specified, certificates of compliance supplied check test such items to determine the validity of the certification.

4.2 Sampling for inspections and tests. Sampling for inspections and tests shall be made in pack.

4.3 Quality conformance inspections. Each end item lot shall be sampled and inspected as

4.3.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.3.2 Certification. Unless otherwise specified (see 6.2), as part of first article presentations and lot

of compliance shall include:

- Product description, including specification, type, class, and form when applicable
- Quantity purchased
- Date of manufacture
- Purchase source, address, and telephone number
- Purchase date
- Lot number traceable to materials used in production
- Contract number

contract. Copies of these test reports shall be made available to the Government representative upon request.

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4.3.3 In-process inspection. Inspection shall be made at any point or during any phase of the

4.3.4 End item examination.

seam, each stitching end, each dimension, etc.

TABLE I. End item visual defects

<u>Examine</u>	<u>Defect</u>	<u>Classification</u>	
		<u>Major</u>	<u>Minor</u>
Nylon duck cloth	Not type specified	X	
	Any hole (except location marks), cut or tear	X	
	Any abrasion mark, smash, slub, broken or missing yarn, multiple float, or open place, clearly visible at normal inspection distance (3 feet)	X	
	Needle chew		X
	NOTE: Needle holes visible as the result of broken or skipped stitching or stitching that has been removed shall not be considered as needle chews providing that the holes are spaced as in normal stitching.		
	Color not as specified	X	
	Shade bar, fine or coarse filling bar		X
	Coating defective or partially omitted		X
Webbing	Size or type not as specified	X	
	Color not as specified	X	
	Any hole, cut, tear, or smash	X	
	Abrasion mark, slub, broken end, or pick		X
	Cut ends not fused or not fused as specified	X	
	Not firmly and tightly woven	X	
	Edges frayed or scalloped	X	
	Multiple floats		X
Nylon tape	Size or type not as specified	X	
	Color not as specified	X	
(cont)			

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TABLE I. End item visual defects (continued)

Examine	Defect	Classification		
		Major	Minor	
Fastener tape	Size or type not as specified	X		
	Location not as specified	X		
	Color not as specified	X		
Slide fastener	Type, size, or color not as specified	X		
	Does not provide a smooth and secure closure full length of openings	X		
	Slider jams or fails to interlock chain scoops	X		
	Any portion of fastener broken, bent, missing, or not aligned making fastener unusable	X		
	Slide fastener tape not specified width	X		
	Slider not specified type	X		
	Slider not attached as specified	X		
	Chain not material or configuration specified	X		
	NOTE: Each slide fastener shall be fully closed and opened three times to determine whether fastener operates smoothly and provides a secure closure.			
	Length not as specified	X		
Components not all manufactured by same company	X			
Thread	Type, class, or size not as specified	X		
	Any thread lubricated		X	
	Color not as specified		X	
Hardware, general	Any part broken, cracked, chipped, distorted, twisted, or out of shape	X		
	Any dirt or flash		X	
	Any deep scratch or gouge		X	
	Gates not trimmed		X	
	Surface not smooth		X	
	Any pit, void, crazing, air pocket, blister, or imbedded foreign matter that will affect serviceability	X		
	Evidence of spray or jetting marks	X		
Side release	Type, size, or color not as buckles specified	X		
	Mating components not from same manufacturer	X		
	Latch and latch receptacle do not mate	X		
	Webbing incorrectly threaded through male buckle	X		
	Male buckle upside down		X	
NOTE: Plastic buckles shall be latched and unlatched three times to determine whether they operate smoothly and provide a secure closure.				

(cont)

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TABLE I. End item visual defects (continued)

Examine	Defect	Classification	
		Major	Minor
Double bar buckle	Type, size, or color not as specified	X	
	Position upside down or incorrectly threaded on webbing		X
2 to 1 reducer	Type, size, or color not as specified	X	
Plastic film	Type, class, or thickness not as specified	X	
Open seam	1/2 inch or less		X
	More than 1/2 inch	X	
<p>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 stitches or run-offs occur. On double stitched seams, a seam shall be considered open when either one or both sides of the seam are open.</p>			
Raw edge (on edge required to be finished)	More than 1/2 inch when securely caught in stitching		X
<p>NOTE: Raw edge not securely caught in stitching shall be classified as an open seam.</p>			
Run-off (see open seam)			
Seams and stitch type	Seam or stitch type not as specified	X	
Bartacks	One or more bartacks omitted		X
	Any bartack not as specified or not in specified location	X	
	Stitching loose, incomplete, or broken		X
Stitch tension	Loose, resulting in loose bobbin or top thread	X	
	Excessively tight, resulting in puckering of material	X	
<p>NOTE: Defects to be scored only when the condition exists for a continuous 4 inches or more, or in several areas with an accumulated distance of 8 inches or more. Applicable to individual seams.</p>			
Stitches per inch	Up to two stitches less than minimum specified		X
	Three or more stitches less than minimum specified	X	
	Two or more stitches in excess of maximum specified	X	
<u>(cont)</u>			

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TABLE I. End item visual defects (continued)

Examine	Defect	Classification	
		Major	Minor
	<p>NOTE: Variation in the number of stitches per inch caused by the operator speeding up the machine and pulling the cloth in order to sew over heavy places or in turning corners shall be classified as follows:</p> <p>(a) Within the minor defect classification - no defect</p> <p>(b) Within the major defect classification - minor defect</p> <p>Defect to be scored only when condition exists on any one seam for a length of 6 inches or more or when the combined length of several areas exceeds 10 inches.</p>		
Stitching margin (not otherwise classified)	Exceeds specified tolerance, up to 1/16 inch	X	
	Exceeds specified tolerance, over 1/16 inch	X	
	<p>NOTE: Defects to be scored only when the condition exists for 4 inches or more or in several areas with an accumulated distance of 8 inches or more. Applicable to individual seams.</p>		
Stitching gauge	Not as specified	X	
Stitching ends	Not secured as specified	X	
Thread breaks, skipped stitches, or run-offs (unless otherwise classified herein)	Not overstitched as specified	X	
	<p>NOTE: Thread breaks or two or more consecutive skipped stitches or run-offs not overstitched shall be classified as open seams.</p>		
Rows of stitching	Any row missing except on box-x stitching	X	
	On box-x stitching: - One row of stitching omitted - Two or more rows of stitching omitted	X	X
Automatic stitching (cont)	Stitching ends not backstitched patterns as specified, i.e., less than three tying, overlapping, or backstitches	X	

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TABLE I. End item visual defects (continued)

Examine	Defect	Classification	
		Major	Minor
Components and assembly	Any component part omitted or not as specified or any operation omitted or not as specified (unless otherwise classified herein)	X	
	Needle chews	X	
	Any mend, darn, patch, splice, or other unauthorized repair	X	
	Any material pleated or caught in stitch line where not specified		X
Piecing	Any piecing or splicing except as specified	X	
Pleats (on front pocket)	Not formed and sewn separately as specified	X	
Cleanness	Grease, oil, dirt, ink, or other stains clearly noticeable	X	
	Thread ends not trimmed to 1/4 inch or less	X	
Identification and cleaning label	Type or class not as specified	X	
	Incorrect type size or information	X	
	Not in location specified	X	
	Incorrect label margins	X	
Location markings	Drill mark exceeding size specified	X	
	Drill mark not covered on finished item		X
	Printed marking more than 1/32 inch in width or not covered by component part	X	
Marking: "FSS"	Omitted, incorrect, illegible, misplaced, or size of characters not as specified	X	
	Type or class not as specified	X	
	Cloth color visible under black marking medium	X	

4.3.4.2 End item dimensional examination. End items shall be examined for the defects listed in

major and minor defects.

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TABLE II. End item dimensional defects

<u>Examine</u>	<u>Defect</u>	<u>Classification</u>	
		<u>Major</u>	<u>Minor</u>
Dimensions (overall)	Smaller than nominal dimensions less applicable minus tolerance indicated on drawings, but not smaller than nominal dimensions less twice the applicable minus tolerances		X
	Smaller than nominal dimensions less twice the applicable minus tolerance	X	
	Larger than nominal dimensions and applicable plus tolerance		X
Component and location dimensions (not otherwise classified herein)	Not within specified tolerance		X
Box-x stitching	Dimensions not as specified		X
Stitch margin and gauge	Not within specified tolerance		X
Vertical carry strap	Not centered by more than 1 inch	X	
Compression straps	Out of horizontal or vertical alignment with corresponding buckle chapes by 1/4 inch or more	X	

4.4 Packaging inspection.

4.4.1 Examination of packing and marking. An examination shall be made to determine that packing and marking comply with the section 5 requirements. Defects shall be scored in accordance with the list below. The sample unit shall be one shipping container fully packaged except that it need not be closed. Defects of closure listed below shall be examined on shipping containers fully packaged. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2, and the AQL, expressed in defects per hundred units, shall be 2.5 defects.

<u>Examine</u>	<u>Defect</u>
Markings	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application.
Materials	Any component missing or not as specified. Any component damaged, affecting serviceability.
Workmanship	Inadequate application of components, such as: incomplete closure of container flaps, improper taping, loose strapping, inadequate stapling.
Contents	Bulged or distorted container.
	Number of liners per container is more or less than required.

5. PACKAGING

5.1 Preservation. Preservation shall be in accordance with ASTM D 3951 and as specified in the contract or purchase order.

5.1.1 Folding.

flattened and folded in half.

5.1.2 Unit pack. Each personal gear pack, tent bag, or combined pack prepared in accordance

operation. Use of flat sheeting or alternate bag configuration is permitted as long as the contents are completely enclosed by the polyethylene material.

strength 350 psi (minimum edge crush strength 55 pounds per inch width). Boxes shall be type CF (variety SW) or type SF, class domestic, style RSC meeting the requirements of the latest version of ASTM D 5118. Boxes shall be in compliance with the National Motor Freight Classification. Each box shall be closed in accordance with the latest version of ASTM D 1974 except that the inspection shall be in accordance with 4.4.

5.3 Marking. In addition to any special marking required by the contract or purchase order,

"NFES"), which shall appear on a separate line below the National Stock Number (NSN) of the shipping container only.

5.3.1 Unit pack. The required marking shall be legibly printed or stamped in black directly on the polyethylene bag across the center face or on a white paper label inserted within the bag so as to permit ready identification.

6. NOTES

6.1 Intended use. The personal gear pack is designed to carry a 2-week supply of clothing,

to, and transported with, the personal gear pack.

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6.2 Acquisition requirements. Acquisition documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) When first article samples are not required (see 3.1, 4.3, and 6.4).
- (c) When lot by lot testing is required in lieu of certificates of compliance (see 4.3.2).
- (d) Preservation, packing, and marking required in addition to specification requirements (see section 5).

appropriate provisions of Federal Acquisition Regulation 52.209. The first articles shall be preproduction samples consisting of three completed personal gear packs. The contracting officer should include specific instructions in all acquisition documents regarding arrangements for selection, inspection, and approval of the first articles.

6.5 Suggested sources of supply.

Acetal Plastic Hardware

American Cord & Webbing, Inc.
1 Carrington St.
Lincoln, RI 02865

ITW Waterbury
952 South Main St.
Waterbury, CT 06721

National Molding Corp.
5 Dubon Court
Farmingdale, NY 11735-1065

Interlocking slide fastener

YKK Zipper Co., Inc.
171 Rittenhouse Circle
Keystone Industrial Park
Bristol, PA 19007

6.6 Notice. When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever.

6.7 Preparing Activity. USDA Forest Service, Missoula Technology and Development Center (MTDC), Building 1, Fort Missoula, Missoula, Montana 59804-7294.



Standardization Document Improvement Proposal

This form is provided to solicit beneficial comments that may improve this document and enhance its use. Contractors, government activities, manufacturers, vendors, and users are invited to submit comments to:

USDA Forest Service
Missoula Technology and Development Center
Building 1, Fort Missoula
Missoula, MT 59804-7294

Attach any additional pertinent information that may be of use in improving this document to this form and mail in a envelope. A response will be provided when the submitter includes their name and address.

NOTE: This form shall not be used to submit requests for waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the document, or to amend contractual requirements.

Document Identification: **5100-215 - PACK, PERSONAL GEAR**

Submitter's Name (Optional. Please print or type): _____

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Date: _____

Has any part of the Document created problems or required interpretation in procurement use?

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Recommended change(s): _____

Reason for recommended change(s): _____

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