

MIL-N-43617 (GL)
31 December 1968

MILITARY SPECIFICATION

NET, CARGO TIEDOWN, AIRCRAFT PLATFORM, ASSEMBLY

1. SCOPE

1.1 This specification covers one type of aircraft platform cargo tiedown assembly having a capacity of 12,000 pounds.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

SPECIFICATIONS

FEDERAL

- T-T-871 - Twine, Cotton, Wrapping
- PPP-B-601 - Boxes, Wood, Cleated-Plywood
- PPP-B-636 - Box, Fiberboard
- PPP-F-320 - Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes
- MIL-STD-129 - Marking for Shipment and Storage
- MIL-STD-147 - Palletized and Containerized Unit Loads 40" x 48" Pallets, Skids, Runners, or Pallet-Type Base

DRAWINGS

US ARMY NATICK LABORATORIES

- 11-1-667 - Net, Cargo Tiedown, Aircraft Platform
- 11-1-668 - Bag, Carrying and Protective, Net, Cargo Tiedown

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11-1-669 - Net, Top, Cargo Tiedown
11-1-670 - Net, Side, Cargo Tiedown
11-1-671 - Hook Assembly, Tensioning, 2500 Lb. Capacity
11-1-673 - Sheet Technical

(Copies of specifications, standards and drawings required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 First article.- Unless otherwise specified (see 6.2), prior to starting production, the supplier shall make ready for, or submit to the contracting officer or his authorized representative, one or more samples of the finished product for examination and testing specified in section 4 of this document. The purposes of this inspection are to determine that the preproduction sample complies with the detailed technical requirements of this document and to assure that the production methods intended to be used on the contract or order are capable of producing acceptable items. The approval of the preproduction sample authorizes commencement of production, but does not relieve the supplier of responsibility for compliance with all applicable provisions of this document.

3.2 Materials.- Materials shall conform to the requirements specified on Drawing 11-1-667, to subsidiary specifications, standards and drawing applicable thereto, and as specified herein.

3.3 Construction.- Construction details shall conform to the requirements specified on Drawing 11-1-667, subsidiary specifications, standards and drawings applicable thereto, and as specified herein.

3.4 Workmanship.- The workmanship shall conform to the quality established by this document.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection.- Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

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4.1.1 Sampling for inspection.- Sampling for inspection shall be performed in accordance with MIL-STD-105, except where otherwise indicated hereinafter.

4.1.1.1 Classification of inspection.- Inspection shall be classified as follows:

- a. Inspection of first article
- b. Inspection of materials and components
- c. Inspection of end item
- d. Inspection of preparation for delivery

4.2 Inspections.-

4.2.1 First article inspection.- When required (see 6.2), inspection of the preproduction sample shall be made of a completely fabricated item for all provisions of this document applicable to end item inspection.

4.2.2 Material and component inspection.- In accordance with 4.1 above, materials and components shall be inspected and tested in accordance with all the requirements of referenced specifications, standards, and drawings unless otherwise excluded, amended, modified, or qualified in this document or applicable purchase document.

4.3 Inspection levels and acceptable quality levels (AQL's).- Inspection levels and AQL's, expressed in defects per 100 units, shall be as follows:

	<u>Inspection levels</u>	<u>AQL's</u>
For examination in 4.3.2	II	2.5 Major 6.5 Total
For examination in 4.3.3	II	2.5 Major 6.5 Total
For examination in 4.3.4	II	2.5 One Class
For examination in 4.3.5	S-2	2.5 One Class

4.3.1 Examination of visual characteristics of cargo tiedown net assembly.- This examination shall consist of component examinations prescribed in 4.3.2 or 4.3.3. The sample unit shall be expressed in units of complete cargo tiedown net assemblies, Part Number 11-1-667.

4.3.2 Examination of visual characteristics of carrying bag.- The sample unit for this examination shall be one carrying bag, Part Number 11-1-668. Characteristics to be examined and classifications of defects shall be as follows:

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Examine	Defect	Classification	
		Major	Minor
Webbing	Not specified type or class	X	
	Not specified color		X
	Any hole, cut or tear	X	
	Ends not seared as specified		X
Thread	Not specified type or size	X	
	Not specified color		X
Cloth	Any hole, cut or tear	X	
	Not specified type or class	X	
	Not specified color		X
	Any mend		X
Slide fastener	Not as specified	X	
	Any malformation or missing teeth	X	
Stitching	Any open seams	X	
NOTE: A seam will be classified as open when one or more stitches joining a seam are broken or, two or more consecutive skipped stitches occur. Repairs of open seams shall not be scored as defects.			
	Wrong type stitch		X
	Missing or incomplete row		X
	One stitch per inch under or over the minimum or maximum specified		X
	Two or more stitches per inch under or over minimum or maximum specified	X	
	Needle chews or bunched stitches	X	
	Thread breaks, skipped stitches and runoffs not overstitched or restitched		X
	Ends of stitching not backstitched		X
	Tension loose, resulting in a loose top or bobbin thread, or tight tension causing puckering of material at stitch line		X
	Thread ends not trimmed		X

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Examine	Defect	Classification	
		Major	Minor
Construction and workmanship	Any component missing	X	
	Grease, dirt, oil or other foreign matter in or on surfaces of webbing or cloth		X
Marking	Omitted, incorrect, illegible, wrong location or otherwise not as specified		X
Label	Not as specified on Drawing 11-1-673		X
	Not located as shown on Drawing 11-1-668		X

4.3.3 Examination of visual characteristics of net, top or side (as applicable).-
The sample unit shall be one net, top, Part Number 11-1-669, or one net, side, Part Number 11-1-670, as applicable. Characteristics to be examined and classification of defects shall be as follows:

Examine	Defect	Classification	
		Major	Minor
Webbing	Not specified type or class	X	
	Not specified color	X	
	Any hole, cut, or tear	X	
	Ends not seared as specified		X
Thread	Not specified type or size	X	
	Not specified color		X
Hardware	Any missing	X	
	Burrs or sharp edge	X	
	Any area of rust or corrosion	X	
	Malformed		
	Affecting functioning	X	
	Not affecting functioning		X
Stitching	Wrong type or size	X	
	Any open seam	X	

NOTE: A seam will be classified as open when one or more stitches joining a seam are broken or two or more consecutive skipped stitches occur. Repairs of open seams shall not be scored as defects.

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Examine	Defect	Classification	
		Major	Minor
Stitching (cont'd)	Wrong type	X	
	Missing or incomplete row of stitching	X	
	One stitch per inch under or over the minimum or maximum specified		X
	Two or more stitches per inch under or over the minimum or maximum specified	X	
	Needle chews or bunched stitching	X	
	Thread breaks, bobbin runouts, skipped stitches and runoffs not overstitched or restitched as specified	X	
	Ends of stitching not backstitched or secured as specified		X
	Tension loose, resulting in a loose top or bobbin thread, or tight tension causing puckering of material at stitch line	X	
	Thread ends not trimmed		X
	Construction and workmanship	Any component missing	X
Grease, dirt, oil or other foreign matter in or on surfaces of the cloth or webbing			X
Marking	Omitted, incorrect, illegible, wrong location or otherwise not as specified		X

4.3.4 Dimensional examination.- Inspection shall be made to determine compliance with the overall length, width and strap locator dimensions and tolerances of the top and side nets, and the overall length, width, and depth measurements of the bag. Any deviation therefrom shall constitute a defect.

4.3.5 Examination of preparation for delivery.- An examination shall be made to determine compliance with the applicable packaging, packing, and marking requirements. The sample unit shall be one container fully prepared for delivery, except that it need not be sealed. Examination for closure defects shall be made of containers fully prepared for delivery. Characteristics to be examined and the defects applicable thereto shall be as specified below:

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Examine	Defect
Marking (interior package and exterior containers)	Omitted; incorrect; illegible; of improper size, location, sequence, improper method of application, i.e., not on shipping tag or paper label (when applicable).
Materials	Component missing, damaged, defective, or not as specified.
Workmanship	Improper packaging or closure of interior containers; improper closure of exterior container, loose strapping, or tape banding; bulging or distortion of containers; contents not snug-fit.
Contents (interior and exterior container)	Number per interior package or exterior container not as specified.

5. PREPARATION FOR DELIVERY

5.1 Packaging.- Packaging shall be level A or C as specified (see 6.2).

5.1.1 Level A.-

5.1.1.1 Components, procured separately (see 6.2).-

5.1.1.1.1 Net, side, assembly.- Each side net assembly, with hook assemblies attached, shall be fully laid out flat. The free sliding vertical strap shall be slid back so that it contacts the stationary vertical strap adjacent to it. The net shall then be folded lengthwise to one-fourth its width. The horizontal straps, with hook assemblies attached, shall be tied together with twine conforming to type I or II, 8-ply of T-T-871. The tie shall encircle all straps and shall be located halfway between the hook assemblies and the nearest vertical stationary strap. The net assembly shall then be folded to one eighth its length by taking the end opposite the hook assemblies and bringing it up flush with the stationary vertical strap nearest the hook assemblies and repeating this operation two more times. The tied straps with the hook assemblies shall then be folded back and placed on top of the folded net. The completely folded net shall be securely tied at each end with the specified twine.

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5.1.1.1.2 Net, top, assembly.- Each top net assembly shall be folded lengthwise to one-fourth its width and then folded widthwise to one-eighth its length. The completely folded net shall be securely tied at each end with the twine specified in 5.1.1.1.1.

5.1.1.1.3 Bag, carrying and protective.- Each carrying and protective bag, with slide fastener closed, shall be compactly folded and securely tied with the twine specified in 5.1.1.1.1.

5.1.1.2 Net, cargo tiedown, aircraft platform, complete assembly.- Four side net assemblies and one top net assembly, packaged as specified in 5.1.1.1.1 and 5.1.1.1.2 respectively, shall be placed into the carrying and protective bag. The side net assemblies shall be on the bottom with the hook assemblies facing toward the center or the top of the bag. The top net assembly shall then be positioned on top and the bag closed by means of the slide fastener. Each complete assembly shall be packaged in a fiberboard box conforming to style RSC, grade V3c of PPP-B-636. Inside dimensions of each fiberboard box shall approximate 18 inches in length, 15 inches in width and 23 inches in depth. Approximate dimensions are furnished as a guide only. Each box shall be closed and waterproofed in accordance with the appendix of PPP-B-636.

5.1.2 Level C.- Each complete aircraft platform cargo tiedown net assembly, and each component procured separately (see 6.2), shall be packaged to afford adequate protection against physical damage during shipment from the supply source to the first receiving activity. The supplier may use his standard practice when it meets this requirement.

5.2 Packing.- Packing shall be level A, B or C as specified (see 6.2).

5.2.1 Level A.-

5.2.1.1 Components, procured separately (see 6.2).-

5.2.1.1.1 Net, side, assembly.- Four side net assemblies, packaged as specified in 5.1.1.1.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, grade V2s of PPP-B-636. The inside of each shipping container shall be fitted with a taped liner conforming to type CF, class weather-resistant, variety DW, grade V15c of PPP-F-320. Each shipping container shall be closed, waterproofed, and reinforced in accordance with the appendix of PPP-B-636.

5.2.1.1.2 Net, top, assembly.- Four top net assemblies, packaged as specified in 5.1.1.1.2, shall be packed as specified in 5.2.1.1.1.

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5.2.1.1.3 Bag, carrying and protective.- Ten carrying and protective bags, packaged as specified in 5.1.1.1.3, shall be packed as specified in 5.2.1.1.1.

5.2.1.2 Net, cargo tiedown, aircraft platform, complete assembly.- Four complete aircraft platform cargo tiedown net assemblies, packaged as specified in 5.1.1.2, shall be packed in a wood-cleated plywood shipping container conforming to overseas type, style A or J, type 2 load of PPP-B-601. Level A packages shall be packed flat two in length, two in width and one in depth, within a shipping container. Inside dimensions of each shipping container shall approximate 37-1/4 inches in length, 31-1/4 inches in width and 23-3/4 inches in depth. Approximate dimensions are furnished as a guide only. Each container shall be provided with skids fabricated as specified in the container specification. Each shipping container shall be closed and reinforced in accordance with the appendix of PPP-B-601.

5.2.2 Level B.-

5.2.2.1 Components, procured separately (see 6.2).-

5.2.2.1.1 Net, side, assembly.- Four side net assemblies, packaged as specified in 5.1.1.1.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF (variety SW) or SF, class domestic, grade 275 of PPP-B-636. The inside of each shipping container shall be fitted with a taped liner conforming to class domestic, variety DW, grade 275 of PPP-B-636. Each shipping container shall be closed in accordance with method II as specified in the appendix of PPP-B-636.

5.2.2.1.2 Net, top, assembly.- Four top net assemblies, packaged as specified in 5.1.1.1.2, shall be packed as specified in 5.2.2.1.1.

5.2.2.1.3 Bag, carrying and protective.- Ten carrying and protective bags, packaged as specified in 5.1.1.1.3, shall be packed as specified in 5.2.2.1.1.

5.2.2.1.4 When specified (see 6.2), the shipping container specified in 5.2.2.1.1, 5.2.2.1.2 and 5.2.2.1.3 shall be a grade V3c or V3s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with the appendix of the container specification. The shipping container material may also be grade V4s of PPP-F-320.

5.2.2.2 Net, cargo tiedown, aircraft platform, complete assembly.- Four complete aircraft platform cargo tiedown net assemblies, packaged as specified in 5.1.1.2 shall be packed in a wood-cleated plywood shipping container conforming to domestic type, style A of PPP-B-601. Level A packages shall be packed flat two in length, two in width and one in depth within a shipping container. Inside dimensions of each shipping container shall approximate 37-1/4 inches in length, 31-1/4 inches in width and 23-3/4 inches in depth. Approximate dimensions are furnished as a guide only. Each container shall be provided with skids fabricated as specified in the container specification. Each shipping container shall be closed in accordance with the appendix of PPP-B-601 and strapping shall not be required.

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5.2.3 Level C.- Complete aircraft platform cargo tiedown net assemblies and components procured separately (see 6.2), packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery to destination at the lowest transportation rate for such supplies. Containers shall be in accordance with rules or regulations of carriers applicable to the mode of transportation.

5.3 Palletization.- Unless otherwise specified (see 6.2), cargo tiedown net components of one description only, packed as specified in 5.2, shall be palletized in accordance with load type I of MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L. Pallet patterns shall be in accordance with the appendix of MIL-STD-147. Interlocking of loads shall be effected by reversing the pattern of each course. If the container is of a size which does not conform to any of the pallet patterns specified in MIL-STD-147, the pallet pattern used shall be approved by the contracting officer.

5.4 Marking.- In addition to any special marking required by the contract or order, interior packages, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129. Each component shall have attached a manila colored paper shipping tag for the identification information.

6. NOTES

6.1 Intended use.- The cargo tiedown net covered by this document is intended for use during airdrop operations in restraining loads of bulk cargo having variable overall dimensions.

6.2 Ordering data.- Procurement documents should specify the following:

- a. Title, number and date of this document.
- b. Whether first article is required and number of samples required (see 3.1).
- c. When separate procurement of components are desired (see 5.1.1.1, 5.1.2, 5.2.1.1, 5.2.2.1, and 5.2.3).
- d. Selection of applicable levels of packaging and packing (see 5.1 and 5.2).
- e. When weather-resistant grade fiberboard shipping containers are required for level B packing of separately procured components (see 5.2.2.1.4).
- f. When palletization is not required for cargo tiedown net components of one description only (see 5.3).

Custodian:

Army - GL

Preparing activity:

Army - GL

Project No. 1670-A303

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 119-R004	
INSTRUCTIONS			
This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity (as indicated on reverse hereof).			
SPECIFICATION			
ORGANIZATION (of submitter)		CITY AND STATE	
CONTRACT NO.	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT	
MATERIAL PROCURED UNDER A		\$	
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT		<input type="checkbox"/> SUBCONTRACT	
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?			
A. GIVE PARAGRAPH NUMBER AND WORDING.			
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.			
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID			
3. IS THE SPECIFICATION RESTRICTIVE?			
<input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES", IN WHAT WAY?			
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)			
SUBMITTED BY (Printed or typed name and activity)		DATE	