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**NAVAL SEA SYSTEMS COMMAND
DEPARTMENT OF THE NAVY**

**CRITICAL ITEM PRODUCT FABRICATION SPECIFICATION
FOR SLING, CARGO NET, NYLON WEBBING**

**NAVAL PHST CENTER
NAVAL SURFACE WARFARE CENTER, INDIAN HEAD DIVISION
DETACHMENT PICATINNY
BLDG 458, WHITTEMORE AVENUE
PICATINNY ARSENAL, NEW JERSEY 07806-5000**

APPROVED FOR NAVSEA

**K. H. ZIMMS
NAVAL PHST CENTER, NSWC IHD DET PICATINNY, CODE G1
NAVSEA WARRANTED TECHNICAL AUTHORITY FOR PHST**

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**CRITICAL ITEM PRODUCT FABRICATION SPECIFICATION
FOR SLING, CARGO NET, NYLON WEBBING**

1. SCOPE.

1.1 Scope. This specification establishes the requirements for manufacture and Government acceptance of Sling(s), Cargo Net, Nylon Webbing.

2. APPLICABLE DOCUMENTS.

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

STANDARDS

Military

DOD-STD-2101	Classification of Characteristics
MIL-STD-129	Military Marking for Shipment and Storage
MIL-STD-1907	Inspection, Liquid Penetrant and Magnetic Particle, Soundness Requirements for Materials, Parts, and Weldments
MIL-STD-2073-1	Standard Practice for Military Packaging

COMMERCIAL SPECIFICATIONS

ASQ-Q9001	Quality Management Systems and Requirements
ASTM-A153/A153M	Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware
ASTM-D1974	Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes

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ASTM-D5118/D5118M	Standard Practice for Fabrication of Fiberboard Shipping Boxes
ASTM-E1444	Standard Practice for Magnetic Particle Inspection
ASTM-E1417	Standard Practice for Liquid Dye Penetrant
EIA-649	TechAmerica Configuration Management Standard

DRAWINGS

Naval Sea Systems Command

DL 8410930	Data List for Sling, Cargo Net, Nylon Webbing (12 ft x 12 ft and 14 ft x 14 ft)
8410930-1	Sling, Cargo Net, Nylon Webbing (12 ft x 12 ft)
8410930-2	Sling, Cargo Net, Nylon Webbing (14 ft x 14 ft)

Copies of specifications, standards, federal specifications, and military specifications may be obtained upon request from Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094. Drawings, technical specifications and other publications may be obtained from the contracting activity. Copies of commercial documents may be obtained by contacting the applicable organization listed below:

ASQ – American Society for Quality
P.O. Box 3005
Milwaukee, WI 53201-3005
(<http://www.asq.org>)

ASTM – ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
(<http://www.astm.org>)

EIA – TechAmerica
Standards & Technology Department
601 Pennsylvania Ave., NW
North Building, Suite 600
Washington DC 20004-2650
(<http://www.techamerica.org>)

2.2 Conflicting requirements. Conflicting requirements arising between this specification or any specification, publication or drawing listed herein shall be referred in writing to the Procurement Contracting Officer (PCO) for interpretation, clarification, and correction.

2.3 Requests for change. Changes of a minor and/or major nature will be granted only by the cognizant field activity (CFA), that is, the Naval Surface Warfare Center, Indian Head Division (NSWCIHD) Detachment Picatinny, Naval Packaging, Handling, Storage and Transportation (PHST) Center. The provisions of the Material Review Board (MRB) do not apply to this item. Requests for deviations, waivers or other changes to this specification or referenced documentation shall be submitted to the Procurement Contracting Officer (PCO) for approval. A copy of the request for change shall be forwarded to the NSWCIHD Detachment Picatinny, Naval PHST Center, Code G13 (Ordnance/Logistics). Changes shall be prepared and submitted in accordance with the requirements of the contractor purchase order. EIA-649, “National Consensus Standard for Configuration Management” may be used for general guidance in preparing the requests.

3. REQUIREMENTS.

3.1 Item definition. The nylon webbing cargo net sling listed in Table 1, hereinafter referred to as cargo net sling, consists of a nylon web frame around a center section of interwoven nylon webbing with a steel hoisting link at each corner. The cargo net sling is used to transfer loose ammunition/explosive cargo, retrograde, or broken pallet loads during UNREP and dockside handling operations.

3.2 Characteristics.

3.2.1 Performance. The cargo net sling(s) shall meet the following performance requirements.

3.2.1.1 Inspection. The cargo net sling(s) and hoist links, when examined in accordance with 3.6.1, 3.6.4, and 4.2.2, shall comply with the fabrication and assembly requirements of the Data List (DL) as called out in Table 1, and other drawings and specifications listed thereon.

TABLE 1

Nomenclature	SWL (lb)	Test Load (lb) Static Overload (lb) Test Duration	Quality Conformance & Static Overload Test (Applicable Dwg/DL)
Sling, Cargo Net, Nylon Webbing 12 ft x 12 ft	4,500	13,500 (+675/-0) 22,500 (+1000/-0) 5 Minutes	8410930-1 (DL 8410930)
Sling, Cargo Net, Nylon Webbing 14 ft x 14 ft	4,500	13,500 (+675/-0) 22,500 (+1000/-0) 5 Minutes	8410930-2 (DL 8410930)

3.2.1.2 Hoisting strength. The cargo net sling(s), when load tested in accordance with 3.6.2 and 4.2.1, shall meet the requirements of the applicable sling assembly drawing listed in Table 1. Inspection shall be accomplished in accordance with 3.6.1 prior to testing and 3.6.4.1 after testing.

3.2.1.3 Hoisting strength (hoist link). The hoist link, when load tested in accordance with 3.6.3, shall not fail at or below the prescribed load. Any sample that fails at or below the prescribed load shall negate the hoist link for fabrication of the cargo net sling.

3.3 Design and construction.

3.3.1 Production drawings. The cargo net sling(s) shall be fabricated and assembled in accordance with the appropriate DL listed in 2.1 of this specification.

3.3.2 Standards of manufacture. The detailed requirements for materials, design and construction of cargo net sling(s) to be manufactured in accordance with this specification are provided by the appropriate DL and the drawings, specifications and standards listed thereon.

3.3.3 Workmanship. Workmanship shall be of sufficiently high quality to assure that completed cargo net sling(s) will comply with all requirements of this specification. Particular attention shall be paid to seams and stitching. All parts and components shall be thoroughly clean of dirt and other foreign matter.

3.4 Identification.

3.4.1 Serialization. Serial numbers are required for each cargo net sling contained in Table 1. To obtain serial numbers, the contractor shall contact the Naval Sea Systems Command, Code 04L5, 1333 Isaac Hull Avenue SE, Washington, DC 20376 no later than 60 days after contract award. Point of contact is Roshane Burrough (202) 781-3295, email: layetta.burrough@navy.mil.

3.5 First article. Unless otherwise specified in the contract or purchase order, one preproduction sample, hereinafter referred to as first article, shall be inspected and tested by the Government or its representative prior to regular production. The first article shall be fully representative of those proposed for production and demonstrate the adequacy and suitability of the contractor’s processes and procedures in complying with the requirements set forth by this specification. The Naval PHST Center shall prepare a written test report at the conclusion of first article testing.

3.5.1 First article sample submission. Unless otherwise specified in the contract or purchase order, the Government shall be responsible for performing the first article inspection/test requirements for this specification. **The first article shall not be previously load tested.** The contractor shall be responsible for delivery of the first article(s) to:

Naval Surface Warfare Center
Indian Head Division, Detachment Picatinny
Code G12 (Test and Evaluation)
Bldg 458, Whittemore Ave.
Picatinny Arsenal, NJ 07806-5000

The first article shall be delivered in accordance with the schedule provided by the contract or purchase order.

3.5.2 First article sample marking. The first article cargo net sling(s) shall be marked in accordance with the applicable drawing as called out in Table 1, except for the area containing the Test Expiration Date. The Test Expiration Date line shall read:

“TEST EXPIRATION DATE	FA/NT	MM/YY”
EXAMPLE: “TEST EXPIRATION DATE	FA/NT	01/12”

This will serve to identify the First Article (FA) as not previously tested (NT), and the month (MM) and year (YY) the unit was submitted for Government testing.

3.5.3 Sample hoist links. Three untested samples of the Hoist Link, one galvanized and two un-galvanized, shall be submitted for inspection and tensile testing along with the first article submission. Each link shall be in accordance and comply with the applicable drawing as called out in Table 1. Galvanizing shall be in accordance with ASTM-A153/A153M.

3.6 First article inspection and tests.

3.6.1 Inspection (M1). Prior to all tests, each first article cargo net sling(s) shall be 100 percent physically examined for compliance with the applicable DL and drawings and associated notes thereon, as listed in Table 1. Inspection shall consist of a visual and dimensional inspection of the characteristics of the component parts and complete sling

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to ensure compliance with the drawings and notes thereon. Length measurements of the cargo net sling(s) prior to static overload testing shall not be used as pass/fail criteria. Measuring instruments sufficient to verify drawing tolerances shall be used. Inspection shall include the examination of material certifications and the comparison of these documents with the item(s) they describe. Note: Classification of characteristics symbols (identified after tests below) Critical (C), Major (M), Minor (Mi) are in accordance with DOD-STD-2101.

3.6.2 Overload test (C1). The first article cargo net sling(s) shall withstand an overload test of 60% of the design load, that is 13,500 pounds (+675/-0) for a period of five (5) minutes. The load shall be applied with the cargo net sling configured as described in the applicable drawing as called out in Table 1. The first article cargo net sling(s) shall meet the requirements of 3.2.1.2. [The Government reserves the right to perform a static overload test, as called out in Table 1, to failure. Any first article cargo net sling(s) which demonstrates evidence of failure at or below the static design load (5 X SWL), that is 22,500 pounds held for five minutes, shall be investigated as to the cause of failure. If failure is determined to be due to a manufacturing nonconformance, the first article sling(s) shall be considered unacceptable.]

3.6.3 Sample hoist link testing (C2). Each sample of the Hoist Link shall withstand a proof load test of 3,375 pounds (+170/-0) for a period of two minutes.

3.6.4 Post test inspection(M2).

3.6.4.1 Cargo net sling assembly. After testing, each first article cargo net sling shall be examined to ensure compliance with the following:

- a. Overall dimensions of the net as identified on the applicable drawing in Table 1.
- b. No evidence of loose stitches on the frame webbing and superimposed mesh webbing.
- c. No complete separation of any web mesh joint.

3.6.4.2 Sample hoist links. After testing, each sample link shall be examined for deformation. Any dimensional change from the original dimension, as recorded in 3.6.1, shall be cause for rejection.

3.6.4.3 Non-destructive testing. After testing, each link shall be inspected in accordance with ASTM-E1444 (magnetic particle) or ASTM-E1417 (dye penetrant). Forged links shall meet the requirements of MIL-STD-1907, Table 1, Grade A, accept/reject criteria.

4. QUALITY ASSURANCE PROVISIONS

4.1 General. The contractor shall provide an inspection system conforming to the requirements of ASQ-Q9001 or other inspection system approved by the Government, and assure that all parts and materials conform to the requirements of this specification and drawings listed herein. Except as otherwise specified in the contract or purchase 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 this specification where such inspections are deemed necessary to assure that supplier and services conform to prescribed requirements. The procedures used for process control and inspection are at the option of the contractor, provided objective, documented evidence is maintained and made available upon request by the Government. Unless otherwise specified, all tests shall be performed at an ambient temperature of 77° F (+/-18°F) with ambient humidity.

4.2 Production quality conformance inspection and test.

4.2.1 Static overload test (C). Each cargo net sling shall be tested in accordance with 3.6.2 for a period of five (5) minutes (60% of the design load only). Each cargo net sling shall meet the requirements of 3.2.1.2.

4.2.2 Sample lot inspection (M). Prior to delivery, the Government shall perform a sample lot inspection of the production cargo net sling(s). An authorized agent of the U.S. Government shall randomly select up to 2% of the total production quantity cargo net sling(s). [If the total production quantity is less than 100, the minimum sample shall be one cargo net sling]. The contractor is responsible for delivery of the production item(s) to:

Naval Surface Warfare Center
Indian Head Division, Detachment Picatinny
Code G12
Bldg 458, Whittemore Ave.
Picatinny, NJ 07806-5000

Each cargo net sling shall be 100% physically examined for compliance with the applicable DL. Inspection shall consist of a visual and dimensional inspection of the characteristics of the component parts and complete sling to ensure compliance with the applicable drawing. [The Government reserves the right to perform a static overload test on each sample in accordance with 3.6.2 for a period as annotated on the applicable drawing (60% of the design load only). After testing, the samples shall meet the requirements of 3.2.1.2 and 3.6.4].

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing. Each cargo net sling shall be preserved in accordance with MIL-STD-2073-1 Method 10. One cargo net sling shall be packed in a fiberboard box, style RSC, class-weather resistant, grade W5C, in accordance with ASTM D5118/D5118M. Closing/sealing of fiberboard box shall be in accordance with ASTM D1974 Method 4A2.

5.2 Marking. In addition to any special marking required by the contract or purchase order, the cargo net sling(s) shall be marked in accordance with MIL-STD-129. As a minimum, the fiberboard box shall contain the following information:

SLING, CARGO NET, NYLON WEBBING.....Nomenclature
XXXXXXX.....Applicable PN Per Table 1
XXXX-XX-XXX-XXXX.....Applicable NSN
1 EACH.....Quantity per box
WT XXX LBS.....Gross weight in pounds
S/N XXX.....Serial number
CONTRACT NUMBER XXXXX.....Self explanatory

EXAMPLE: The below information is for example purposes only.

**BEAM, LIFTING, MK 99 MOD 0
7516900
1450-01-123-4567
1 EACH
156 LBS
S/N 123
N08861-08-C-1001**

The marking shall not be obscured. Marking shall be clearly legible and size shall be proportionate to the available marking space. Color of marking shall be black using enamel, lacquer, or waterproof petroleum-resistant ink.

5.3 Documentation. Copies of DD Form 250 (DD-250), Material Inspection and Receiving Report and DD Form 1222 (DD-1222), Requests for Results of Tests shall accompany each first article and production lot submission.