

INCH-POUND

MIL-H-775E

19 October 1987

SUPERSEDING

MIL-P-775D

19 November 1973

(See 6.8)

MILITARY SPECIFICATION

HOSE, HOSE ASSEMBLIES; RUBBER, PLASTIC, FABRIC, OR METAL
(INCLUDING TUBING) AND ASSOCIATED HARDWARE: PACKAGING OF

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the packaging for shipment, stowage, and storage of various types of hose, hose assemblies, tubing, and associated hardware.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

- L-P-378 - Plastic Sheet and Strip, Thin Gauge, Polyolefin.
- QQ-S-781 - Strapping, Steel, and Seals.
- PPP-F-320 - Fiberboard, Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes
- PPP-B-566 - Boxes, Folding, Paperboard.
- PPP-B-576 - Boxes, Wood, Cleated, Veneer, Paper Overlaid.
- PPP-B-585 - Boxes, Wood, Wirebound.
- PPP-B-591 - Boxes, Shipping, Fiberboard, Wood-Cleated.
- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 55Z3, Department of the Navy, Washington, DC 20362-5101 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

AREA PACK

DISTRIBUTION STATEMENT A Approved for public release; distribution unlimited

MIL-H-775E

FEDERAL (Continued)

- PPP-B-636 - Boxes, Shipping, Fiberboard.
- PPP-B-640 - Boxes, Fiberboard, Corrugated, Triple-Wall.
- PPP-B-665 - Boxes: Paperboard, Metal Edged and Components.
- PPP-B-676 - Boxes, Setup.
- PPP-C-795 - Cushioning Material, (Flexible Cellular, Plastic Film) for Packaging Applications.
- PPP-L-1607 - Lugging, Wood, Wirebound.

MILITARY

- MIL-V-3 - Valves, Fittings, and Flanges (Except for Systems Indicated Herein); Packaging of.
- MIL-P-116 - Preservation, Methods of.
- MIL-B-121 - Barrier Material, Greaseproofed, Waterproofed, Flexible.
- MIL-P-4861 - Packing, Preformed, Rubber, Packing; Packaging of.
- MIL-C-5501 - Cap and Plugs, Protective, Dust and Moisture Seal, General Specification for.
- MIL-I-8574 - Inhibitors, Corrosion, Volatile, Utilization of.
- MIL-L-19140 - Lumber and Plywood, Fire-Retardant Treated.
- MIL-B-22019 - Barrier Materials, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor Treated.
- MIL-B-22020 - Bags, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor Treated.
- MIL-B-22191 - Barrier Materials, Transparent, Flexible, Heat-Sealable.
- MIL-A-25175 - Air Transport, Nontactical, Packing for.
- MIL-C-52211 - Components and Assemblies for Industrial Gas Production, Storage and Transport Equipment, Packaging of.

STANDARDS

MILITARY

- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-147 - Palletized Unit Loads.
- MIL-STD-758 - Packaging Procedures for Submarine Repair Parts.
- MIL-STD-1186 - Cushioning, Anchoring, Bracing, Blocking, and Waterproofing; with Appropriate Test Methods.
- MIL-STD-1330 - Cleaning and Testing of Shipboard Oxygen, Nitrogen and Hydrogen Gas Piping Systems.

(Copies of specifications and standards required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted shall be those listed in the issue of the DoDISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS shall be the issue of the nongovernment documents which is current on the date of the solicitation.

MIL-H-775E

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

D 996 - Standard Terminology to Packaging and Distribution Environments.

D 3951 - Standard Practice for Commercial Packaging. (DoD adopted)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Nongovernment standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Definitions or explanation of packaging terms. Definitions or explanation of packaging terms applicable to this specification shall be as stated in the applicable referenced documents, specification, and 6.4. For definitions or explanation of packaging terms not specified therein, ASTM D 996 shall apply.

3.2 Materials. Packaging material shall be as specified herein and in the applicable referenced specifications.

3.2.1 Recovered materials. Unless otherwise specified herein, all equipment, material, and articles incorporated in the products covered by this specification shall be new and may be fabricated using materials produced from recovered materials to the maximum extent practicable without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification unless otherwise specifically specified.

3.2.2 New materials. The use of newly developed packaging materials or procedures are encouraged and recommended and will be permitted under the conditions specified herein, provided they are equal to or better than the specified materials or procedures.

MIL-H-775E

3.2.2.1 Certification of new materials. When specified in the contract or order, a certificate of compliance shall be prepared, when materials or procedures other than those specified herein are used (see 6.2.2).

3.2.3 Asbestos (see 6.3).

3.2.3.1 Packaging materials. Asbestos or material and items containing asbestos shall not be used in the packaging of material covered by this specification (see 6.3).

3.2.3.2 Packaged asbestos material. All asbestos and separately packaged components containing asbestos that is predominately distributed throughout the item, shall be packaged in sealed, dustproof and siftproof packages. Flexible packages shall be heat sealed. Packages shall be marked as specified (see 3.4.3).

3.2.3.3 Talc and talcum. When specified in the contract or order, a certificate of compliance stating the dusting materials used in the packaging process (for example, talc and talcum) are asbestos free, shall be prepared (see 6.2.2).

3.2.4 Cushioning and wrapping materials (see 3.4.2.2 and 6.7). The use of excelsior, newspaper, shredded paper (all types) and similar hydroscopic or non-neutral materials and all types of loose fill materials (for applications such as cushioning, fill, stuffing, and dunnage) shall be prohibited.

3.2.5 Fire retardant treatment and materials (see 6.7). For Navy acquisitions, the following applies:

(a) Navy fire-retardant requirements.

(1) Lumber and plywood. Unless otherwise specified (see 6.2.1), all lumber and plywood including laminated veneer material used in shipping container and pallet construction, members, blocking, bracing, and reinforcing shall be fire-retardant treated material conforming to MIL-L-19140 as follows:

Level A and B	-	Type II - weather resistant.
		Category I - general use.
Level C	-	Type I - non-weather resistant.
		Category I - general use.

(2) Fiberboard. Unless otherwise specified (see 6.2.1), fiberboard used in the construction of class-domestic, non-weather resistant fiberboard, and cleated fiberboard boxes shall meet the flame spread index and specific optic density requirements of PPP-F-320.

3.3 Data and drawings. When specified in the contract or order, complete descriptive packaging details on drawings of the sample pack shall be prepared (see 6.2.2).

MIL-H-775E

3.3.1 Preservation and packing data. When specified in the contract or order, coded and in-the-clear preservation and packing data shall be prepared (see 6.2.2).

3.4 Levels of protection (see 6.4.1).

3.4.1 Preservation. Preservation (unit protection) shall be level A, C or commercial as specified (see 6.2.1).

3.4.1.1 Level A. Unless otherwise specified herein, cleaning processes, drying procedures, preservative application, and methods of preservation (unit protection) shall be in accordance with MIL-P-116 and table I herein. Requirements in table I are assigned by category. Methods are assigned on the basis of the type of unit protection most commonly required for a specific commodity. Unless otherwise specified (see 6.2.1), selection of the submethod, where applicable, under a particular method shall be at the option of the contractor. Oxygen system hose and hose hardware shall be processed as specified in 3.4.1.1.1.3.5.

TABLE I. Hose hardware (see 3.4.1.1.2).

Type of fittings, hose nozzle, or strainer	Process of cleaning	Method of preservation	Special requirements
Adapter, hose:			
Ferrous	C-3	I	See 3.4.1.1.2.4
Nonferrous	C-1	III	
Cap:			
Hose, brass, with chain and spanner lugs	C-1	III	
Clamp:			
Hose	C-3	I	See 3.4.1.1.2.4
Connection:			
Hose	C-3	I	See 3.4.1.1.2.4
Couplings:			
Aluminum, anodized with non-metallic gaskets and lubricant to threads	C-1	III	
Nonferrous	C-1	III	
Ejector:			
Steam	C-3	I	See 3.4.1.1.2.4
Filler:			
Barrel, automatic, with 6-foot hose and female coupling.	C-1	III	
Gland:			
Acetylene, with nut 1/4 to 5/16 inch	C-3	IC	Without preservative
Hose connection, welding, 5/16 inch hose	C-3	IC	One gland with nut per unit pack
Oxygen, with nut, 1/4 to 5/16 inch	----	----	See 3.4.1.1.1.3.5

MIL-H-775E

TABLE I. Hose hardware (see 3.4.1.1.2). - Continued

Type of fittings, hose nozzle, or strainer	Process of cleaning	Method of preservation	Special requirements
Injector: Steam	C-3	I	See 3.4.1.1.2.5
Joint: Diving-apparatus air-hose union: Double female and male	----	----	See 3.4.1.1.1.3.5
Nipple: Hose, air	C-3	I	See 3.4.1.1.2.5
Nozzle: Fixed, preset (AFFF)	C-1	III	Nozzles with mating surfaces shall be completely assembled prior to unit pack.
Hose, steam injector	C-3	I	See 3.4.1.1.2.5
Nut: Hose	C-3	I	See 3.4.1.1.2.5
Packing: Preformed	----	----	See MIL-P-4861
Play pip: Stub, shut-off	C-3	I	Cushioned or blocked in fiberboard box see 3.4.1.1.2.5
Ring: Hose expansion, brass	C-1	III	
Splicer: Hose, air	C-3	I	See 3.4.1.1.2.5
Strainer	C-3	I	See 3.4.1.1.2.5
Tip	C-3	I	See 3.4.1.1.2.5
Valve: Brass	----	----	See MIL-V-3
Washer: Hose, rubber	C-1	III	See 3.2.3 and 3.4.1.1.2.3

3.4.1.1.1 Hose or hose assemblies. Unless otherwise specified (see 6.2.1), hose or hose assemblies and tubing shall be cleaned in accordance with process C-1. Preservation method III shall apply to hose and method I to hose assemblies. Oxygen system hose and hose assemblies shall be cleaned as specified in 3.4.1.1.1.3.5.

3.4.1.1.1.1 Hose hardware. Attached hose hardware shall be cleaned in accordance with table I and coated with a preservative (see 3.4.1.1.1.2). Hose hardware when furnished loose shall be processed as specified in table I with preservative selection as specified in 3.4.1.1.1.2.

MIL-H-775E

3.4.1.1.1.2 Preservative criteria. Unless otherwise specified (see 6.2.1) contact preservatives shall be in accordance with P-19 or P-21 of MIL-P-116 (see 3.4.1.1.2.5). Preservatives shall be applied only to couplings, fittings, and metal parts subject to corrosion. Preservatives shall not be applied to fabric, rubber, rubber-impregnated parts, plastic, or nonferrous metals or to surfaces that are painted, plated, coated, or that are inherently resistant to corrosion. Application of preservatives to couplings and other fittings attached to hose, shall be in a manner to ensure a complete homogenous coating. Preservative compound shall not be applied to any metal surfaces of hose, tubing, or fittings intended for installation or use in conjunction with oxygen systems (see 3.4.1.1.1.3.5).

3.4.1.1.1.3 Unit protection.

3.4.1.1.1.3.1 Hose or hose assemblies. Hose or hose assemblies shall be supplied in coils, reels, or in straight lengths as specified (see 6.2.1), or as specified in the applicable commodity specification, and shall be unit protected as specified herein for the required form (coil, reel, or straight length).

3.4.1.1.1.3.1.1 Hose and tubing ends with or without fittings. Open ends of hose and tubing, with or without fittings, shall be sealed with plugs or caps that will provide protection against entry of all foreign material. Hydraulic hose with or without fittings, shall be sealed with plugs or caps in accordance with MIL-C-5501 at the option of the contractor. Alternatively, open ends of hose and tubing, except hydraulic hose, may be sealed with grease-proof barrier material in accordance with type I, grade A, class 2 of MIL-B-121. Barrier material, when used, shall extend a minimum of 4 inches over the open ends onto the body of the hose or tubing. Barrier material shall be secured with a minimum of 1-inch wide, water-resistant pressure-sensitive tape. Unless otherwise specified (see 6.2.1), hose or tubing with fittings installed shall not have the fittings connected.

3.4.1.1.1.3.1.2 Hose and tubing specialities. Special shaped hose or tubing such as automotive radiator hose, air duct hose, or special designed tubing in short lengths or irregular shapes shall be packaged in the quantity specified (see 6.2.1) in accordance with method III of MIL-P-116 using any container specified in 3.4.1.1.2.6.

3.4.1.1.1.3.2 Coils. Coils shall be uniform, compact, and of a diameter to prevent deformation or kinking. Each coil shall be secured approximately equidistant a minimum of three places for lengths up to 50 feet and five places for lengths exceeding 50 feet. Loose fittings shall be placed in a transparent plastic bag, marked and secured on the inside of the coil (see 3.4.3).

3.4.1.1.1.3.2.1 Fire hose assemblies. After coiling and tying, individual coils shall be unit protected by any one of the following methods at the option of the contractor (see 3.4.1.1.1.3.2).

- (a) The coil shall be enclosed within a bag fabricated of minimum 6-mil polyethylene film in accordance with L-P-378. Bag closure shall be by heat sealing.

MIL-H-775E

- (b) The coil shall be individually wrapped (not spirally) with waterproof barrier material in accordance with type I, grade A, class 2 of MIL-B-121. Seams, joints, and closures shall be sealed with adhesives or other materials to afford waterproofness equal to that of the wrap material.
- (c) The coil shall be placed in a close-fitting fiberboard box in accordance with class weather-resistant PPP-B-636 with type, variety, grade and style at the contractor's option. Box closure shall be in accordance with method V and reinforcing with nonmetallic strapping or pressure sensitive adhesive, filament reinforced tape as specified in the appendix to the box specification. The gross weight of fiberboard boxes shall not exceed the weight limitations of the box specification.

3.4.1.1.1.3.3 Reels. Bulk lengths of hose exceeding 200 pounds and, when specified (see 6.2.1), bulk lengths less than 200 pounds shall be wound on wood, plastic, or metal (or combinations thereof) reels normally used for the product. In addition, the following shall apply:

- (a) After winding on the reel, the hose end shall be secured to prevent coil looseness or unwinding.
- (b) The hose shall be protected with a full wrap of waterproof barrier material. The material shall extend between the reel flanges with the ends secured.
- (c) Staples shall not be used to secure barrier material to the reel flanges.
- (d) A minimum clearance of 2 inches shall be provided between the outer edge of the reel flange and the outer wrapped layer of hose.

3.4.1.1.1.3.4 Straight lengths.

3.4.1.1.1.3.4.1 Straight lengths 10 feet in length or less. Hose ends shall be sealed or wrapped as specified in 3.4.1.1.1.3.1.1. Hoses with flanged fittings shall be closed with metal or plywood discs. The discs shall cover the opening and entire flange face and shall be secured by bolting to the flange. When plywood discs are used, barrier material in accordance with MIL-B-121, type I, grade A, class 2, shall be placed between the disc and flange face. Metal discs shall be painted or preserved or fabricated from corrosion-resistant material (see 3.4.1.1.1.2).

3.4.1.1.1.3.4.2 Straight lengths exceeding 10 feet in length. Hoses with flanged fittings shall be closed with metal or plywood discs. The discs shall cover the opening and entire flange face and shall be secured by bolting to the flange. When plywood discs are used, barrier material in accordance with MIL-B-121, type I, grade A, class 2, shall be placed between the disc and flange face. Metal discs shall be painted or preserved or fabricated from corrosion-resistant material (see 3.4.1.1.1.2).

3.4.1.1.1.3.4.2.1 Discharge hose. Discharge hose with or without fittings, except flanged type, shall have the ends wrapped with a single wrap of barrier material in accordance with MIL-B-121, type I, grade A, class 2. The wrap shall extend a minimum of 4 inches over the hose body and shall be secured with a minimum 2-inch wide, water-resistant, pressure sensitive tape.

MIL-H-775E

3.4.1.1.1.3.4.2.2 Suction hoses. Suction hoses with or without fittings, except flanged type, shall have ends wrapped with a double wrap of barrier material in accordance with MIL-B-121, type I, grade A, class 2. The wrap shall extend a minimum of 2 feet over the hose body and shall be secured with a minimum 2-inch wide, water-resistant, pressure-sensitive tape.

3.4.1.1.1.3.4.2.3 Hose overwrap. Upon completion of the end wrappings, the entire unit length including ends shall be overwrapped with a triple thickness of burlap in accordance with the following:

- (a) The burlap shall be made from jute or kenaf.
- (b) The burlap weight shall be 6.7 ounces plus or minus 5 percent per square yard.
- (c) The weave shall be plain, modified plain, or three-leaf twill and shall have minimum 8, maximum 11 wrap and filler yarns per inch.
- (d) The selvages shall be firm and may contain cotton yarn.
- (e) Unless bias sewn tubing is used, the burlap wrap shall be securely sewn in place.

3.4.1.1.1.3.5 Oxygen systems hose, hose assemblies, and hose hardware. Unless otherwise specified (see 6.2.1), hose, hose assemblies, and hose hardware used in conjunction with oxygen systems shall be cleaned and dried in accordance with the hydrocarbon requirements of MIL-STD-1330. Packaging shall be in accordance with MIL-C-52211, method A, B, or C. Unless otherwise specified (see 6.2.1), selection of the method of packaging shall be at the option of the contractor. Processing shall be in an area not conducive to parts contamination by hydrocarbons.

3.4.1.1.2 Hose hardware. Hose hardware shall be processed in accordance with table I and as specified herein.

3.4.1.1.2.1 Unit pack quantity. Unless otherwise specified (see 6.2.1), material shall be unit protected one for each unit pack, except that all parts comprising a single set or assembly shall be individually unit protected within a unit pack. When unit protected as a set, assembly, or quantity greater than one, each item shall be wrapped or cushioned to prevent damage resulting from direct surface contact with the surface of the adjacent item (see 3.2.4).

3.4.1.1.2.2 Transparent unit protection. When transparent unit protection is selected by the contractor or required by the acquisition document, selection of materials (cushioning, films, and bags) shall be in accordance with the material requirements of MIL-P-116 for the applicable method or submethod of preservation (see 3.2.4). Intimate wraps or cushioning applied to the item shall also be transparent. Transparent wrapping or cushioning materials shall be in accordance with MIL-B-22191 type II or III, PPP-C-795 or L-P-378.

3.4.1.1.2.3 Opaque unit protection. Items made of rubber shall be protected from ozone and ultra-violet light with an initial wrap of barrier material conforming to MIL-B-121, type I, grade A, class 2.

3.4.1.1.2.4 Submarine material. Transparent packaging shall be in accordance with MIL-STD-758.

MIL-H-775E

3.4.1.1.2.5 Volatile corrosion inhibitor (VCI). When VCI, in accordance with P-18 of MIL-P-1116, is selected, the preservation procedure shall be in accordance with MIL-I-8574. Unless otherwise specified (see 6.2.1), application of a contact preservative compound shall not be required. Transparent, flexible, VCI-treated films or bags, when used, shall be in accordance with MIL-B-22019 or MIL-B-22020 respectively. Items that are unit protected with VCI-treated materials shall have each unit pack marked or provided with a caution label stating the following:

"WASH HANDS AFTER HANDLING VCI MATERIAL TO AVOID EYE OR SKIN IRRITATION."

3.4.1.1.2.6 Unit containers. Unit containers shall be in accordance with any one of the following specifications at the contractor's option. Containers shall be of the weather-resistant type, class or grade.

<u>Specification</u>	<u>Container</u>
PPP-B-566	Box, Paperboard, Folding
PPP-B-636	Box, Fiberboard
PPP-B-665	Box, Paperboard, Metal-Stayed
PPP-B-676	Box, Paperboard, Setup

Sealing and closure, as applicable, of unit containers shall be in accordance with the applicable container specification or appendix thereto, and as specified herein. Fiberboard containers closure shall be in accordance with method V of the appendix to the container specification. Bags may be used for packaging small parts in accordance with method III when practicable. Bag closure shall be effected by heat-sealing, adhesives, solvents, or taping. Use of other type bag closure such as pressure-fit, zipper, and others, is acceptable for method III, provided that loss of contents will not result. Staples shall not be used for closures. The gross weight of paperboard boxes shall not exceed 10 pounds and the gross weight of fiberboard boxes shall not exceed 20 pounds.

3.4.1.1.2.7 Intermediate pack. Unless otherwise specified (see 6.2.1) the unit quantities in an intermediate pack shall be at the option of the contractor. Intermediate containers shall be uniform in size and shape and shall contain equal quantities. Intermediate containers shall be in accordance with the specifications and requirements of 3.4.1.1.2.6, except that a gross weight of 40 pounds or 1.5 cubic feet will be permitted for fiberboard boxes.

3.4.1.1.2.8 Tubing. Lengths of tubing shall be unit protected untied in a box of appropriate size. Unless otherwise specified (see 6.2.1), the number of units per box shall be at the option of the contractor. The box shall be in accordance with any one of the containers and requirements specified in 3.4.1.1.2.6.

3.4.1.2 Level C. Hose, hose assemblies, tubing, and associated hardware shall be cleaned, preserved as specified for level A (see 3.4.1.1) except that unit or intermediate containers may be of the nonweather-resistant domestic type or class.

MIL-H-775E

3.4.1.3 Commercial. Commercial preservation (see 6.4.1.4), shall be in accordance with ASTM D 3951, except that the requirements for oxygen system hose and equipment shall be as specified in 3.4.1.1.1.3.5.

3.4.2 Packing. Packing shall be level A, B, C or commercial, as specified (see 6.2.1).

3.4.2.1 General requirements for levels A, B and C. Shipping containers shall be of minimum weight and cube consistent with the requirements of this specification. Containers listed herein shall not preclude the use of other containers not listed, provided they meet the requirements of the individual container and have been approved by the contracting activity. Shipping containers, shall contain identical quantities of identical items when practicable.

3.4.2.2 Anchoring, blocking, bracing, cushioning, and waterproofing (see 6.7). Anchoring, blocking, bracing, cushioning, and waterproofing of container contents shall be in accordance with MIL-STD-1186, MIL-P-116, 3.2.4 herein, and the applicable container specification or appendix thereto.

3.4.2.3 Air shipments. Packing for air shipment shall be in accordance with MIL-A-25175.

3.4.2.4 Hose, hose assemblies, tubing, and hose hardware (excluding hose on reels or straight lengths exceeding 10 feet).

3.4.2.4.1 Levels A and B. Hose, tubing, and hose hardware preserved as specified (see 3.4.1), shall be packed for the level specified (see 3.4.2) in any one of the containers specified in table II. Unless otherwise specified (see 6.2.1), selection of the container shall be at the option of the contractor.

MIL-H-775E

TABLE II. Container selection.

Specification	Container	Application (style, type, or class)		Use criteria gross weight maximum (pounds)			
		Level A	Level B	Under 100	100 to 249	250 to 1000	Over 1000
PPP-B-576	Box, Wood, Cleated, Veneer, Paper, Overlaid	³	Class 2 overseas	Yes	Yes	¹	No
PPP-B-585	Box, Wood, Wire- bound	Class 3	Class 2 ²	Yes	Yes	¹	No
PPP-B-591	Box, Wood Cleated Fiber- board	³	Weather- resistant	Yes	¹		
PPP-B-601	Box, Wood, Cleated-Plywood	Overseas	Domestic ²	Yes	Yes	Yes	No
PPP-B-621	Box, Wood, Nailed and Lock-Corner	Class 2	Class 1 ²	Yes	Yes	¹	No
PPP-B-636	Box, Fiberboard	³	Weather- resistant	Yes	¹	No	No
PPP-B-640	Box, Fiberboard, Corrugated, Triple-Wall	³	Weather- resistant	Yes	Yes	¹	No

¹ Maximum gross weight (container plus contents) shall not exceed the applicable specification requirements for the style, type, or class container selected for the level of packing to be applied (see 3.4.2.4.1.1).

² Container may be used for weights under 100 pounds; however, lighter weight, minimum cube fiberboard containers should be given consideration.

³ Not acceptable for level A use.

3.4.2.4.1.1 Closure, waterproofing, skidding, and reinforcing. Closure, waterproofing, skidding, and reinforcing shall be level A or B as specified in 3.4.2.4.1.1.1 and 3.4.2.4.1.1.2.

3.4.2.4.1.1.1 Level A. Wood, plywood, and wirebound boxes shall be closed, reinforced, or banded in accordance with the applicable container specification or appendix thereto. When specified (see 6.2.1), shipping containers shall be provided with waterproof caseliners in accordance with 3.4.2.2. When the gross weight of a shipping container exceeds 200 pounds, the container shall be modified with skids in accordance with the applicable box specification, PPP-B-601 or PPP-B-621.

3.4.2.4.1.1.2 Level B. Shipping containers shall be closed and reinforced in accordance with the applicable container specification or appendix thereto, except that method V closure shall apply. Reinforcement shall be with nonmetallic banding, or pressure-sensitive adhesive filament-reinforced tape applicable to boxes in accordance with PPP-B-636. Unit and intermediate packs in accordance

MIL-H-775E

with PPP-B-636, class weather-resistant, closed and reinforced as specified herein and used as the shipping container, need not be overpacked. When the gross weight of a shipping container exceeds 200 pounds, the container shall be modified with skids in accordance with the applicable box specification, PPP-B-601 or PPP-B-621.

3.4.2.5 Hose on reels.

3.4.2.5.1 Levels A, B, and C. Each reel with hose preserved as specified (see 3.4.1), shall be completely enclosed with wood lagging. Thickness of the lagging boards shall be equal to or greater than the thickness of one reel flange, but not thicker than nominal 2-inch lumber and shall be positioned so that all boards touch adjacent boards. Lagging shall extend to within 1/4 inch of the outside edges of the flanges. After lagging, each reel shall be banded with two flat steel straps in accordance with type I, class B, of QQ-S-781. The straps shall be placed over the lagging and around the entire circumference of the reel. No further overpacking is required; alternately, wood, wirebound lagging in accordance with PPP-L-1607, type I, may be used to enclose the reels.

3.4.2.6 Straight lengths exceeding 10 feet.

3.4.2.6.1 Levels A, B and C. Straight lengths exceeding 10 feet, preserved as specified (see 3.4.1), require no further packing. When it is more advantageous to ship the hose bent or coiled, the hose shall not be bent or coiled to a diameter less than 1 foot for each inch of inside hose diameter (for example, 6-inch inside diameter hose shall not be bent or coiled to a diameter less than 6 feet). Kinking shall not be permitted.

3.4.2.7 Level C. Hose, tubing, and hose hardware preserved as specified (see 3.4.1), shall be packed in containers as specified for level B (see table II and 3.4.2.4.1.1.2), except that containers shall conform to the nonweather-resistant domestic type or class and closure for PPP-B-636 containers shall conform to method I as specified in the container appendix. Waterproofing of containers is not required.

3.4.2.8 Commercial. Commercial packing, (see 6.4.1.4) shall be in accordance with ASTM D 3951 and, where applicable, skids shall be applied as specified in 3.4.2.9.

3.4.2.9 Skids. When the gross weight of the shipping container exceeds 200 pounds, or when the length and width is 48 by 24 inches or more and the weight exceeds 100 pounds, a minimum of two, 3- by 4-inch nominal skids (laid flat) shall be applied and secured in a manner which will support the items and facilitate the use of material handling equipment during transportation, storage, and stowage.

3.4.2.10 Palletized unit loads. When specified (see 6.2.1), products packaged as specified herein shall be palletized or containerized in accordance with MIL-STD-147. The unit load shall be accomplished by strapping.

MIL-H-775E

3.4.3 Marking. In addition to any special markings required (see 6.2.1) or herein, levels A, B, and C interior and exterior packs and palletized unit loads shall be marked including bar coding in accordance with MIL-STD-129, commercial packaging shall be marked in accordance with ASTM D 3951. In addition, markings shall include the date of manufacture or date vulcanized for the type of hose or tubing specified in the acquisition document.

3.4.3.1 Special marking-oxygen system hose and hose hardware. Packs of products for use in oxygen systems shall be marked with the green label as specified in MIL-C-52211.

3.5 Workmanship. Workmanship shall be such that, when the proper procedures are followed, the material being processed will receive the required protection against corrosion, deterioration, and damage during shipment, storage, and stowage.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor 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 supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.2 Inspection conditions. Unless otherwise specified (see 6.2.1), all inspections shall be performed in accordance with the test conditions specified in the applicable specification.

4.3 Quality conformance inspection. Quality conformance inspection shall consist of levels A, B and C as specified in 4.3.1 and 4.3.2.

4.3.1 Levels A and B. Unless otherwise specified (see 6.2.1), quality conformance inspection and inspection lots of the preservation and the interior package shall be in accordance with MIL-P-116, groups A and B. The sampling and inspection of the packing and markings shall be in accordance with the quality assurance provisions of the applicable container specifications and appendix thereto, and the marking standard specified in section 3.

MIL-H-775E

4.3.2 Level C. Unless otherwise specified (see 6.2.1), quality conformance inspection and inspection lots shall be in accordance with the contractor's procedures.

5. PACKAGING

5.1 This section is not applicable to this specification.

6. NOTES

6.1 Intended use. The packaging (cleaning, preservation, packing, and marking) requirements specified herein are intended to ensure proper and safe storage and transportation of products for direct shipment to the Government activities of shipments processed at a military activity or agency. This specification is also intended for use as a reference in section 5 of related commodity specifications, for direct reference in contracts or orders, and as a guide in the preparation of packaging data when products falling within the scope are involved.

6.2 Ordering data.

6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) When fire-retardant treatment or materials is not required (see 3.2.5(a)(1) and 3.2.5(a)(2)).
- (c) Level of preservation and level of packing required (see 3.4.1 and 3.4.2).
- (d) Selection of preservation submethod if other than contractor's option (see 3.4.1.1).
- (e) Cleaning process if other than specified (see 3.4.1.1.1).
- (f) Preservative type if other than specified (see 3.4.1.1.1.2).
- (g) Packaging form (coils, reels, or straight lengths) of hose or hose assemblies required (see 3.4.1.1.1.3.1).
- (h) When hose or tubing with fittings installed should be connected (see 3.4.1.1.1.3.1.1).
- (i) Quantity per package of hose and tubing specialties (see 3.4.1.1.1.3.1.2).
- (j) When bulk lengths less than 200 pounds should be wound on reels (see 3.4.1.1.1.3.3).
- (k) Cleaning and drying of hose, hose assemblies, and hose hardware if other than specified (see 3.4.1.1.1.3.5).
- (l) When the method of packaging is not the contractor's option (see 3.4.1.1.1.3.5).
- (m) Unit pack quantity if other than specified (see 3.4.1.1.2.1).
- (n) When MIL-STD-758 applies for transparent packaging (see 3.4.1.1.2.4).
- (o) Contact preservative, if required (see 3.4.1.1.2.5).
- (p) When quantity is not at the contractor's option (see 3.4.1.1.2.7 and 3.4.1.1.2.8).

MIL-H-775E

- (q) Container selection if other than contractor's option (see 3.4.2.4.1).
- (r) When caseliners are required (see 3.4.2.4.1.1.1).
- (s) When palletized unit loads are required (see 3.4.2.10).
- (t) Special marking required (see 3.4.3).
- (u) Inspection conditions if other than specified (see 4.2).
- (v) Quality conformance inspection if other than specified (see 4.3.1 and 4.3.2).

6.2.2 Data requirements. When this specification is used in an acquisition and data are required to be delivered, the data requirements identified below shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved Contract Data Requirements List (CDRL), incorporated into the contract. When the provisions of DoD FAR Supplement, Part 27, Sub-Part 27.475-1 (DD Form 1423) are invoked and the DD Form 1423 is not used, the data specified below shall be delivered by the contractor in accordance with the contract or purchase order requirements. Deliverable data required by this specification are cited in the following paragraphs.

<u>Paragraph no.</u>	<u>Data requirement title</u>	<u>Applicable DID no.</u>	<u>Option</u>
3.2.2.1 and 3.2.3.3	Certificate of compliance	DI-E-2121	
3.3	Drawings, engineering and associated lists	DI-E-7031	
3.3.1	Preservation and packing data	DI-PACK-80120	----

(Data item descriptions related to this specification, and identified in section 6 will be approved and listed as such in DoD 5010.12L., AMSDL. Copies of data item descriptions required by the contractors in connection with specific acquisition functions should be obtained from the Naval Publications and Forms Center or as directed by the contracting officer.)

6.2.2.1 The data requirements of 6.2.2 and any task in sections 3 or 4 of this specification required to be performed to meet a data requirement may be waived by the contracting/acquisition activity upon certification by the offeror that identical data were submitted by the offeror and accepted by the Government under a previous contract for identical item acquired to this specification. This does not apply to specific data which may be required for each contract regardless of whether an identical item has been supplied previously (for example, test reports).

6.3 Asbestos. It is the intent of the Government to eliminate the use of asbestos except in those cases that a suitable alternative material cannot be used to obtain the desired results. In those cases in which components or materials being packaged contain asbestos predominately in their make-up, such items will be separately unit protected and marked (see 3.2.3).

MIL-H-775E

6.4 Definitions or explanation of terms.

6.4.1 Levels of protection. The following levels of protection apply equally to preservation and packing.

6.4.1.1 Level A. Level A packaging provides maximum protection. It is needed to protect material under the most severe worldwide shipment, handling, and storage conditions. Preservation and packing will be designed to protect material against direct exposure to extremes of climate, terrain, and operational and transportation environments, without protection other than that provided by the pack. The conditions to be considered include, but are not limited to, the following:

- (a) Multiple handling during transportation and intransit storage from point of origin to final user.
- (b) Shock, vibration, and static loading during shipment.
- (c) Loading on shipdeck, transfer at sea, helicopter delivery, and offshore or over-the-beach discharge, to final user.
- (d) Environmental exposure during shipment or during intransit operations where port and warehouse facilities are limited or nonexistent.
- (e) Outdoor storage in all climatic conditions for a minimum of 1 year.
- (f) Static loads imposed by stacking.

6.4.1.2 Level B. Level B packaging provides intermediate protection. It is needed to protect material under anticipated favorable environmental conditions of worldwide shipment, handling, and storage. Preservation and packing will be designed to protect material against physical damage and deterioration during favorable conditions of shipment, handling, and storage. The conditions to be considered include, but are not limited to, the following:

- (a) Multiple handling during transportation and intransit storage.
- (b) Shock, vibration, and static loading of shipments worldwide by truck, rail, aircraft, or ocean transport.
- (c) Favorable warehouse environment for a minimum of 18 months.
- (d) Environmental exposure during shipment and intransit transfers, excluding deck loading and offshore cargo discharge.
- (e) Stacking and supporting superimposed loads during shipment and extended storage.

6.4.1.3 Level C. Level C packaging provides minimum protection. It is needed to protect material under known favorable conditions. The following criteria determine the equipments for this degree of protection:

- (a) Use or consumption of the item at the first destination.
- (b) Shock, vibration, and static loading during the limited transportation cycle.
- (c) Favorable warehouse environment for a maximum of 18 months.
- (d) Effects of environmental exposure during shipment and intransit delays.
- (e) Stacking and supporting superimposed loads during shipment and temporary storage.

MIL-H-775E

6.4.1.4 Commercial. Although not specifically defined by any Government regulation or instruction, commercial packaging (preservation and packing) is understood to be those practices by manufacturers and contractors to protect and identify material and items packaged for retail and wholesale distribution purposes. ASTM D 3951 provides guidance in the application of commercial packaging. It has been determined by joint DoD instructions that commercial (also in some areas addressed as industrial packaging) should only be used or specified when such packaging is known to satisfy the DoD needs. Such use should be determined before a contract for supplies is awarded or within the life cycle of the contract when substantial savings to the Government may result. Commercial (industrial) packaging should not be specified where multiple shipments and handlings are anticipated or desired.

6.4.2 Packaging and supply terms.

6.4.2.1 Exterior pack. A container, bundle, or assembly which is sufficient by reason of material, design, and construction to protect material during shipment and storage. This can be the unit pack or a container with any combination of unit or intermediate packs.

6.4.2.2 Marking. Application of numbers, letters, labels, tags, symbols, or colors for handling or identification during shipment and storage.

6.4.2.3 Military packaging. The materials and methods or procedures prescribed in federal/military specifications, standards, drawings or other authorized documents, which are designed to provide the degree of packaging protection determined necessary to prevent damage and deterioration during worldwide distribution of material.

6.4.2.4 Packaging. The process and procedures used to protect material from deterioration and/or damage. It includes cleaning, drying, preserving, packing, marking, and unitization.

6.4.2.5 Packing. Assembling of items into a unit, intermediate, or exterior pack with necessary blocking, bracing, cushioning, weatherproofing, reinforcement and marking.

6.4.2.6 Preservation. Application of protective measures, including cleaning, drying, preservative materials, barrier materials, cushioning, and containers when necessary.

6.4.2.7 Repair parts. Those support items that are coded to be not repairable (for example, consumable items) (see MIL-STD-1561).

6.4.2.8 Spares. Those support items that are coded to be repairable (for example, repairable items) (see MIL-STD-1561).

6.4.2.9 Support items. Items subordinate to, or associated with, an end item (for example, spares, repair parts, tools, test equipment, support equipment, and sundry materials) and required to operate, service, repair, or overhaul of an end item (see MIL-STD-1561).

MIL-H-775E

6.4.2.10 Unit pack. The first tie, wrap, or container applied to a single item or quantity thereof, or to a group of items of a single stock number, preserved or unpreserved, which constitutes a complete or identifiable package.

6.5 Technical data. Complete descriptive packaging details on drawings, test results and packaging and transportation data requirements are not required when such were previously submitted and accepted by the contracting activity.

6.6 Subject term (key word) listing.

Adapters
Air shipment
Fittings
Holes
Packaging
Pallets
Reels
Skids

6.7 Cushioning and wrapping materials (see 3.4.2.2). Materials having properties for resistance to fire and acceptable for use within unit packs and shipping containers for Navy acquisitions are:

<u>Material</u>	<u>Specification</u>
Paper, Kraft, Treated (Fire Resistant)	A-A-1894
Paper, Kraft, Wrapping	UU-P-268, Type II, Grade C or D
Fiberboard	PPP-F-320, Class - Domestic/Fire Retardant
Plastic Film, Flexible, Cellular	PPP-C-795, Class 3 - Fire Retardant
Polystyrene Expanded, Resilient	PPP-C-850, Grade SE
Bound Fiber	PPP-C-1120, Type III or IV, Class C
Rubber, Latex Foam	MIL-R-5001, Grade A
Rubber, Cellular	MIL-R-6130, Grade A
Fibrous Glass	MIL-C-17435
Polystyrene Foam	MIL-P-19644, Type II
Rubber, Cellular, Synthetic	MIL-R-20092, Class 5
Polyurethane Foam	MIL-P-26514
Polyurethane Foam, Flexible, Open Cell	MIL-F-81334
Foam, Combustion, Retardant, for Cushioning Supply Items Aboard Navy Ships	MIL-F-87090(SA)

MIL-H-775E

6.8 Changes from previous issue. Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army - ME
Navy - SH
Air Force - 99

Preparing activity:

Navy - SH
(Project PACK-0816)

Review activities:

Army - SM, AR
Navy - AS, YD, CS
Air Force - 82

User activity:

Navy - MC

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge (*DO NOT STAPLE*), and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request 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 referenced document(s) or to amend contractual requirements.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE NAVY



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 12503 WASHINGTON D. C.
POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE NAVY

Officer in Charge
Navy Clothing & Textile Research Facility
21 Strathmore Road (Code 50)
Natick, MA 01760-2490



STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL*(See Instructions – Reverse Side)*

1. DOCUMENT NUMBER MIL-H-775E	2. DOCUMENT TITLE HOSE, HOSE ASSEMBLIES; RUBBER, PLASTIC, FABRIC, OR METAL (INCLUDING TUBING) AND ASSOCIATED HARDWARE: PACKAGING OF
----------------------------------	-------------------------------------------------------------------------------------------------------------------------------------

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

VENDOR

USER

MANUFACTURER

OTHER (Specify): _____

b. ADDRESS (Street, City, State, ZIP Code)

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER (Last, First, MI) – Optional

b. WORK TELEPHONE NUMBER (Include Area Code) – Optional

c. MAILING ADDRESS (Street, City, State, ZIP Code) – Optional

8. DATE OF SUBMISSION (YYMMDD)