

INCH-POUND

MIL-DTL-26633D
 23 October 2003
 SUPERSEDING
 MIL-H-26633C(USAF)
 10 June 1985

DETAIL SPECIFICATION

HOSE ASSEMBLY, POLYTETRAFLUORETHYLENE, OXYGEN

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

1. SCOPE

1.1 Scope. This specification covers one type of oxygen polytetrafluoroethylene hose assembly having a nominal working pressure of 3,000 psig in the operating temperature range from -65°F to 160°F.

1.2 Part or Identifying Number (PIN). The definitive specification PIN will be formatted to identify each item covered by this specification. The PIN format will consist of the specification number, length (in feet), and coupling guard (as required) as follows:

Definitive specification PIN	M26633	-	XXX	X
Military specification number	_____		_____	_____
Length in feet (3 places)	_____		_____	_____
Coupling guard (required add "A" – not required leave blank)	_____		_____	_____

Example: M26633-075A – A 75 foot hose assembly with coupling guard.

2. APPLICABLE DOCUMENTS

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

2.2 Government documents.

Comments, suggestions, or questions on this document should be addressed to Defense Supply Center, Columbus, ATTN: VAI, P.O. Box 3990 East Broad Street, Columbus, Ohio 43216-5000 or email to Construction@dsccl.dla.mil . Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at www.dodssp.daps.mil .
--

MIL-DTL-26633D

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

FEDERAL SPECIFICATIONS

A-A-59503 - Nitrogen, Technical

DEPARTMENT OF DEFENSE STANDARDS

MS28760 - Fitting End, Attachable, Hydraulic and Pneumatic, High Pressure
Hose (3,000 psi) Flared Tube
AN818 - Nut, Tube Coupling, Short

(Copies of this document are available online at <http://assist.daps.dla.mil/quicksearch/> or www.dodssp.daps.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

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

ASTM INTERNATIONAL

ASTM D792 - Plastics, Specific Gravity and Density of, By Displacement
ASTM D2000 - Standard Classification System for Rubber Products in
Automotive Applications SAE J200

(Copies of these documents are available from www.astm.org or ASTM International, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959.)

SAE INTERNATIONAL

SAE-AS4395 - Fitting End, Flared Tube Connection, Design Standard

(Copies of these documents are available from www.sae.org or SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001.)

NATIONAL AEROSPACE STANDARDS COMMITTEE (NA/NAS)

NAS 847 - Caps and Plugs, Protective, Dust and Moisture Seal FSC 5340

(Copies of these documents are available from www.aia-aerospace.org or Aerospace Industries Association, 1000 Wilson Blvd., Suite 1700, Arlington, Virginia, 22209-3901.)

MIL-DTL-26633D

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

3. REQUIREMENTS

3.1 Qualification. The hose assemblies furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 4.3 and 6.3).

3.2 Materials. Materials shall be as specified herein and in referenced specifications and standards and other referenced documents. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification. Materials shall be free of defects, which adversely affect performance of the finished product. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.2.1 Fungusproof materials. Materials that are nutrients for fungi shall not be used where it is practical to avoid them.

3.2.2 Rubber goods. Rubber goods utilized, such as seals, covers, friction layers, etc. shall be fabricated from rubber components conforming to ASTM D2000.

3.2.3 Other materials. Materials not otherwise specified shall conform to applicable specifications and to the requirements specified herein. All materials that are not specifically described shall be of the highest quality and suitable for the purpose intended.

3.3 Design and construction. The hose assembly shall be designed for a 99.5 percent purity gaseous oxygen working pressure of 3,000 psig and a minimum hydrostatic burst pressure of 12,000 psig.

3.3.1 Reliability. The hose assembly shall have a minimum mean time between-failure (MTBF) of 870 cycles (0 to 3,000 to 0 psi) with a minimum reliability of 97 percent for a 20-cycle (0 to 3,000 to 0 psi) mission at a confidence factor of 0.90 (see 4.6.12).

3.3.2 Hose. The hose shall be constructed to meet the requirements specified herein and to retain the end fittings without slipping or leaking when tested as specified. The hose shall consist of an inner tube, reinforcement, and outer cover.

3.3.2.1 Inner tube. The inner tube shall be a seamless, uniform gage extrusion of virgin tetrafluoroethylene resin. It shall be compounded and processed to permit the least amount of effusion of compressed gases consistent with the requirements specified herein. The inner tube shall have a smooth bore, shall be free from pitting and other defects, and shall be cleaned to be free of dirt, foreign material, or mandrel lubricants.

3.3.2.1.1 Tetrafluoroethylene material. The tetrafluoroethylene hose resin specific gravity shall be 2.125 to 2.155 at 77° ±2°F when determined in accordance with method A of ASTM D792.

3.3.2.2 Reinforcement. The reinforcement shall consist of one or more spirally wrapped or braided (or combination thereof) plies of stainless steel wires. Reinforcement separation materials, if used, shall permit gas effusion from the inner tube to escape to the atmosphere. There shall be no broken or spliced reinforcing wires nor shall any wires be omitted in any length of hose.

MIL-DTL-26633D

3.3.2.3 Outer cover. A cover at least 0.063 inch thick shall be furnished on the outside of the hose. The cover shall consist of an abrasion, oil, and ozone-resistant chloroprene polymer, or equivalent synthetic material compound to meet the requirements specified herein. The cover need not be bonded to the outermost reinforcement ply, but shall not be free to slip or turn along the length of the hose. The cover shall permit gas that may effuse from the inner tube to escape to the atmosphere.

3.3.2.4 Diameter. The inside and outside diameters of the hose shall be within the limits shown on figure 1.

3.3.2.5 Length. The hose assembly shall be furnished in lengths as specified by the procuring activity. The hose shall be measured as shown on figure 1.

3.3.3 End fittings. The hose assembly end fittings shall conform to the general configuration shown on MS28760, shall be made of stainless steel, and shall mate with a -5 fitting conforming to SAE AS4395. The swivel nut dimensions across flats shall conform to the -5 size of AN 818. Provisions for wrenching by a hex or flats on the fitting body shall be optional. The nipple bore diameter shall conform to the limits shown on figure 1. The end fittings shall be designed for a working pressure of 3,000 psig and a minimum burst pressure of 12,000 psig. The end fittings shall be retained on the assembly without slipping or leaking when coupled to the hose and tested as specified.

3.3.3.1 Coupling guard. When specified (see 6.2), a coupling guard shall be securely attached to each end of the hose assembly. The coupling guard shall protect the end portions of the hose assembly as necessary to minimize hose failure due to bending at or near the coupling.

3.3.3.2 Lubricants. With the exception of clean water, lubricants shall not be used in the assembly of hose components unless such lubricants have been specifically approved by the procuring activity.

3.4 Performance.

3.4.1 Proof pressure. The hose assembly shall withstand a hydrostatic pressure of 6,000 psig (see 4.6.2).

3.4.2 Leakage. The hose assembly shall not leak when subjected to a pneumatic pressure of 3,000 psig (see 4.6.3).

3.4.3 Cold temperature flexing. The hose assembly shall withstand flexing through 180 degrees at $-65 \pm 2^\circ\text{F}$ (see 4.6.4).

3.4.4 Elongation and contraction. The hose assembly shall withstand pressurization to 3,000 psig without a change in its free length greater than ± 3 percent (see 4.6.5).

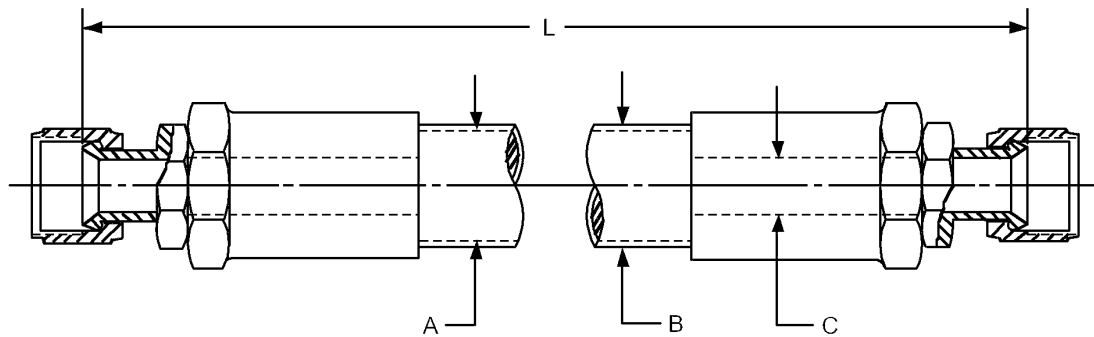
3.4.5 Tensile strength. The hose assembly shall withstand a tensile pull of 1,000 pounds while pressurized to 3,000 psig (see 4.6.6).

3.4.6 Burst pressure. The hose assembly shall withstand, without bursting, pressurization of 12,000 psig (see 4.6.7).

3.4.7 Overtightening torque. The end fittings specified in 3.3.3 shall withstand an overtightening-torque value of 315 pound-inches without failure or deformation (see 4.6.9).

3.4.8 Pressure impulse cycling. The hose assembly shall withstand 2,000 pressure impulse cycles when tested in accordance with 4.6.10.

MIL-DTL-26633D



End fitting to mate with MS33656 dash size	Hose dash size	Nominal o.d. of rigid tube (ref)	Hose inside dia. minimum "A"	Hose outside dia. maximum "B"	Coupling inside dia. minimum "C"	Hose minimum inside bend rad.
-5	-4	0.250	0.212	0.703	0.109	3.250

NOTES:

1. Unless otherwise specified dimensions in inches.
2. Tolerances: Length L:
 $\pm .125$ (L under 24 inches)
 $\pm .250$ (L from 24 to 36 inches)
 $\pm .500$ (L from 36 to 50 inches)
 ± 1 percent (L over 50 inches)
3. Hose assemblies to be specified in the following length increments only:
 24 inches long and under, not less than .500 inch
 23 to 36 inches long, not less than 1 inch
 over 36 inches long, not less than 2 inches

FIGURE 1. Hose assembly details and length.

MIL-DTL-26633D

3.5 Identification of the product. Each hose assembly shall be identified by a permanently attached snug-fitting aluminum or stainless steel band around the hose near the end fitting. Where the hose assembly exceeds 4 feet in length, a band shall be attached near each end fitting of the assembly. The metal band shall be marked in raised, etched, or stamped lettering with the following information appropriately identified:

- a. Number and title of this specification.
- b. Date of assembly in month and year.
- c. The rated working pressure in psi, followed by the word "oxygen".
- d. Hose assembly manufacturer's name or trademark.
- e. Manufacturer's PIN.
- f. Hose manufacturer's federal supply code if different from hose assembly manufacturer.
- g. Federal supply classification number (FSC 4720) followed by the National Item Identification Number (NIIN), if available. If not available, follow the class with NSL (Not Stock Listed).
- h. Specification PIN (see 1.2).

3.6 General cleaning instructions. Prior to and during assembly, hose assembly components shall be cleaned in accordance with the highest commercial standards. Metal chips, hose cuttings, and other foreign material shall be removed during and after final assembly. Following completion of fabrication and assembly operations, the hose assembly shall be thoroughly cleaned.

3.6.1 Cleaning requirements. The hose assembly shall be cleaned to assure compatibility with 99.5 percent purity oxygen at a pressure of 4,000 psig and compliance with the cleaning effectiveness requirements of 4.6.11. The cleaning methods and procedures shall be optional. The hose assembly shall not be adversely affected by the cleaning method or procedures.

3.6.1.1 Fluids for cleaning and flushing. Fluids used for cleaning and flushing or as a carrier for cleaning solutions shall be cleaned and grease-free and shall contain not more than 50 ppm of suspended or dissolved impurities. Water used for flushing or rinsing shall be demineralized and shall have a specific resistance of at least 50,000 ohms. Fluids or solutions that would react chemically with any part of the hose assembly shall not be used.

3.6.1.2 Purging and drying requirements. Gas used for purging and drying purposes shall be cleaned, dry oil-free air or nitrogen having a dewpoint at 0 psig of not more than 30°F and shall contain no more than 3 ppm by volume of total hydrocarbons expressed as methane equivalent. Only water pumped dry nitrogen in accordance with A-A-59503, type I, grade A, class 1 shall be used for drying and purging purposes.

3.7 Workmanship. Workmanship shall be of the quality necessary to produce hose assemblies which are free from defects and which will affect proper functioning in service.

3.8 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

MIL-DTL-26633D

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. Qualification Inspection (see 4.3).
- b. Conformance Inspection (see 4.4).

4.2 Requirements cross-reference matrix. Table I provides a cross-reference matrix of the section 3 requirements tested or verified in the paragraphs below.

4.2.1 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

TABLE I. Requirements cross-reference matrix.

Examination or test	Requirement	Verification	Examination or test	Requirement	Verification
Qualification	3.1	4.3.1	Lubricants	3.3.3.2	4.6.1
Materials	3.2	4.6.1	Proof pressure	3.4.1	4.6.2
Fungusproof materials	3.2.1	4.6.1	Leakage	3.4.2	4.6.3
Rubber goods	3.2.2	4.6.1	Cold temperature flexing	3.4.3	4.6.4
Other materials	3.2.3	4.6.1	Elongation and contraction	3.4.4	4.6.5
Design and construction	3.3	4.6.1, 4.4.2.1, 4.4.2.2	Tensile strength	3.4.5	4.6.6
Reliability	3.3.1	4.6.12	Burst pressure	3.4.6	4.6.7
Hose	3.3.2	4.6.1, 4.4.2.1, 4.4.2.2	Overtightening torque	3.4.7	4.6.9
Inner tube	3.3.2.1	4.6.1	Pressure impulse cycling	3.4.8	4.6.10
Tetrafluorethylene material	3.3.2.1.1	4.6.1	Identification of the product	3.5	4.6.1
Reinforcement	3.3.2.2	4.6.1	General cleaning instructions	3.6	4.6.11
Outer cover	3.3.2.3	4.6.1	Cleaning requirements	3.6.1	4.6.11.1
Diameter	3.3.2.4	4.6.1, 4.6.8	Fluids for cleaning and flushing	3.6.1.1	4.6.11.1, 4.6.11.2
Length	3.3.2.5	4.6.1, 4.4.2.2, 4.6.8	Purging and drying requirements	3.6.1.2	4.6.11.3
End fittings	3.3.3	4.6.1, 4.4.2.2, 4.6.8, 4.6.8.1	Workmanship	3.7	4.6.1
Coupling guard	3.3.3.1	4.6.1, 4.4.2.1	-----		-----

MIL-DTL-26633D

4.3 Qualification inspection (see 6.3).

4.3.1 Qualification sampling. Six hose assemblies, 24 \pm 6 inches long, shall be fabricated from random samples of bulk hose and end fittings using production processes and procedures. These hoses shall be subjected to the qualification tests. Samples for tensile and burst tests may be reduced to 18 \pm 6 inches long if necessary because of test equipment limitations. Allocation of test samples and testing shall be in accordance with table II.

TABLE II. Qualification tests requirements.

Test	Sample number					
	1	2	3	4	5	6
Examination of product (see 4.6.1)	X	X	X	X	X	X
Proof pressure test (see 4.6.2)	X	X	X	X	X	X
Leakage test (see 4.6.3)	X	X	X	X	X	X
Cold temperature flexing test (see 4.6.4)	X	X				
Elongation and contraction test (see 4.6.5)	X	X				
Tensile strength test (see 4.6.6)			X	X		
Burst pressure test (see 4.6.7)			X	X		
Hose dimension inspection (see 4.6.8)	X	X	X	X	X	X
Overtightening torque test (see 4.6.9)	X	X				
Pressure impulse cycling (see 4.6.10)					X	X

4.3.2 Failure. Failure of an article to pass any of the qualification requirements in table II shall be cause for the Government to refuse to qualify these products. Qualification of the product shall not occur until corrective action has been made and successful completion of qualification testing is accomplished.

4.4 Conformance inspections.

4.4.1 Inspection lot. A lot consists of 500 hose assemblies or fraction thereof offered for inspection at the same time.

4.4.2 Inspection and conformance test.

4.4.2.1 Inspection. Each hose assembly shall be inspected as follows and in the order listed:

- a. Examination of product (see 4.6.1).
- b. Proof pressure (see 4.6.2).
- c. Leakage (see 4.6.3).

4.4.2.2 Sampling for conformance. From each lot, four assemblies, 18 \pm 6 inches long, shall be fabricated using production processes and procedures and tested as follows. Allocation of test samples and testing shall be in accordance with table III.

MIL-DTL-26633D

TABLE III. Conformance tests requirements.

Test	Sample number			
	1	2	3	4
Hose dimension inspection (see 4.6.8)	X	X	X	X
Proof pressure test (see 4.6.2)	X	X	X	X
Leakage test (see 4.6.3)	X	X	X	X
Tensile strength test (see 4.6.6)	X	X		
Burst pressure test(see 4.6.7)	X	X		
Pressure impulse cycling (see 4.6.10)			X	X

4.4.3 Verification certification records. The contractor shall maintain test records of 4.4.2.2 and these records shall be available for government inspection.

4.4.4 Failure. Failure of an article sample to pass any of the inspections or tests specified in 4.4.2.2 shall be cause for the Government to refuse to accept further products until corrective action has been made and successful completion of the requirements of table III are accomplished.

4.5 Inspection of preparation for delivery. The inspection of the preservation, packaging, packing, and marking shall be in accordance with the requirements of section 5 herein.

4.6 Test methods.

4.6.1 Examination of the product. The hose assembly shall be visually examined to determine compliance with the requirements specified for materials, workmanship, dimensions, design and construction, and marking.

4.6.2 Proof pressure test. Each hose assembly shall be subjected to 6,000 psig hydrostatic pressure for not less than 30 seconds nor more than 5 minutes. Clean water shall be used as the pressurizing fluid. Any indication of leakage, distortion, or other malfunction shall be cause for rejection (see 3.4.1).

4.6.3 Leakage test. Each hose assembly shall be pressurized to 3,000 psig pneumatic pressure with the assembly under water. The pressure shall be maintained for not less than 1 minute nor more than 15 minutes. Indication of rapid forming and breaking away of bubbles from any point on the outer surface of the hose or any part of the end fitting shall be cause for rejection. In the event of a dispute, the effusion from any 12-inch section of the hose assembly shall be collected in an inverted graduate for 15 minutes. At the end of 15 minutes, the amount of gas accumulated in the graduate shall not exceed 25 cc (see 3.4.2).

4.6.4 Cold temperature flexing test. The hose assembly shall be placed in a cold chamber and soaked at $-65 \pm 2^{\circ}\text{F}$ for 24 hours. At the end of the soaking period, and with the assembly still at the specified temperature, the assembly shall be flexed through 180 degrees to the applicable bend radius shown on figure 1 and then straightened. The assembly shall again be flexed through 180 degrees to the same bend radius in such a direction that the portion of the hose under maximum compression during the first flexing shall be under maximum expansion during the second. The sample shall be flexed in both directions within 4 seconds. The hose assembly shall be visually examined, and then subjected to the leakage test specified in 4.6.3. Any hose assembly showing evidence of cracking, splitting, distortion, or leakage shall be considered to have failed the test (see 3.4.3).

MIL-DTL-26633D

4.6.5 Elongation and contraction test. The hose assembly shall be placed in a straight position with one end unrestrained. Before applying pressure, the free length of the assembly shall be measured. The assembly shall then be pressurized to 3,000 psig and maintained at that pressure for 5 minutes. At the end of 5 minutes and while still pressurized to 3,000 psig, the change in free length shall be measured and shall not exceed +3 percent (elongation) and -3 percent contraction. Any assembly exceeding the +3 or -3 percent elongation or contraction shall be cause for rejection (see 3.4.4).

4.6.6 Tensile strength test. The hose assembly shall be placed in a straight position and pressurized to 3,000 psig using a suitable liquid. While pressurized, the hose shall be pulled by the end fittings to 1,000 pounds tensile pull at the rate of 1 inch per minute. Any failure below 1,000 pounds pull shall be cause for rejection (see 3.4.5).

4.6.7 Burst pressure test. The hose assembly shall be placed in a straight position with one end unrestrained. The assembly shall be pressurized with a suitable fluid. The rate of pressure rise shall be 20,000 \pm 5,000 psi per minute until failure occurs. If any component of the hose assembly bursts or cracks at less than 12,000 psi, it shall be cause for rejection (see 3.4.6).

4.6.8 Hose dimension inspection. The hose shall be checked to determine compliance with the dimension requirements specified on figure 1. A hose found to exceed the tolerance limits specified shall be cause for rejection.

4.6.8.1 Fitting dimensions inspection. The hose assembly, with end fittings attached, shall be checked to determine compliance with the end fitting dimension requirements specified on figure 1. A hose assembly having end fittings outside the tolerance limits specified shall be cause for rejection.

4.6.9 Overtightening torque test. The flared end fittings of the hose assembly shall be assembled on a fitting of steel construction conforming to SAE-AS4395. The fitting shall be tightened to an overtightening torque of 315 pound-inches and loosened. The tightening and loosening sequence shall be repeated until a total of not less than 15 cycles have been performed. The end fittings shall then be removed and examined for damage. Evidence of failure, thread damage, or deformation of the end fitting assembly, or binding or difficulty in turning the swivel nut on the nipple by hand, shall be cause for rejection (see 3.4.7).

4.6.10 Pressure impulse cycling. The hose assembly shall be fixed in a semicircular position with the longitudinal axes of the end fittings parallel. The hose assembly shall then be subjected to a hydraulic or pneumatic pressure impulse cycle from 0 to 3,000 to 0 psig at a rate of not less than 60 \pm 10 cpm for not less than 2,000 cycles. The hose assembly shall be visually examined, and then subjected to the leakage test specified in 4.6.3. Any hose assembly showing evidence of cracking, splitting, distortion, or leakage shall be considered to have failed the test.

4.6.11 Cleaning effectiveness. One hose assembly shall be selected at random from each lot of two hundred hose assemblies, or fraction thereof, that have been cleaned in accordance with 3.6.1 and subjected to the following tests.

4.6.11.1 Step 1. The hose assembly shall be filled with flushing water conforming to 3.6.1.1 and, while filled, the entire length of the hose assembly including end fittings shall be brushed internally with a clean brush having a diameter at least 0.063 inch larger than the inside diameter of the hose.

4.6.11.2 Step 2. After the brushing operation, the water shall be drained from the hose assembly into a clean beaker or similar container. The water in the beaker shall be vigorously agitated, and a 50 \pm 5 cc sample shall be transferred to an evaporating dish before any residue can again settle to the bottom of the beaker.

MIL-DTL-26633D

4.6.11.3 Step 3. The measured sample shall then be evaporated to dryness of 221°F and the residue weighed and microscopically examined. Evidence of particle sizes larger than 100 microns or a total residue weight of more than 1 milligram per milliliter of original measured sample shall be cause for rejection of the entire lot. If the lot is rejected, the hose assemblies shall be recleaned in accordance with 3.6.1 and a new sample taken for compliance with this test. If the test shows the cleaning methods to be satisfactory, the hose assembly shall be dried with drying gas conforming to 3.6.1.2 and preserved and packaged with the remainder of the lot.

4.6.12 Reliability. Reliability requirements for hose assemblies may be verified by either of the following methods:

- a. Use of actual failure data from like or similar hose assemblies. Similarity may be used only when equivalent manufacturing methods, equivalent materials and operating conditions are utilized.
- b. By analytical methods and or computations recognized by industry (see 6.5.2 and 6.5.3).

5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

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

6.1 Intended use. The hose assembly covered by this specification is intended for use as a servicing hose on ground servicing equipment. The hose assembly will be used in charging aerospace vehicle breathing oxygen systems.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Specification PIN (see 1.2 and 3.5).
- c. When coupling guard is required (see 3.3.3.1).
- d. Location for qualification testing (see 4.3).
- e. Applicable levels of packaging and packing (see 5.1).
- f. Qualification test report/documentation (see 6.3.1).

MIL-DTL-26633D

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time sent for opening of bids, qualified for inclusion in Qualified Products List (QPL No.) whether or not such products have actually been so listed by that date. The attention of the contractor is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer the Federal Government tested for qualification in order that they may be eligible to awarded contracts of purchase orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Defense Supply Center, Columbus (DSCC-VQ), Columbus, OH 43216-5000. Information pertaining to qualification of products may be obtained from that activity.

6.3.1 Qualification testing report / documentation. Upon completion of the qualification tests, a test report or documentation of the test conditions and results should be maintained at the contractor's facility. This documentation should be available to Government personnel for examination. In the past, qualification reports have been prepared using the guidance in MIL-HDBK-831 and have been furnished to the government for their evaluation and for use in preparing and updating the QPL for this product.

6.4 Packaging.

6.4.1 Preservation and packaging. Preservation and packaging should be level A, C or commercial/industrial as specified in the contract or order.

6.4.1.1 Level A. Immediately after cleaning and drying as specified in 3.6, the end fittings of each hose should be capped or plugged with closures conforming to NAS847. Each hose assembly should be coiled with a diameter not less than 10 inches and preserved in accordance with MIL-STD-2073-1D without a contact preservative. Polyethylene heat-sealed, type I bags conforming to MIL-DTL-117 may be used for method protection.

6.4.1.2 Intermediate packaging. Hose assemblies packaged as specified in 6.4.1.1 should be intermediately packaged in a container conforming to PPP-B-676.

6.4.1.3 Level C. The level C preservation for hose assemblies should conform to the MIL-STD-2073-1D requirements of this level.

6.4.2 Packing. Packing should be level A, B, C or commercial / industrial, as specified in the contract or order.

6.4.2.1 Level A. Hose assemblies preserved and packaged as specified in 6.4.1.1 should be packed in containers conforming to ASTM D6251, overseas type. The closure should be in accordance with the appendix of the container specification.

6.4.2.2 Level B. Hose assemblies preserved and packaged as specified in 6.4.1.1 should be packed in a container conforming to ASTM D5118 and ASTM D1974, weather resistant. The closure should be in accordance with the appendix of the container specification.

6.4.2.3 Level C. Hose assemblies preserved and packaged as specified in 6.4.1.1 should be packed in a manner to ensure carrier acceptance and safe delivery at destination. Containers should be in accordance with either the uniform freight classification rules or regulations of the carriers applicable to the mode of transportation or commercial/industrial packing of hose assemblies should be in accordance with the requirements of ASTM D3951.

6.4.3 Physical protection. Shipping and intermediate containers should be cushioned in accordance with MIL-STD-1186.

6.4.4 Marking. Interior packages and exterior shipping containers should be marked in accordance with MIL-STD-129.

6.5 Definitions. For the purpose of this specification, the following definitions apply:

6.5.1 Lot. A lot should consist of hose assemblies manufactured under essentially the same conditions and submitted for inspection at substantially the same time.

6.5.2 Reliability. Reliability may be shown analytically by using any recognized method of calculation for computing the reliability of a hose assembly.

6.5.3 Mean-time-between-failures. MTBF may be shown analytically by using any of the recognized methods used for calculating MTBF.

6.6 Subject term (key word) listing.

Servicing
Breathing
3,000 psi
High pressure

6.7 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensive change.

CONCLUDING MATERIAL

Custodians:
Air Force – 99
DLA – CC

Preparing activity:
DLA - CC

Review activity:
Air Force – 71

(Project 4720-0327-000)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at www.dodssp.daps.mil.