

INCH-POUND

MIL-DTL-26894E

w/AMENDMENT 1

16 November 2023

SUPERSEDING

MIL-DTL-26894E

01 April 2019

DETAIL SPECIFICATION

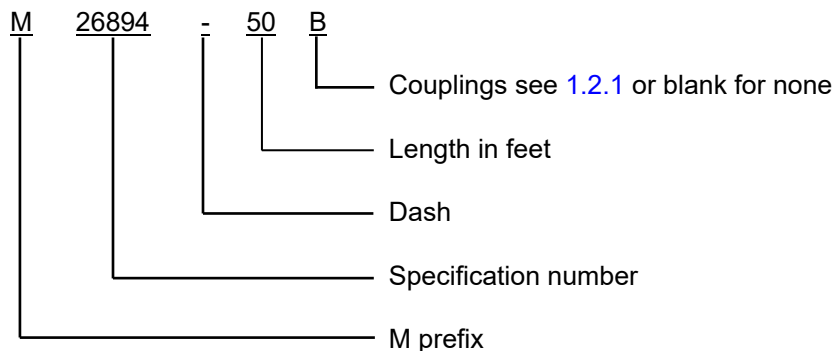
HOSE AND HOSE ASSEMBLY, RUBBER, GASOLINE, REFUELING, LOW TEMPERATURE

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 requirements for hose and hose assembly, rubber, gasoline, refueling, low temperature. The rubber hose and hose assemblies are 4-inch ID for gasoline or JP-8 and NATO F-24 refueling.

1.2 Part or Identifying Number (PIN). The PIN consists of the letter M, specification number, a dash the length in feet and if couplings are required the letter C or blank if not.



1.2.1 Material designators for body, nut, and sleeve.

A - Aluminum
B - Brass
S - Stainless steel
Blank - No coupling's

Comments, suggestions, or questions on this document should be addressed to DLA Land and Maritime, Columbus, Attn: DSCC-VAI, P. O. Box 3990, Columbus OH 43218-3990, or emailed to FluidFlow@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.



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

2.2 Government documents.

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 listed in the solicitation or contract.

COMMERCIAL ITEM DESCRIPTIONS

A-A-59107 - Toluene, Technical

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-83133 - Turbine Fuel, Aviation, Kerosene Type, JP-8 (NATO F-34),
NATO F-35, and JP-8+100 (NATO F-37)
MIL-PRF-8625 - Anodic Coatings for Aluminum and Aluminum Alloys
MIL-C-11796 - Corrosion Preventive Compound, Petrolatum, Hot Application

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-31000 - Technical Data Packages

DEPARTMENT OF DEFENSE HANDBOOKS

MIL-HDBK-831 - Test Reports, Preparation of

(Copies of these documents are available online at <https://quicksearch.dla.mil>.)

2.2 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.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

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

(Copies of this document is available online at <https://www.ansi.org>.)

ASTM INTERNATIONAL

ASTM-D380 - Rubber Hose, Standard Test Method for
ASTM D4814 - Standard Specification for Spark-Ignition Automotive Fuel
ASTM-D412 - Vulcanized Rubber, Thermoplastic Rubbers and Thermoplastic
Elastomers - Tension, Standard Test Methods for
ASTM-A967/A967M - Standardization Specification for Chemical Passivation
Treatments for Stainless Steel Parts
ASTM D1655 - Standard Specification for Aviation Turbine Fuels

(Copies of these documents are available online at <https://www.astm.org>.)

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO4649 - Rubber , vulcanized or thermoplastic- Determination of Abrasion Resistance Using a Rotating Cylindrical Drum Device

(Copies of this document is available online at <https://www.iso.org>.)

SAE INTERNATIONAL

SAE AMS 2700 - Passivation of Corrosion-Resistant Steels
SAE AS1933 - Age Controls for Hose Containing Age-Sensitive Elastomeric Material
SAE AMS-A-21180 - Aluminum-Alloy Castings, High Strength
SAE AMS-QQ-P-416 - Plating, Cadmium (Electrodeposited)
SAE AMS-QQ-S-763 - Steel Bars, Wire, Shapes, and Forgings; Corrosion Resistant

(Copies of these documents are available online at <https://www.sae.org>.)

EUROPEAN COMMITTEE FOR STANDARDIZATION

EN 228 - Automotive fuels – Unleaded petrol – Requirements and test methods

(Copies of this document are available from <https://www.cencenelec.eu>.)

UK DEPARTMENT OF DEFENCE

Defence Standard 91-091 -Turbine Fuel, Kerosene Type, Jet A-1; NATO Code: F-35; Joint Service Designation: AVTUR

(Copies of this document are available from <https://www.dstan.mod.uk>.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, (except for related specification sheets), 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 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 4.3 and 6.3).

3.2 Material. Materials shall be as required in this specification and shall conform to all applicable Government specifications and drawings, except as otherwise specified herein. Materials which are not covered by specifications, or which are not specifically described herein, shall be of the quality appropriate for the purpose intended (see 6.1).

3.3 Recycled, recovered, environmentally preferable, or biobased materials. Recycled, recovered, environmentally preferable, or biobased 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.

3.3.1 Recovered materials. 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. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

3.3.2 Used, rebuilt, or remanufactured components. No used, rebuilt, or remanufactured components, pieces, or parts shall be incorporated in the couplings.

3.3.3 Ozone depleting substances (ODS). Class I and II ozone depleting substances (ODS) shall not be used in MIL-DTL-26894 or any referenced procedures.

3.4 Design and construction. Unless otherwise specified in the contract or in the purchase order (see 6.2), the hose shall consist of the following components:

- a. Compounded inner tube (see 3.5.1)
- b. Braided, loomed or plied-type reinforcement (see 3.5.2)
- c. Helix wire (see 3.5.3)
- d. Compounded cover (see 3.5.4)

3.5 Hose. The hose shall be no more than eight quarters old from the cure date to the date of delivery to the procuring activity or to the manufacturers of hose couplers and other accessory equipment. The hose assembly installed in equipment shall be no more than sixteen quarters old upon the date of delivery of that equipment to the procuring activity. The cut hose ends shall be sealed with a sealant or cement. Definitions for “cure date” and “quarter” can be found in SAE AS1933, see 6.2.1.

3.5.1 Tube. The tube shall be made from a synthetic rubber compound resistant to high aromatic aviation fuel. The thickness of the tube shall be not less than 0.094 inch and its diameter shall be uniform to within ± 0.031 inch. The bore of the tube shall be smooth, free from pitting, cuttings, borings or cements.

3.5.2 Reinforcement. The reinforcement shall be evenly and firmly braided, loomed, or plied. It shall be free from defects, dirt, knots, lumps, and irregular twisting.

3.5.3 Helix wire. The helix of round wire, made from steel free of corrosion, and shall be embedded in synthetic rubber between reinforcing members. The diameter of the wire shall be not less than 0.078 in. Its tensile strength shall be not less than 180,000 psi. The wire shall extend at least to under the middle coupling strap.

3.5.4 Cover. The cover shall be constructed of compounded polychloroprene rubber and shall be abrasion resistant (see 3.7.3). It shall be smooth, free from pitting, and shall have a uniform thickness of not less than 0.063 inch.

3.6 Couplings. Unless otherwise specified, couplings shall not be provided. When couplings are required, they shall be non-reattachable, threaded and of the male or female type as specified by the procuring activity (see 6.2), the following details shall apply:

- a. The bore shall be smooth.
- b. The female coupling nut shall swivel freely by hand.
- c. An appropriate gasket shall be used to ensure that the nut is leak tight.
- d. The shank of the body shall have a rounded outer edge to prevent cutting of the hose during installation or from sharp bending during usage.
- e. The body shall be securely attached to the hose.
- f. There shall be no protruding clamps or fasteners.
- g. If a sleeve is used, the sleeve shall extend beyond the end of the body when installed.
- h. If straps are used, the body shank shall have a length of not less than 5 inches, and the number of barbs separated by a strap shall be not less than two.

3.6.1 Coupling chemical composition. If supplied, the body, nut, and sleeve of the coupling shall be a one of the following types:

- a. 300 series stainless steel conforming to SAE AMS-QQ-S-763, passivated in accordance with ASTM-A967/A967M or SAE AMS2700, method 1, type 6 or 7. If used free machining alloy UNS S30300 shall be passivated in accordance with SAE AMS2700, method 1, type 2 or 4.
- b. High grade brass whose composition shall contain no less than 58 percent copper.
- c. MIL-A-8625 anodized high tensile strength aluminum, type 354 casting alloy conforming to SAE AMS-A-21180 or aluminum alloy wrought of other than the 2000, 4000, and 7000 series may also be used.

3.6.2 Grip wire. If used, the grip wire shall be corrosion resistant steel or carbon steel. Grip wire of carbon steel shall be protected against corrosion by either cadmium plating in accordance with SAE AMS-QQ-P-416, type II, class 2 or by any other equivalent method that meets the corrosion resistance requirement of SAE AMS-QQ-P-416.

3.6.3 Straps. If straps are utilized, they shall be of a 300 series stainless steel conforming to SAE AMS-QQ-S-763, passivated in accordance with ASTM-A967/A967M or SAE AMS2700, method 1, type 6 or 7. Free machining alloy UNS S30300 shall be passivated in accordance with SAE AMS2700, method 1, type 2 or 4.

3.6.4 Gaskets. If gaskets are provided, they shall be made of synthetic rubber.

3.6.5 Coupling threads. Both the male and female type couplings shall be threaded with 4-inch American National pipe threads (NPT).

3.6.6 Coupling caps. Each coupling shall be provided with a protective closed-end, reusable, threaded, metal cap. The thickness of the cap shall be not greater than 0.031 inch and not less than 0.025 inch. The cap shall not be chemically affected by the corrosion- preventive compound conforming to class 1 of MIL-C-11796.

3.7 Performance.

3.7.1 Length change. The length of the hose shall not change more than 7 percent when subjected to the applicable tests specified in 4.5

3.7.2 Adhesion between tube and adjacent parts. When tested in accordance with 4.5.2, the rate of separation between tube and plies, between plies, and between cover and plies shall be not greater than 1 in/min when tested under a load of not less than 5 lb/in.

3.7.3 Abrasion resistance of the cover. When subjected to testing in accordance with 4.5.3, the volume of material abraded from the cover shall be not greater than 160 mm³.

3.7.4 Burst resistance. The hose shall not burst or develop a permanent blister when tested in accordance with 4.5.4.

3.7.5 Low temperature flexibility. When tested in accordance with 4.5.5, the force required to open the concave hose to approximately 90° angle shall be not greater than 125 lb.

3.7.6 Low temperature bend. Samples of both the tube and cover shall not crack tested in accordance with 4.5.6.

3.7.7 Volume increase. When tested in accordance with 4.5.7, the volume increase of the tube and cover shall be not greater than 30 and 60 percent, respectively.

3.7.8 Tensile strength. When tested in accordance with 4.5.8, the tensile strength of the tube and cover shall be not less than 600 and 400 psi, respectively.

3.7.9 Ultimate elongation. When tested in accordance with 4.5.8, the ultimate elongation of the tube and cover before immersion shall be not less than 200 percent. After immersion, the ultimate elongation of the tube and cover shall be not less than 100 percent.

3.7.10 Pull resistance. When tested in accordance with 4.5.9, the distance between the white marking and the adjacent coupling shall be not greater than 0.062 inch. The hose assembly shall neither break nor shall its couplings disconnect from the hose.

3.7.11 Crush resistance. After being subjected to testing in accordance with 4.5.10, the OD of the hose shall be not less than 95 percent of its original size.

3.7.12 Proof pressure. When tested in accordance with 4.5.11, the hose shall not crack, leak or malfunction in any way.

3.7.13 Surge pressure cycling. The hose assembly shall not leak or burst during or at the completion of 500 cycles of surge pressure when tested in accordance with 4.5.12.

3.8 Interchangeability. All hose bearing the same manufacturer's part number shall be functionally and dimensionally interchangeable. MIL-STD-31000 shall govern the designation of manufacturer's part numbers and changes thereto.

3.9 Dimensions.

3.9.1 Diameter. The hose assembly shall have an inside diameter of 4 ± 0.031 inch and an outside diameter of 4.875 ± 0.063 inch.

3.9.2 Length. The length of the hose shall be as specified by the procuring activity (see 6.2) with a tolerance of ± 1 percent. Length measurement shall not include the couplings.

3.9.3 Weight. The weight of the hose shall be not greater than 4 lb/ft.

3.10 Identification of product. The hose shall be legibly marked along its longitudinal axis with a fuel-resistant yellow stripe. The stripe shall be broken at approximately 2-inch intervals.

3.10.1 Labeling. A label, vulcanized and inlaid approximately in the center on each length of hose, shall contain the following information:

- MIL-DTL-26894
- Date of Manufacture (quarter and year, example: 3Q19)
- Contract or Order No.
- Manufacturer's Name or Trademark

3.11 Workmanship. The hose assembly shall be uniform in quality and shall be free from irregularities, defects, or foreign matter, which may adversely affect the service performance.

4. VERIFICATION

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

- a. First article inspection (see 4.2)
- b. Conformance inspection (see 4.4).

4.2 First article inspection. When specified (see 6.2), samples that are representative of the production item shall be submitted to the Government after award of a contract for first article inspection. First article inspection consists of performing all examinations and tests required in this specification on samples submitted by the manufacturer to determine whether the production item meets the requirements of this specification.

4.2.1 Lot records. Manufacturers shall keep lot records for 3 years minimum. Manufacturers shall monitor for compliance to the prescribed procedures and observe that satisfactory manufacturing conditions and records on lots are maintained for these strainers. The records, including as a minimum, an attributes summary of all quality conformance inspections conducted on each lot, shall be available to review by customers at all times.

4.2.2 Responsibility for compliance. All items shall meet all requirements of sections 3 and 4. 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 ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.2.3 Samples. Unless otherwise specified, the following samples shall be subjected for first article inspection as specified in 4.2. The samples shall be representative of the construction, workmanship, components and materials to be used during production. Samples subjected to destructive testing shall not be submitted as part of the contract or order.

- a. A 10-foot length of uncoupled hose.
- b. A 3-foot length of hose with couplings and caps attached.
- c. A 15-inch length of hose with couplings attached.

4.3 Testing of first article. First article inspection shall consist of all the tests specified in Table I.

4.3.1 Test methods and conditions. Testing shall be performed in accordance with Table I under the conditions specified for each particular test. Unless otherwise specified, testing at room temperature shall be performed at 75°F ±10°F. When required for testing, couplings that are provided as part of the contract or order (see 6.2) shall be used. When couplings are not specified in the contract or order, any type of couplings may be used for testing as long as they meet the requirements of 3.5.

TABLE I. Test Methods.

Requirement	Requirement paragraph	Test method paragraph
Visual inspection	3.4 , 3.8 , 3.10 , and 3.11	4.5.1
Fittings (hose assembly)	3.6	4.5.1
Weight (hose only)	3.9.3	---
Length change	3.7.1	---
Adhesion between tube & adjacent parts	3.7.2	4.5.2
Abrasion resistance of the cover	3.7.3	4.5.3
Burst resistance	3.7.4	4.5.4
Low temperature flexibility	3.7.5	4.5.5
Low temperature bend	3.7.6	4.5.6
Volume increase	3.7.7	4.5.7
Tensile strength	3.7.8	4.5.8
Ultimate elongation	3.7.9	4.5.8
Pull resistance	3.7.10	4.5.9
Crush resistance	3.7.11	4.5.10
Proof pressure	3.7.12	4.5.11
Surge pressure cycling	3.7.13	4.5.12

4.3.2 Rejection and retest. Rejection and retest criteria shall be as specified in [4.4.4](#).

4.3.3 Failures. All samples must meet all of the contract requirements. Failure of a sample unit to pass any test shall be cause for rejection of the entire lot and to grant first article approval.

4.3.4 First article information. Upon completion of first article inspection, the Government activity responsible for conducting the inspection program (see [6.2](#)), shall report the results of the inspection, with appropriate recommendation, to the contracting officer. Approval of the first article samples or the waiving of first article inspection does not preclude the requirements for performing conformance inspection. For preparing the test report, reference MIL-HBDK-831.

4.3.5 Waivers or deviations to specification requirements. All waivers or deviations to specification requirements shall be coordinated through the preparing activity: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, Ohio 43218-3990 or e-mailed to FluidFlow@dla.mil.

4.4 Conformance inspection.

4.4.1 Conformance inspection inspections. For manufacturers that have successfully passed first article inspections and are continuously producing adapters to this specification on going inspections shall consist of individual inspections see Table II. If first article is waived due to prior successful first article inspection, the individual inspections and sampling and periodic inspections shall be the manufactures in house inspection procedures.

4.4.2 Individual tests. Each hose shall be subjected to the following examination and test. Lot acceptance and rejection criteria shall be as specified in 4.4.4.

4.4.3 Individual inspections sampling plan. Individual inspection tests specified in Table II shall be performed on a production lot basis. All defective material shall be removed from the production lot and shall not be supplied to this specification.

TABLE II. Individual inspections.

Inspections	Requirement paragraph	Inspection paragraph
Visual inspection <u>1/</u>	3.4, 3.8, 3.10, and 3.11	4.5.1
Weight (hose only)	3.9.3	---
Fittings (hose assembly) <u>1/</u>	3.6	4.5.1
Proof pressure <u>2/</u>	3.7.12	4.5.11
Burst	3.7.4	4.5.4

1/ 100 percent inspection unless an alternate sampling plan is approved in writing by the procuring activity.

2/ 100 percent inspection of bulk hose length and each hose assembly. Proof pressure test shall be as specified in 4.5.12, except the pressure shall be held for not less than 30 seconds and not greater than 2 minutes.

4.4.4 Sampling for bulk hose. Sampling for bulk hose shall be performed on each continuous run under essentially continuous conditions. Samples shall be selected at a rate of 1 sample for each full or partial increment of 750 feet of hose produced in the continuous run, up to a maximum of 2 samples (for continuous runs greater than 1,500 feet), 2 samples shall be selected, but they shall be representative of the entire production run). Sampling tests for burst shall be performed in the listed order on each sample as applicable.

4.4.5 Hose assemblies. For hose assemblies, the inspection lot shall be 8 samples tested for each 3000 assemblies produced (large lot option). At the option of the manufacturer, one sample may be tested for each 375 assemblies produced (small lot option). If there has been some production, but the number hose assemblies produced has not reached 375 within three years, the manufacture shall perform sampling tests on one hose assembly unless documented approval to not perform the tests has been obtained from the procuring activity.

4.4.6 Samples and tests. Test samples, selected in accordance with 4.4.4 or 4.4.5 as applicable, shall be subjected to all the tests specified in 4.4.1. Specimens shall be of sufficient length for the performance of the required tests. Samples subjected to destructive testing shall not be submitted as part of the contract or order.

4.4.7 Rejection and retest. When one or more items selected from a lot fails to meet all the requirements specified herein, the entire lot shall be rejected. Samples may be submitted for retesting only after the manufacturer has furnished details concerning the previous rejection and the action taken to correct the defects in the lot.

4.5 Test methods.

4.5.1 Visual inspection. The hose or hose assembly shall be visually examined for the following defects:

- a. Dimensions not as specified, see 3.8
- b. Materials not as specified, see 3.4
- c. Hose not as specified, see 3.5
- d. Coupling halves not as specified (if provided) see 3.6
- e. Identification marking missing, illegible, or not as specified, see 3.10
- f. Workmanship not as specified, see 3.11.

4.5.2 Adhesion between tube and adjacent parts. Hose when tested for adhesion shall meet the requirements of 3.7.2 the following details shall apply:

- a. A 12-inch length of hose shall be stoppered with leak proof plugs and filled with the mixed hydrocarbon fluid specified in Table III.
- b. The filled specimen shall be held at 75°F ±5°F for 72 hours.
- c. Within 15 minutes after removal of the fluid, ring specimens shall be obtained from the center of the hose length and tested in accordance with ASTM D413.

TABLE III. Hydrocarbon fluid composition.

Ingredient	Volume percentage at 60°F
Iso-octane (2,2,4 trimethylpentane) <u>1/</u>	70
Toluene <u>2/</u>	30

1/ Fluid shall conform to ASTM Manual of Engine Test Methods for Rating Fuels.

2/ Fluid shall conform to A-A-59107.

4.5.3 Abrasion resistance of the cover. Samples shall be tested in accordance with ISO4649, method A. Conformance shall be as specified in 3.7.3.

4.5.4 Burst resistance. Testing shall be conducted in accordance with ASTM D380. Application of hydraulic pressure shall be not less than 700 psi. Conformance shall be as specified in 3.7.4.

4.5.5 Low temperature flexibility. Hose when tested for low temperature flexibility shall meet the requirements of 3.7.5 the following details shall apply:

- a. An uncoupled 5 foot length of hose shall be bent into a concave shape so that the ends of the hose are approximately 40 inches apart.
- b. A longer length of hose may also be used by coiling it into a 40-inch diameter circle.
- c. The hose shall be tied to retain the U or circular shape and then exposed to -67°F ±2°F for not less than 72 hrs.
- d. While the temperature is at -67°F ±2°F, the hose shall then be forced open to an angle of approximately 90°.
- e. The force required to open the hose shall be recorded.

4.5.6 Low temperature bend. Hose when tested for low temperature bend shall meet the requirements of 3.7.6 the following details shall apply:

- a. Buffed specimens of the tube and cover, 4 inches long and 0.250 inch wide, shall be clamped in a concave shape between 2-inch wide plates held at 2.500 inches apart.
- b. When the plates are brought together so that the distance between the ends are not greater than 1.250 inches, the bend in the test specimen shall not protrude beyond the edges of the plates.
- c. After 72 hours exposure at $-67^{\circ}\text{F} \pm 2^{\circ}\text{F}$, the plates shall be moved rapidly together until the ends of the specimen are not more than 1 inch apart.

4.5.7 Volume increase. The weight of water displaced by each of three 1-inch by 2-inch buffed specimens for the tube and cover shall be determined before and after a 24 hours immersion at $75^{\circ}\text{F} \pm 5^{\circ}\text{F}$ in the hydrocarbon fluid specified in Table III. Conformance shall be as specified in 3.7.7.

4.5.8 Tensile strength and ultimate elongation. Hose when tested for tensile strength and ultimate elongation shall meet the requirements of 3.7.8 and 3.7.9 the following details shall apply:

- a. Testing shall be in accordance with ASTM D412.
- b. The tube and cover test specimens shall be obtained from die C.
- c. Tube specimens shall be buffed to a thickness of not less than 0.050 inch.
- d. Immersion shall be for 48 hours at $75^{\circ}\text{F} \pm 5^{\circ}\text{F}$ in the mixed hydrocarbon fluid specified in Table III.
- e. Testing shall be conducted within 5 minutes after removal from the fluid.

4.5.9 Pull resistance. A hose assembly when tested for pull resistance shall meet the requirements of 3.7.10 the following details shall apply:

- a. A white circumferential line shall be drawn around the hose along the edge of the coupling at one end of a 15-inch hose assembly.
- b. The coupling with the white marking shall then be held securely in a vise.
- c. A pull of not less than 2000 lb shall be applied by any convenient means to the coupling at the other end of the hose assembly.
- d. The 2000 lb pull shall be maintained for not less than 60 seconds.
- e. The jaw separation rate, exerted by the test apparatus between the couplings, shall be not less than 1 in/min.

4.5.10 Crush resistance. A hose when tested for crush resistance shall meet the requirements of 3.7.11 the following details shall apply:

- a. A 4-foot section of hose shall have its OD measured prior to testing.
- b. Two feet of the hose shall then be rigidly supported on a horizontal plane while a 50 lb weight shall be attached to the unsupported end of the hose.
- c. The weight shall hang freely for a duration 60 ± 10 seconds.
- d. After 60 seconds, the weight shall be detached, and the hose shall be allowed to recover.
- e. Recovery time shall be not less than 10 min but not greater than 12 min.
- f. Following the recovery period, the OD of the hose shall then be measured.

4.5.11 Proof pressure. Except for the individual tests specified under conformance inspection (see 4.4, the test specimen used for the proof pressure test shall be the same 4-foot section of hose that has already been subjected to the crush resistance test (see 4.5.11). Testing shall be in accordance with ASTM D380. The hose shall be subjected to a hydrostatic pressure of 350 psi for not less than 3 min but not greater than 5 minutes. Conformance shall be as specified in 3.7.12.

4.5.12 Surge pressure cycling. The test sample shall be a hose assembly completely filled with the

hydrocarbon fluid specified in [Table III](#) or grade JP-8 fuel conforming to MIL-DTL-83133. The specimen shall be held at atmospheric pressure and normal room ambient temperature for 7 days. At the completion of this period, the hose assembly shall be subjected to the following sequence of tests. Conformance shall be as specified in [3.7.13](#).

Should JP-8 not be available, NATO F-24 (ASTM D1655 Grade Jet A additized per the additization requirements for JP-8 in MIL-DTL-83133) can be used instead as an acceptable alternative.

- a. The fluid pressure shall be increased from 100 ± 10 psig to 350 ± 10 psig within 0.8 sec and then immediately decrease to 100 ± 10 psig within 0.8 sec.
- b. The pressure shall then be held at 100 ± 10 psig for not less than 10 sec.
- c. Steps "a" and "b" above shall be repeated until 500 cycles have been completed. The number of cycles recorded shall be cumulative and tests may be run continuously or intermittently.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see [6.2](#)). When packaging of material is to be performed by DoD or 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 activity within the Military Service or Defense Agency, or within the Military Service's 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 contracting the responsible packaging activity.

6. NOTES

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

6.1 Intended use. The hose assembly covered by this specification is intended for use as an integral part of a gasoline or jet fuel-dispensing system for installation on a refueling trailer.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. PIN (see [1.2](#)).
- c. Quantity required.
- d. Whether first article inspection is waived (see [4.4.1](#)).
- e. Lot records if required (see [4.2.1](#)).
- f. Name and address of the first article inspection test facility to which first article samples (if required) are to be forwarded and the name and address of the Government activity responsible for conducting the first article inspection program (see [4.3.4](#)).
- g. Packaging requirements (see section [5.1](#)).
- h. Shelf life requirements (see [6.2.1](#)).

6.2.1 Shelf life. This specification covers items where the assignment of a Federal shelf-life code is a consideration. Specific shelf-life requirements should be specified in the contract or purchase order, and should include, as a minimum, shelf-life code, shelf-life code, shelf-life package markings in accordance with MIL-STD-129 or FED-STD-123, preparation of a material quality storage standard for type II (extendible) shelf-life items, and a minimum of 85 percent shelf-life remaining at time of receipt by the Government. These and other requirements, if necessary, are in DoD4140.27-M, *Shelf-life Management Manual*. The shelf-life codes are in the Federal Logistics Information System Total Item Record. Additive information for shelf-life management may be obtained from DoD 4140.27-M, or the designated shelf-life Points of Contact (POC). The POC should be contacted in the following order: (1) the Inventory Control Points that manage the item and (2) the DoD Service and Agency administrators for the DoD Shelf-Life Program. Appropriate POCs for the DoD Shelf-Life Program can be contacted through the DoD Shelf-

Life Management website: <https://www.shelflife.dla.mil/>.

6.3 Defense Logistics Agency (DLA) waiver of first article test. A waiver of a first article testing will only be considered by DLA when the Contractor has delivered the same item within the last 3 years, has no unfavorable quality history, has not changed processes, or changed any subcontractors. DLA will not accept first article testing results outside the stated requirements.

6.4 Key words.

Cadmium
JP-8
NPT

6.5 Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and Contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

CONCLUDING MATERIAL

Custodians:
Air Force – 99
DLA - CC

Preparing activity:
DLA - CC

(Project 4720-2023-022)

Review activities:
Air Force – 68

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 this information above using the ASSIST Online database at <https://assist.dla.mil>.