

INCH-POUND

MIL-DTL-6615F
28 August 1998
 SUPERSEDING
 MIL-H-6615E
 12 March 1984

DETAIL SPECIFICATION

 HOSE ASSEMBLIES, RUBBER, FUEL AND WATER, WITH
 REATTACHABLE COUPLINGS, 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 requirements for two types of rubber hose assemblies for use with fuel and nonpotable demineralized water.

1.2 Classification. Hose assemblies are furnished in the following types:

Type I - With electrical bond (see 3.3.1.4).

Type II - Without electrical bond.

1.3 Part number. Part numbers are as specified in 6.3.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 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 has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 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 issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-PRF-5624	-	Turbine Fuel, Aviation, Grades JP-4, JP-5, and JP-5/JP-8 ST.
MIL-PRF-16173	-	Corrosion Preventive Compound, Solvent Cutback, Cold-Application.
MIL-C-38404	-	Couplings, Hose, Reattachable Screw-On.
MIL-DTL-83420	-	Wire Rope, Flexible, For Aircraft Control.

Beneficial comments (recommendations, additions, and deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center Columbus, ATTN: DSC-VAI, 3990 East Broad Street, Columbus, Ohio 43216-5000 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

FSC 4720

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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STANDARDS

DEPARTMENT OF DEFENSE

MS27021	-	Coupling Half, Quick Disconnect, Cam-Locking Type, Male, Hose Shank, Type II.
MS27025	-	Coupling Half, Quick Disconnect, Cam-Locking Type, Female, Hose Shank, Type VI.
MS27028	-	Coupling Half, Quick Disconnect, Cam-Locking Type, Cap, Dust, Type IX.
MS27029	-	Coupling Half, Quick Disconnect, Cam-Locking Type, Plug, Dust, Type X.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D156	-	Saybolt Color of Petroleum Products (Saybolt Chronometer Method) (DoD adopted).
ASTM D380	-	Hose, Rubber (DoD adopted).
ASTM D412	-	Rubber and Thermoplastic Rubbers Vulcanized and Thermoplastic Elastomers - Tension (DoD adopted).
ASTM D413	-	Rubber Property - Adhesion to Flexible Substrate (DoD adopted).
ASTM D471	-	Rubber Property - Effect of Liquids (DoD adopted).
ASTM D2276	-	Particulate Contaminant in Aviation Fuel By Line Sampling (DoD adopted).

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

2.4 Order of precedence. In the 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 First article. When specified (see 6.2), samples shall be subjected to first article inspection in accordance with 4.2.

3.2 Materials. Materials shall be as specified herein and shall conform to all applicable specifications and drawings. Materials not specified herein shall be of the best quality and be capable of meeting all of the requirements of this specification.

3.2.1 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials shall 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.

3.2.2 Hazardous substances. The use of hazardous substances, toxic chemicals, or ozone depleting chemicals (ODCs) shall be avoided, whenever possible.

3.3 Design and construction. A complete hose assembly shall consist of the hose, two reattachable couplings (one attached to each end of the hose), reusable protective caps or plugs (one on each coupling), and hose clamps, when applicable. When specified, the hose shall be provided without couplings, but with adequate caps or seals to prevent the entrance of foreign contaminants (see 6.2).

3.3.1 Hose. The hose shall consist of a compounded inner tube; braided, loomed, or plied reinforcement and a protective outer cover. For type I hose assemblies, the hose shall have spirally wound electrical bonding wires. The ends of the hose shall not be shaved, tapered or have the inner or outer diameter changed in any way, to facilitate attachment of the couplings.

3.3.1.1 Inner tube. The inner tube shall be a high aromatic aviation fuel-resistant synthetic rubber compound that meets the requirements of this specification. The bore of the inner tube shall be smooth, free from pitting, objectionable cuttings, borings, or cements; and shall have a uniform wall thickness not less than 1/16 inch. The materials used for the tube and the manufacturing processes of the tube and the resultant hose shall not produce or cause an increase in sediment contamination to the fuel flowing through it or the fuel stored in it for extended periods. Fuel stored in the hose for extended periods shall not experience a change in color due to the hose tube.

3.3.1.2 Reinforcement. The reinforcement shall be well, evenly, and firmly braided, loomed, or plied, and free from defects, dirt, knots, lumps, and irregularities of twist.

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3.3.1.3 Cover. The cover shall be constructed of polychloroprene rubber compounded to meet the requirements of this specification. The cover shall be smooth, free from pitting, and of uniform thickness of not less than 1/16 inch.

3.3.1.4 Electrical bond (for type I only). Spirally wound electrical bonding wires shall be either included in one of the braids or built in between the reinforcements in such a way as to form an angle of not less than 45 degrees with the longitudinal axis of the hose. The wires shall not react chemically with the ingredients of the material in which they are embedded or develop kinks when the hose is subjected to the burst resistance test specified in 4.4.10. The wires shall be stainless steel or tin-coated copper and shall be bonded to the coupling either by pulling them out so that not less than 1/2 inch of each wire is in intimate contact with the coupling, or by driving one leg of a wire staple into the bonding cable so that the other leg of the staple is outside the hose and inside the coupling. The electrical bonding wires may be either braided or stranded, but shall have a cross sectional area equivalent to the following:

Stranded - 7 strands size 31
Braided - 48 strands size 36

3.3.1.5 Hose size and weight. The hose shall be furnished in the sizes and weights specified in table I.

TABLE I. Hose dimensions and weights.

Size code	Inside diameter (ID) (inches)	Outside diameter(OD) (inches \pm 1/16)	Weight of hose (maximum lb./ft.)
A	1-1/4 \pm 1/16	1-7/8	1.25
B	1-1/2 \pm 1/32	2-3/64	1.38
C	2 \pm 1/32	2-9/16	1.75
D	2-1/2 \pm 1/32	3-1/16	2.25
E	3 \pm 1/32	3-19/32	2.70
F	4 \pm 1/16	4-5/8	4.00

3.3.1.6 Length. The length of the hose shall be as specified, with a tolerance of \pm 1 percent (see 6.2). The length measurement shall not include the couplings.

3.3.1.7 Weight. The maximum weight of the hose per foot without couplings shall not exceed the values specified in table I.

3.3.2 Couplings. Couplings on the ends of the hose shall conform to type I or II, class 1 or 2, of MIL-C-38404, class 1, type II of MS27021 or type VI of MS27025 coupling halves as specified (see 6.2).

3.3.3 Coupling caps. Male couplings conforming to MIL-C-38404 shall be provided with a protective, closed end, reusable, threaded metal cap having a thickness of 0.022 to 0.031 inch or a reusable plastic cap of suitable thickness and composition that will not be chemically affected by grade 1 corrosion-preventive compound conforming to MIL-PRF-16173. Male couplings conforming to MS27021 shall be provided with class 1, type IV, MS27028, dust caps, except a MIL-DTL-83420 1/16-inch diameter cable with a clear nylon jacket may be used in lieu of the sash chain.

3.3.4 Coupling plugs. Female couplings conforming to MIL-C-38404 shall be provided with a protective, closed, reusable, threaded metal or plastic plug of suitable thickness and composition, that will not be chemically affected by grade 1 corrosion-preventive compound conforming to MIL-PRF-16173. Female couplings conforming to MS27025 shall be provided with class 1 type X, MS27029, dust plugs, except a MIL-DTL-83420 1/16-inch diameter cable with a clear nylon jacket may be used in lieu of the sash chain.

3.3.5 Hose clamps. Hose clamps shall be provided with each MS27021 and MS27025 coupling. The bands and buckles shall be of 300 series corrosion-resistant steel, 3/4-inch wide for 4-inch inside diameter hose and not less than 1/2-inch wide bands for smaller inside diameter hoses.

3.4 Performance.

3.4.1 Adhesion between component parts. When tested as specified in 4.4.5, the adhesion between component parts for unaged hose shall be a minimum of 12 pounds per inch for sizes up to and including the 3-inch inside diameter hose, and a minimum of 10 pounds per inch for the 4-inch ID hose. The adhesion for hose aged in accordance with 4.4.5 shall be a minimum of 9 pounds per inch for sizes up to and including the 3-inch ID size and a minimum of 5 pounds per inch for the 4-inch ID size.

3.4.2 Low temperature flexibility. When tested as specified in 4.4.12, the hose shall not crack when tied in a U-shape and subjected to a temperature of $-67^{\circ} \pm 2^{\circ} \text{F}$ for at least 72 hours. After such conditioning, the 1-1/4 to 2-1/2 inch size hoses, inclusive, shall not require a force of more than 70 pounds to straighten to an approximate 90-degree angle within 1 minute, and the 3 and 4 inch sizes shall not require a force of more than 80 pounds to straighten to an approximate 180-degree angle within 1 minute. No cracks shall develop during this straightening.

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3.4.3 Low temperature bend. When tested as specified in 4.4.6, specimens of the tube and cover shall not crack when bent into a concave shape and maintained in this shape for not less than 72 hours at a temperature of $-67^{\circ} \pm 2^{\circ}\text{F}$, nor shall they crack upon sudden further bending into a U-shape.

3.4.4 Volume increase. When tested as specified in 4.4.7, the volume increase of the tube and cover specimens after 24-hour immersion in the specified hydrocarbon fluid at $75^{\circ} \pm 5^{\circ}\text{F}$ shall not exceed 50 and 100 percent, respectively.

3.4.5 Tensile strength. When tested as specified in 4.4.8, the tensile strength of the tube and cover after a 48-hour immersion in the specified hydrocarbon fluid at $75^{\circ} \pm 5^{\circ}\text{F}$ shall not be less than 600 and 400 psi, respectively.

3.4.6 Ultimate elongation. When tested as specified in 4.4.8, the ultimate elongation of the tube and cover shall not be less than 200 percent. After a 48-hour immersion in the specified hydrocarbon fluid at $75^{\circ} \pm 5^{\circ}\text{F}$, the ultimate elongation of the tube and cover shall be not less than 100 percent.

3.4.7 Pull resistance. When tested as specified in 4.4.9, the coupling shall not pull off the hose upon subjection to a pull of 1,000 pounds directed along the longitudinal axis.

3.4.8 Burst resistance. When tested as specified in 4.4.10, the hose shall not burst or develop a permanent blister when subjected to the hydrostatic pressure specified in table II.

TABLE II. Hose pressure.

Requirement	ID (inches)					
	1-1/4	1-1/2	2	2-1/2	3	4
Burst resistance (min. psi)	800	800	700	700	600	500
Proof pressure (min. psi)	300	300	275	275	250	250

3.4.9 Proof pressure. When tested as specified in 4.4.2, the hose, with couplings attached, shall not leak or show imperfections in either the hose or couplings when subjected to the hydrostatic pressure specified in table II for not less than 30 seconds.

3.4.10 Length change. When tested as specified in 4.4.3, the length of the hose shall not change more than 7 percent during subjection to the proof pressure test.

3.4.11 Coupling bond continuity (for type I only). When tested as specified in 4.4.4, the hose, with couplings attached, after having been subjected to the proof pressure with an electric circuit applied, shall show no break in the continuity between the couplings and the bond.

3.4.12 Inner tube electrical resistance. When tested as specified in 4.4.13, the electrical resistance of the tube shall be within 10^3 ohms per meter to 10^6 ohms per meter.

3.4.13 Sediment contamination and color change. When tested as specified in 4.4.11, the hose shall not contribute to the occurrence of in-line sedimentation or fuel discoloration whenever jet fuel is stationary in the hose.

3.5 Age. Hose assemblies shall be no more than 4 quarters old from the date of manufacture to the date of delivery by hose manufacturers to the acquiring activity or to manufacturers of accessory equipment. Hose installed in such equipment shall be no more than 8 quarters old upon the date of delivery of that equipment to the acquiring activity.

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

3.6.1 Marking. Each hose assembly and length of hose shall be legibly and permanently marked approximately in the center of the length of the hose with the following information:

MIL-DTL-6615 - Type (I or II, as applicable)
Date of manufacturer (quarter and year)
Manufacturer's name and trademark.

When specified (see 6.2), the contract or order number shall also be included.

3.7 Workmanship. Workmanship shall be of the quality necessary to produce hose assemblies free from defects which would adversely affect service performance.

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4. VERIFICATION

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

- a. First article inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 First article inspection. First article inspection shall consist of the examinations and tests specified in table III performed on samples which are representative of the production item, after award of the contract, to determine that the production item meets the requirements of this specification.

4.2.1 First article samples. The first article inspection samples shall consist of the following for each size hose specified in the contract or order:

- a. A 10-foot length of uncoupled hose.
- b. A 3-foot length of hose with couplings, caps, and plugs attached.
- c. A 15-inch length of hose to which couplings have been attached.

Samples shall be identified with the manufacturer's part number and any additional information required by the contract or order. Samples shall be subjected to the tests specified in table III.

TABLE III. First article examinations and tests.

Inspection	Requirement paragraph	Test paragraph
Examination of product		4.4.1
Proof pressure	3.4.9	4.4.2
Length change	3.4.10	4.4.3
Electric bond (for type I only)	3.4.11	4.4.4
Adhesion between component parts	3.4.1	4.4.5
Low temperature bend	3.4.3	4.4.6
Volume increase	3.4.4	4.4.7
Tensile strength and ultimate elongation	3.4.5, 3.4.6	4.4.8
Pull resistance	3.4.7	4.4.9
Burst resistance	3.4.8	4.4.10
Sediment contamination and color change	3.4.13	4.4.11
Low temperature flexibility	3.4.2	4.4.12
Inner tube electrical resistance	3.4.12	4.4.13

4.3 Conformance inspection. Conformance inspection shall consist of the examinations and tests specified in tables IV and V performed on individual products or lot samples to determine conformance of the products or lots with the requirements of this specification.

4.3.1 Individual inspections. Each production length of hose with couplings attached shall be subjected to the examinations and tests in table IV.

TABLE IV. Individual inspection.

Inspection	Requirement paragraph	Test paragraph
Examination of product		4.4.1
Proof pressure	3.4.9	4.4.2
Length change	3.4.10	4.4.3
Electric bond test (for type I only)	3.4.11	4.4.4

4.3.2 Sampling tests. Hose and coupling assemblies shall be selected at random from each order, as specified in 4.3.3, and subjected to the tests listed in table V.

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4.3.3 Sampling plan. One hose and coupling assembly from each 5,000 feet or less of the order shall be selected for the sampling tests. After the individual tests have been conducted on the assembly, the hose shall be cut approximately 3 feet from one end of the assembly and 15 inches from the other to provide lengths for the tests specified in 4.4.10 and 4.4.9 respectively. One of the couplings in each of these tests shall be the same as assembled in production, except for the coupling halves conforming to MS27021 or MS27025. An additional 3 feet of hose shall be cut off the original length for the other sampling tests. The remainder of the hose length shall be coupled, subjected to the individual tests, and included with the order if its length is more than 50 percent of the length specified in the order.

TABLE V. Sampling tests.

Inspection	Requirement paragraph	Test paragraph
Adhesion between component parts	3.4.1	4.4.5
Low temperature bend	3.4.3	4.4.6
Volume increase	3.4.4	4.4.7
Tensile strength and ultimate elongation	3.4.5, 3.4.6	4.4.8
Pull resistance	3.4.7	4.4.9
Burst resistance	3.4.8	4.4.10
Sediment contamination and color change	3.4.13	4.4.11

4.3.4 Rejection and retest. A length of hose which fails to meet the individual test requirements of this specification shall be rejected. When a sample or specimen of hose, a hose assembly, or a coupling fails to meet the sampling tests of this specification, the entire lot sampled shall be rejected. Hose which has been rejected shall not be resubmitted for approval without furnishing full particulars concerning the rejection and measures taken to overcome the defects.

4.4 Test Methods

4.4.1 Examination of product. Hose assemblies shall be examined to determine compliance with the requirements of this specification with regards to materials, size, construction, length, weight, age, couplings, coupling caps and plugs, and when applicable, hose caps or seals (see 3.3), marking, and workmanship.

4.4.2 Proof pressure test. Each length of hose with couplings attached shall be tested in accordance with ASTM D380 to proof pressure specified in table II.

4.4.3 Length change test. The percentage change in a known length of hose shall be determined in accordance with ASTM D380, while the hose is being subjected to the proof pressure test.

4.4.4 Electric bond test (for type I only). Each length of hose with couplings attached, shall be made part of an electric circuit and the current path shall be measured to determine that a low resistance exists between the couplings after it has undergone the proof pressure test.

4.4.5 Adhesion between component parts test. Adhesion shall be conducted on ring specimens in accordance with ASTM D413. Post-immersion adhesion tests shall be conducted on a 12-inch length hose after it has been stoppered with leakproof plugs and filled with fluid conforming to type III of ASTM D471 at a temperature of 75° ±5°F for 48 hours. Specimens to determine adhesion shall be cut from the center of the length and tested within 15 minutes after removal from the fluid.

4.4.6 Low temperature bend test. Buffered specimens of the tube and cover, 4 inches long and 1/4 inch wide, shall be clamped in a concave shape between plates 2-1/2 apart and at least 2 inches wide in such a manner that the bend in the test piece does not protrude beyond the edges when the plates are brought together and that the ends are not held for more than 1 1/4 inches. After exposure to -67° ±2°F for 72 hours, the plates shall be moved rapidly together until the ends of the specimens are not more than 1 inch apart, and the specimens shall be examined for evidence of cracking.

4.4.7 Volume increase test. The volume increase of the tube and cover shall be determined in accordance with ASTM D380 after immersion for 24 hours at 75° ±5°F in type III fluid conforming to ASTM D471.

4.4.8 Tensile strength and ultimate elongation test. The tensile strength and ultimate elongation of the tube and cover shall be determined in accordance with ASTM D412. A die specified in ASTM D412 shall be used for cutting the specimens. Ultimate elongation shall be determined on unaged specimens and both tensile strength and ultimate elongation shall be determined on specimens aged for 48 hours at 75° ±5°F in type III fluid conforming to ASTM D471. Tests shall be conducted within 5 minutes after removal from the fluid.

4.4.9 Pull resistance test. One coupling of the 15-inch hose assembly shall be held securely in a vise while a pull of 1,000 pounds is

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applied to the other coupling by any convenient means. The rate of jaw separation of the vise shall be 1 inch per minute.

4.4.10 Burst resistance test. Burst resistance shall be determined in accordance with method 10011 of ASTM D380. The couplings used during this test shall be in accordance with MIL-C-38404.

4.4.11 Sediment contamination and color change test. While in a condition typical of a production length of hose just prior to the individual tests, the hose shall be filled with grade JP-4 or JP-5 fuel conforming to MIL-PRF-5624 or type III conforming to ASTM D471. The fuel shall contain no more than 1 milligram per liter of sediment contamination. The filled hose shall stand for 72 hours. After this period, an amount of fuel equal to one-half of the volume of the hose sample shall be drained from the downstream end and discarded. Then, a 1-liter sample of fuel shall be obtained and analyzed for solid contamination in accordance with ASTM D2276. If the total rise in sediment exceeds 2 milligrams per liter, it shall be cause for rejection. The fuel color before and after the 72-hour period shall be determined in accordance with ASTM D156 and shall not exceed a change of 40.

4.4.12 Low temperature flexibility test. Hose shall be tested for low temperature flexibility as follows:

4.4.12.1 Hose ID 1 1/4 to 2 1/2-inch. Hoses in the 1-1/4 to 2-1/2-inch ID sizes shall be tested by bending an uncoupled 5-foot length into a U-shape such that the ends of the U are approximately 22 inches apart, tying it in that position, and conditioning the hose for not less than 72 hours at $-67^{\circ} \pm 2^{\circ}\text{F}$. One arm of the U shall then be held or clamped firmly to a rigid vertical support, and a slow, steady perpendicular pull applied to the other arm at a point 2 inches from the end. The force in pounds required to open the hose to an approximate 90-degree angle shall be determined by a spring balance or other convenient means. The temperatures shall be held at $-67^{\circ} \pm 2^{\circ}\text{F}$ during the test.

4.4.12.2 Hose ID 3- inch or more. Hose in the 3- and 4-inch ID size shall be tested by bending an uncoupled 5-foot length into a concave shape such that the ends of the hose are approximately 40 inches apart, tying it in that shape and conditioning it for not less than 72 hours at $-67^{\circ} \pm 2^{\circ}\text{F}$. The force in pounds required to straighten the hose to an approximate 180-degree angle shall be determined by any convenient means. The temperature shall be held at $-67^{\circ} \pm 2^{\circ}\text{F}$ during the test.

4.4.13 Inner tube electrical resistance test. The electrical resistance of the tube shall be within 10^3 to 10^6 ohms per meter for the unpressured hose and during the proof pressure (see 4.4.2) and low temperature flexibility (see 4.4.12) tests when measured with a 2% accuracy or better, resistance measuring device.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, and CD-ROM products, or by contacting 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. These military unique hose assemblies are used in ground fueling operations requiring low temperature flexibility and bend operations to -67°F , or in nonpotable demineralized water applications. The hose of the assembly must be compatible with military unique reattachable couplings conforming to MIL-C-38404, MS27021, and MS27025 with caps and plugs. Class I couplings conforming to MIL-C-38404 are used for hydrocarbon fuels. Class 2 couplings are used for nonpotable demineralized water applications.

6.2 Ordering data. Acquisition documents must specify the following:

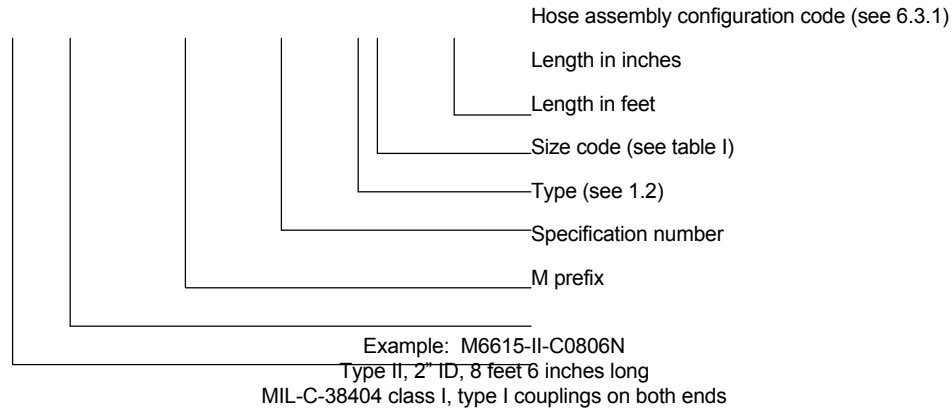
- a. Title, number, and date of this specification.
- b. Issue of DoDISS to be cited in the solicitation and, if required, the specific issue of individual documents referenced (see 2.2.1 and 2.3).
- c. Whether type I or II hose is required (see 1.2, 3.3.1.4, and 6.1.1).
- d. When couplings are not to be provided (see 3.3).
- e. Size, length, and quantity of hose required (see 3.3.1.5 and 3.3.1.6).
- f. Type of coupling required (see 3.3.2).
- g. When contract or order number is to be included on the label (see 3.6.1.1).

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- h. Whether first article inspection is waived (3.1 and 4.2).
- i. Name and address of first article test facility.
- j. Packaging requirements (see 5.1).
- k. Definitive specification part number (see 1.3 and 6.3).

6.3 PIN. PIN is as follows:

M 6615 - XX - X XXXX X



6.3.1 Hose assembly configuration. The hose coupling specification, class, type and code letter are identified in tables VI and VII.

TABLE VI. MIL-C-38404 Hose assembly configuration.

Code letter	Coupling, MIL-C-38404 Class 1 or 2, Type I or II							
	End 1				End 2			
	Class 1 Type I	Class 1 Type II	Class 2 Type I	Class 2 Type II	Class 1 Type I	Class 1 Type II	Class 2 Type I	Class 2 Type II
N	X				X			
P		X				X		
R			X				X	
S				X				X
T	X					X		
V			X					X

TABLE VII. MS27021 and MS27025 hose assembly configuration.

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Code Letter	Coupling, MS27021 and MS27025 Class 1, Type II or VI			
	End 1		End 2	
	Class 1 Type II	Class 1 Type VI	Class 1 Type VI	Class 1 Type VI
W	X		X	
X		X		X
Y	X			X
Z	No couplings (see 6.2 d)			

6.4 Subject term (key word) listing.

Fueling
 Hydrocarbon fuels
 Inner tube
 Nonpotable demineralized water

6.5 Changes from the previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL

Custodians:
 Navy - AS
 Air Force - 99

Preparing activity:
 DLA - CC
 (Project 4720-0197)

Review activity:
 Air Force - 82

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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL**INSTRUCTIONS**

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of 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.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER
MIL-DTL-6615F

2. DOCUMENT DATE (YYMMDD)
28 AUGUST 1998

3. DOCUMENT TITLE HOSE ASSEMBLIES, RUBBER, FUEL AND WATER, WITH REATTACHABLE COUPLINGS, LOW TEMPERATURE

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION**6. SUBMITTER**

a. NAME (Last, First, Middle initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

7. DATE SUBMITTED
(YYMMDD)

(1) Commercial

(2) DSN (If applicable)

8. PREPARING ACTIVITY

a. NAME
Defense Supply Center Columbus

b. TELEPHONE (Include Area Code)
(1) Commercial 614-692-7707 (2) DSN 850-7707
(3) Fax 614-692-6939

c. ADDRESS (Include Zip Code)
DSCC-VAI
3990 East Broad Street
Columbus, Ohio 43216-5000

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