Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096

AEROSPACE STANDARD

AS 1472

Issued April 1979
Revised

HOSE ASSEMBLY, LOW PRESSURE, FLARELESS, POTABLE WATER

1. SCOPE

This specification covers three types of lightweight, low pressure, wire and/or fabric reinforced hose assemblies primarily for use in aircraft potable water systems.

1.1 TYPES

Hose assemblies furnished under this specification shall be of the following types:

Type I	Flexible, flame retardant, operating temperature -65°F to +275°F (-54°C to +135°C).
Type II	Semi-rigid, self-extinguishing, operating temperature -65°F to +275°F (-54°C to +135°C).
Type III	Semi-rigid, flame retardant, operating temperature -40°F to +160°F (-40°C to +71°C).

2. APPLICABLE DOCUMENTS

The following specifications and standards, of the issue in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 SPECIFICATIONS

2.1.1 Federal

QQ-P-35	Passivation Treatments for Corrosion Resisting Steel
QQ-A-225	Aluminum Alloy Bar, Rod, Wire or Special Shapes, etc.
QQ-A-250	Aluminum and Aluminum Alloy Plate and Sheet, General Specification For
QQ-W-423	Wire, Steel, Corrosion-Resisting
WW-T-700	Tube, Aluminum Alloy, Drawn, Seamless
QQ-S-763	Steel Bars, Wire, Shapes, and Forgings, Corrosion Resisting
FAR 25.853	Federal Aviation Regulation, Volume III, Part 25
308	Public Health Publication

2.1.2 Military

MIL-R-5031	Rods and Wire, Welding, Corrosion and Heat Resistant Alloys
MIL-C-5501	Caps and Plugs, Protective, Dust and Moisture Seal, General Specification for
MIL-I-6866	Inspection, Penetrant Method of
MIL-B-7883	Brazing of Steels, Copper, Copper Alloys, Nickel Alloys, Aluminum and Aluminum Alloys
MIL-T-8504	Steel, Corrosion-Resisting (304) Aerospace Vehicle Hydraulic Systems, Annealed, Seamless and Welded
MIL-W-8611	Welding, Metal Arc and Gas, Steels, and Corrosion and Heat Resistant Alloys, Process for
MIL-A-8625	Anodic Coating for Aluminum and Aluminum Alloys
MIL-T-8808	Tubing, Steel, Corrosion-Resistant (18-8 Stabilized) Aircraft Hydraulic Quality
MIL-S-8879	Screw Threads, Controlled Radius Root with Increased Minor Diameter, General Specification for

(Copies of documents required by suppliers in connection with specific procurement functions shall be obtained from the procuring activity or as directed by the Contracting Officer)

2.1.3 Industry

Society of Automotive Engineers

AMS 4112 Aluminum Alloy Bars, Rolled, Drawn, or Cold Finished 4.5 Cu - 1.5 Mg - 0.60 Mn (2024-T6)

AMS 4117 Aluminum Alloy Bars and Rings - 1.0 Mg - 0.60 Si - 0.28 Cu - 0.20 Cr (6061-T6)

AMS 4120 Aluminum Alloy Bars, Rolled, Drawn, or Cold Finished 4.4 Cu - 1.5 Mg - 0.60 Mn (2024-T4)

AMS 4772 Brazing Filler Metal, Silver

AMS 4778 Brazing Alloy Nickel Base

AMS 5556 Steel Tubing, Seamless or Welded, Corrosion and Heat-Resistant 18 Cr - 11 Ni - (Cb + Ta) (SAE 30347) Hydraulic

AMS 5557 Steel Tubing, Seamless and Welded, Corrosion and Heat-Resistant 18 Cr - 11 Ni - Ti (SAE 30321) Hydraulic

AMS 5567 Steel Tubing, Seamless and Welded, Corrosion Resistant 19 Cr - 10 Ni (SAE 30304) Hydraulic, Solution Treated

AMS 5570 Steel Tubing, Seamless, Corrosion and Heat-Resistant 18.5 Cr - 11 Ni - 0.40 Ti (SAE 30321)

AMS 5571 Steel Tubing, Seamless, Corrosion and Heat-Resistant 18 Cr - 11 Ni - 0.70 (Cb + Ta) (SAE 30347)

AMS 5575 Steel Tubing, Welded, Corrosion and Heat-Resistant 18 Cr - 10.5 Ni - 0.70 (Cb + Ta) (SAE 30347)

AMS 5636 Steel Bars, Corrosion-Resistant 18 Cr - 8.5 Ni (SAE 30302), Cold Drawn, 100,000 psi (690 MN/m^2)

AMS 5637 Steel Bars, Corrosion-Resistant 18 Cr - 8.5 Ni (SAE 30302), Cold Drawn, 125,000 psi (862 MN/m^2)

AMS 5639 Steel Bars, Forgings, Tubing, and Rings, Corrosion-Resistant 19 Cr - 10 Ni (SAE 30304)

AMS 5645 Steel Bars, Forgings, Tubing, and Rings, Corrosion and Heat Resistant 18 Cr - 10 Ni - 0.40 Ti (SAE 30321)

AMS 5646 Steel Bars, Forgings, Tubing, and Rings, Corrosion and Heat Resistant 18 Cr - 11 Ni - 0.60 (Cb + Ta) (SAE 30347)

AMS 5648 Steel Bars, Forgings, Tubing, and Rings, Corrosion and Heat Resistant 18 Cr - 13 Ni - 2.5 Mo

AMS 5685 Steel, Wire, Corrosion Resistant 18 Cr - 11.5 Ni - Solution Heat Treated - Safety Wire

AMS 5688 Steel Wire, Corrosion-Resistant 18 Cr - 9.0 Ni, (SAE 30302) Spring Temper

AMS 5689 Steel Wire, Corrosion-Resistant 18 Cr - 9.5 Ni - Ti (SAE 30321) Solution Heat-Treated

AMS 5690 Steel Wire, Corrosion and Heat-Resistant 18.5 Cr - 13 Ni - 2.5 Mo (SAE 30316)

AMS 5697 Steel Wire, Corrosion-Resistant - 19 Cr - 9.5 Ni (SAE 30304)

ARP 908 Hose Fitting - Installation and Qualification Test Torque Requirements

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

American Society for Testing and Materials

ASTM D570 Standard Method of Test for Water Absorption of Plastics

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

2.2 STANDARDS

2.2.1 Military

MS21921	Nut, Sleeve Coupling, Flareless
MS27073	Nut, Tube Coupling - Swivel
MS33514	Fitting End, Standard Dimensions for Flareless Tube Connection and Gasket Seal
MS33656	Fitting End, Standard Dimensions for Flared Tube Connection and Gasket Seal
MIL-STD-100	Engineering Drawing Practice
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-810	Environmental Test Methods

2.2.2 Industry

AS1473	Hose Assembly, Flexible, Low Pressure, Flareless, Potable Water, Straight to Straight
AS1474	Hose Assembly, Flexible, Low Pressure, Flareless, Potable Water, Straight to 45°
AS1475	Hose Assembly, Flexible, Low Pressure, Flareless, Potable Water, Straight to 90°
AS1476	Hose Assembly, Flexible, Low Pressure, Flareless, Potable Water, 45° to 45°
AS1477	Hose Assembly, Flexible, Low Pressure, Flareless, Potable Water, 45° to 90°
AS1478	Hose Assembly, Flexible, Low Pressure, Flareless, Potable Water, 90° to 90°
AS1483	Hose Assembly, Semi-rigid, Low Pressure, Flareless, Potable Water, Straight to Straight
AS1484	Hose Assembly, Semi-rigid, Low Pressure, Flareless, Potable Water, Straight to 45°
AS1485	Hose Assembly, Semi-rigid, Low Pressure, Flareless, Potable Water, Straight to 90°
AS1486	Hose Assembly, Semi-rigid, Low Pressure, Flareless, Potable Water, 45° to 45°
AS1487	Hose Assembly, Semi-rigid, Low Pressure, Flareless, Potable Water, 45° to 90°
AS1488	Hose Assembly, Semi-rigid, Low Pressure, Flareless, Potable Water, 90° to 90°

(Flared standards to be added)

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

National Aerospace Standards

NAS 1367	Fittings - Coated Lubricant and Sealant
NAS 1760	Fitting End, Flareless Acorn, Standard Dimension for

(Application for copies should be addressed to National Aerospace Standards Committee, 1725 DeSales Street N.W., Washington, D.C. 20036.)

3. REQUIREMENTS

3.1 QUALIFICATION

Any hose assembly furnished under this specification shall be a product identical in hose construction and end fitting attachment method to specimens which have been tested and passed the qualification test specified herein.

3.2 MATERIALS

The hose assembly materials shall be uniform in quality, free from defects, suitable for the intended use, consistent with good manufacturing practices and shall conform to the applicable specifications and the requirements specified herein. Materials used in these hose assemblies shall be selected from those listed in Table I.

TABLE I
ASSEMBLY MATERIALS

COMPONENT	MATERIAL DESCRIPTION	SPECIFICATION	FINISH
Nut (Coupling) MS21921, MS27073 or Equivalent	2024-T6 or T851 Aluminum Alloy	QQ-A-225/6 (AMS 4112, AMS 4120)	Anodize per MIL-A-8625 and dry film lubricate per NAS 1367
	AISI 300 Series Corrosion-Resistant Steel	QQ-S-763 (AMS 5636, AMS 5637, AMS 5639, AMS 5645, AMS 5646)	Passivate per QQ-P-35 and dry film lubricate per NAS 1367
Hose (inner tube)	Type I (Elastomer or thermoplastic)		As manufactured
	Type II (Elastomer or thermoplastic)		
	Type III (Elastomer or thermoplastic)		
Wire Braid	AISI 300 Series Corrosion-Resistant Steel	QQ-W-423 (AMS 5688, AMS 5689, AMS 5690, AMS 5697)	Passivate per QQ-P-35
Nonmetallic Braid	Nylon (Nomex [1] or equivalent) or Fiberglass		Dark
Insert Fitting (nipple or elbow)	AISI Type 304, 316, or (321 or 347 [2])	MIL-T-8504 (AMS 5567) MIL-T-8808 (AMS 5556, AMS 5557, AMS 5570, AMS 5571, AMS 5575) QQ-S-763 (AMS 5648)	Passivate per QQ-P-35
Socket	6061-T6 or 2024-T6 Aluminum Alloy	QQ-A-225/6 (AMS 4112, AMS 4117)	Anodize per MIL-A-8625 (color-optional)
Band (identification)	2024, 5052, 6061 Aluminum Alloy	QQ-A-250 or WW-T-700	Anodize per MIL-A-8625 (color-black)
Nut Retaining Wire	2024-T4 Aluminum Alloy	QQ-A-225/6 (AMS 4120)	Anodize per MIL-A-8625 (color-optional)
	AISI Type 302, 304 or 305 Corrosion-Resistant Steel	QQ-W-423 (AMS 5685, AMS 5688, AMS 5697)	Passivate per QQ-P-35

[1] Registereed trademark.

[2] Required for welded assemblies.

3.3 DESIGN AND CONSTRUCTION

The hose assembly shall consist of a smooth inner tube with suitable reinforcement braid or covering to meet system requirements. End fittings shall be permanently attached to the hose by crimping or swaging. Standard end fittings shall be designed to mate with MS33514 or MS33656 fitting end, as applicable. Splices shall not be used in any hose assembly less than 120 inches in length and shall be used only for economical construction of long assemblies. Splice design and attachment method shall be the same construction as the hose end fitting.

3.3.1 End Fittings

3.3.1.1 Insert Fitting (Nipple and Elbow)

All end fitting inserts shall be made of Table I materials. The end fitting inserts (nipple and elbow) shall be constructed as a single piece unit or the nipple and the elbow shall be constructed of parts fusion welded or lap joint brazed together. The insert shall have a minimum hardness of Rockwell B80. If flareless end fitting terminations are used, they shall conform to NAS 1760.

3.3.1.2 Coupling Nuts

Coupling nuts shall be dimensionally equivalent to MS21921 or MS27073. Wire retained coupling nuts shall have the retaining wire inserted in a clockwise direction when viewed from the open end of the nut. Nuts shall be made of Table I materials. Aluminum nuts shall be used where practical to facilitate light weight construction. Threads and internal surfaces of aluminum nuts shall be dry film lubricated per NAS 1367. Lubricant on external surfaces of the nut shall not be reason for rejection. Thread tolerances shall be maintained after application of lubricant.

3.3.1.3 Screw Threads

All fitting threads shall be Class 3B in accordance with MIL-S-8879. A thread tolerance increase of 10 percent during assembly or testing shall not be cause for rejection.

3.3.2 Hose

3.3.2.1 Hose Inner Tube

The inner tube shall be of a seamless construction and shall have smooth inner surface, free of cracks, and shall be nonshedding or particle producing. Only virgin materials shall be used for the inner tube. No rerun or reclaimed materials shall be used. No material or combination of materials that are known to produce toxic effects shall be used. The hose shall not cause an objectionable odor or taste in the water.

3.3.2.2 Reinforcement and Covering

The inner tube shall be reinforced with a ply or plies of nonmetallic braid or spiral wraps of sufficient number to meet the requirements of this specification. A single ply wire braid under the outer nonmetallic braid or cover is permissible, but not mandatory. A reinforcement braid may be utilized as the hose outer cover or a cover of extruded or impregnated nonmetallic material may be used.

3.3.3 Welding of Special End Fittings

Fusion welded buttjoints shall be per MIL-W-8611. Filler wire, if required, shall be AISI Type 347 per MIL-R-5031, Class 5. Fusion welds shall have 100 percent penetration and fusion. Brazed joints shall be a lap joint and shall be per MIL-B-7883, Grade B, using a brazing alloy per AMS 4778 (AMS 4772 optional). Brazing shall be accomplished without flux in a vacuum, inert or dry hydrogen atmosphere. All welds shall be penetrant inspected (water washable) per MIL-I-6866.

3.3.4 Public Health Service Compliance

All hose assembly materials which come in contact with the potable water shall comply with Public Health Service Publication 308. The supplier shall obtain Public Health Service approval for any material not already approved.

3.3.5 Temperature Compliance

Each type hose assembly shall be capable of operating at the fluid and/or ambient temperatures within specified range.

3.4 DIMENSIONS AND WEIGHTS

3.4.1 Hose Diameters

The hose and fitting diameters shall meet the dimensions as specified in Table II.

3.4.2 Assembly Length

Hose assembly lengths shall be as specified on the applicable standard or drawing. Flareless hose assemblies with NAS 1760 end terminations shall be measured from gage point to gage point. Available length increments and tolerances shall be in accordance with Table III. Length standardization is highly desirable to reduce spares requirements.

3.4.3 Weights

Maximum weights of standard components of these hose assemblies shall be in accordance with Table IV. Maximum weights of hose assemblies with nonstandard end fittings shall be listed on the supplier's drawing when submitted to purchaser for approval.

3.5 PERFORMANCE

The hose assembly dimensions and ratings, shown in Table II, shall be verified by meeting or exceeding the following requirements and quality assurance provisions as specified herein.

TABLE II
HOSE ASSEMBLY DATA - DIMENSIONS AND PERFORMANCE RATINGS

HOSE SIZE (REF)	I.D. NOM.	TYPE I	TYPES II & III	FITTING BORE MIN.	MINIMUM INSIDE BEND RADIUS (INCH)		OPERATING PRESSURE PSI MAX.	PROOF PRESSURE PSI MIN.	BURST PRESSURE PSI MIN.
		I.D. MIN.	I.D. MIN.		TYPE I	TYPES II & III			
04	1/4	.235	.199	.174	1.25	3.0	125	250	500
06	3/8	.360	.310	.291	1.62	4.5	125	250	500
08	1/2	.485	.396	.409	2.00	6.0	125	250	500
10	5/8	.610	.610	.495	2.50	7.5	125	250	500
12	3/4	.735	.735	.646	2.75	9.0	125	250	500
16	1	.985	.985	.898	4.00	12.0	125	250	500

TABLE III
LENGTH INCREMENTS AND TOLERANCES

HOSE ASSEMBLY LENGTH	AVAILABLE INCREMENTS	TOLERANCE
Under 18 inches	(Not less than) .125 inch	(Plus or Minus) .125 inch
18 to 36 inches	(Not less than) .250 inch	(Plus or Minus) .250 inch
36 to 50 inches	(Not less than) .500 inch	(Plus or Minus) .500 inch
Over 50 inches	(Not less than) 1 inch	(Plus or Minus) 1 percent

TABLE IV
WEIGHTS

HOSE SIZE (REF)	MAXIMUM WEIGHTS							DEDUCT LENGTH FOR ASSEMBLY WEIGHT CALCULATION [1]					
	HOSE (LBS./IN)		STANDARD END FITTINGS (LBS.)					TYPE I			TYPES II & III		
	TYPE I	TYPES II & III	TYPE I			TYPES II & III		STRT.	45°	90°	STRT.	45°	90°
			STRT.	45°	90°	STRT.	45° 90°						
04	.004	.003	.035	.038	.039								
06	.008	.005	.059	.059	.061								
08	.011	.008	.065	.068	.066								
10	.015	.010	.084	.090	.096								
12	.018	.014	.129	.144	.158								
16	.024	.018	.193	.209	.233								

[1] Deduct appropriate lengths from hose assembly length for each end fitting when determining hose weight for hose assemblies with standard end fittings.

3.5.1 Examination of Product

Each assembly must conform dimensionally and materially to the applicable standards or drawings and to all requirements of this specification, when examined in accordance with paragraph 4.6.1.

3.5.2 Proof Pressure

The hose assembly shall withstand room temperature (70°F) proof pressure of 250 PSI for five minutes without leakage or evidence of permanent deformation or malfunction, when tested as specified in paragraph 4.6.2.

3.5.3 Hose Length and Diameter Change

The hose assemblies shall not change in length and diameter by more than plus or minus the percentage values shown in Table V when subjected to operating pressure shown in Table II for not less than 30 minutes. The assembly shall be tested in accordance with paragraph 4.6.3.

TABLE V
PERCENT CHANGE IN HOSE LENGTH AND DIAMETER

HOSE SIZE	LENGTH		DIAMETER
	TYPE I	TYPES II & III	TYPES I, II & III
04	2	2	4
06	2	2	4
08	2	2	4
10	4	2	4
12	6	2	4
16	10	2	4

3.5.4 Repeated Freezing

The hose assembly, while pressurized at 50 psi, shall be capable of withstanding at least 20 repeated freezing cycles without rupture, bulging or collapsing hose cross section in excess of 10 percent of the original hose diameter when tested in accordance with paragraph 4.6.4.

3.5.5 Bend Radius

The hose assembly shall be capable of being bent a minimum of 180° around a mandrel having a diameter equal to two times minimum bend radius given in Table II without cracking, flattening of hose in excess of 10 percent of original diameter, and/or unsatisfactory proof pressure test. The test shall be conducted at the low and high operating temperatures for the applicable type hose assembly. The hose assembly shall be tested in accordance with paragraph 4.6.5.

3.5.6 Hose Droop

The Type I hose assemblies shall not droop more than 0.25 inch and Types II and III hose assemblies shall not droop more than 0.18 inch when tested in accordance with paragraph 4.6.6.

3.5.7 Vacuum

The hose assembly shall be capable of withstanding 22 inches of mercury vacuum at maximum operating temperature for the applicable type hose assembly for at least ten minutes without evidence of collapse and/or flattening of more than 10 percent of original diameter when tested in accordance with paragraph 4.6.7.

3.5.8 Tensile Strength

The hose assembly end fittings shall be capable of withstanding the Table VI specified tensile pull without end fitting pull off or hose parting when tested in accordance with paragraph 4.6.8.

TABLE VI
MINIMUM LOAD

HOSE SIZE	04	06	08	10	12	16
DEAD WEIGHT (LBS)	60	75	100	125	160	250

3.5.9 Repeated Torque

The hose assembly shall be capable of sealing and withstanding specified proof pressure requirements of paragraph 3.5.2 after repeated installations per paragraph 4.6.9.

3.5.10 Odor and Taste Test

The hose assembly shall not cause any objectionable odor or taste to water when tested in accordance with paragraph 4.6.10.

3.5.11 Burst Pressure

The hose assembly shall not rupture and show no evidence of leakage at any pressure up to the burst pressure specified in Table II or during the five minute hold at burst pressure when tested in accordance with paragraph 4.6.11.

3.5.12 Chlorine and Detergent Resistance

The hose assembly shall show no evidence of leakage or deterioration from exposure to chlorine water (500 PPM of chlorine) and detergents when tested per paragraph 4.6.12.

3.5.13 Flammability

3.5.13.1 Self-extinguishing, Type II Hose Assemblies

Type II hose assemblies when tested vertically per paragraph 4.6.13.1 shall meet the self-extinguishing requirements of the Federal Aviation Regulation (FAR) Part 25, Amendment 25-32, Section 25.853(b), as follows:

a. Average self-extinguishing time - 15 seconds

b. Average burn length - 8 inches

c. Average extinguishing time for drippings - 5 seconds

3.5.13.2 Flame Retardant, Types I & III Hose Assemblies

Types I & III hose assemblies when tested horizontally per paragraph 4.6.13.2 shall not have an average burn rate greater than 2.5 inches per minute as specified in the Federal Aviation Regulation (FAR) Part 25, Amendment 25-32, Section 25.853 (b-2).

3.5.14 Water Absorption

The maximum water absorption of the hose assembly inner tube shall not be greater than eight percent when tested per paragraph 4.6.14.

3.5.15 Fungus Resistance

The hose assembly inner tube shall not show microscopic evidence of fungus growth that would affect performance of intended purpose when tested per paragraph 4.6.15.

3.6 PART NUMBERING OF INTERCHANGEABLE PARTS

All parts having the same part number shall be functionally and dimensionally interchangeable. The item identification and part number requirements of MIL-STD-100 shall govern the manufacturer's part number and changes thereto.

3.7 IDENTIFICATION OF PRODUCT

The hose assemblies shall be marked for identification in accordance with the following:

3.7.1 Fittings

The manufacturer's name or trademark shall be permanently marked on all end fittings.

3.7.2 Hose Assembly

The hose assembly shall have an impression-stamped identification marking on an aluminum band in accordance with Table I. The band shall not be more than one inch wide and shall be split ring type encompassing 340° minimum to 360° maximum of hose periphery. It shall be round and tight on the hose but without pinching. The band shall be sufficiently strong to prevent removal by hand, but allow repositioning on the hose with the aid of a standard hand tool. The characters shall be 1/16 inch high, except the "AS" part number which shall be 1/8 inch high characters. The marking shall include, but not be limited to, the following information:

a. Drinking Water Only

b. Manufacturer's name, trademark or Federal supply code number.

c. Complete Manufacturer's part number.

d. Complete "AS" standard or specification control number. (Minimum character height shall be 1/8 inch.)

e. Operating pressure "125 psi".

f. Pressure test symbol "PT".

g. Date of hose assembly manufacture in terms of month and year.

Items f. and g. may be electroetched on one end fitting collar.

3.8 WORKMANSHIP

The hose assembly shall be constructed and finished to produce a product free from all defects which would affect proper functioning in service. Particular attention shall be given to thoroughness of assembly, alignment of parts, protective finish, and removal of burrs and sharp edges.

3.8.1 Dimensions and Tolerances

All pertinent dimensions and tolerances, where interchangeability, operation or performance of the hose assembly may be affected, shall be specified on the applicable "AS" standard or drawing.

3.8.2 Cleaning

All hose assemblies shall be free from oil, grease, dirt or any other foreign materials both internally and externally and shall be suitable for carrying potable water.

4. QUALITY ASSURANCE PROVISIONS

4.1 SUPPLIER'S RESPONSIBILITY

The supplier shall be responsible for performance of all quality assurance provisions and inspection specified herein. Accurate records of the testing shall be kept by the supplier and shall be available to purchaser on request. The supplier's test data, subject to purchaser approval, shall be considered adequate for product qualification. The purchaser reserves the right to perform any of the inspections and tests set forth in this specification to ensure conformance to this specification.

4.1.1 Rejection and Retest

Rejected hose or hose assemblies shall not be submitted for reinspection without furnishing full particulars concerning the previous rejection and measures taken to overcome the defects.

4.1.2 Defects on Items Already Accepted

If the investigation of the rejection indicates that the defect or defects causing the rejection may exist in hose assemblies previously supplied to the purchaser, the supplier shall advise the purchaser of this condition, the method for identifying these parts and the recommended corrective action or disposition of the defective parts.

4.2 USER'S RESPONSIBILITY

The user shall establish adequate inspection procedures to ensure that all requirements of the specification are met. Emphasis shall be placed on the following aspects:

a. Dimensional conformance

b. Material, finish, and workmanship

c. Marking

d. Pressure test

4.3 CLASSIFICATION OF INSPECTIONS

The examining and testing of the hose assemblies are classified as follows:

a. Qualification inspections

b. Quality conformance inspections

4.4 QUALIFICATION INSPECTIONS

The qualification inspections outlined herein are intended to qualify a manufacturer's type hose construction and end fitting attachment method only. The configuration of the outlet parts shall be as described on the standard or drawing. A number shall be assigned for each attachment method and hose construction used for qualification. The attachment method and hose shall be fully described in the test report by design standard drawings. All other end connections shall also be considered qualified, provided the hose and hose attachment method have not been altered. The purchaser shall receive notification at least 14 days prior to start of testing, and shall reply within seven days prior to start of testing, of intent to witness the testing.

4.4.1 Test Specimens

Seven hose assemblies of each hose size and type shall be used for qualifying performance of the manufacturer's product. For flareless end fitting configurations, the Table VII standard "AS" series hose assemblies shall be used for qualifying hose

4.4.1 (Cont) assemblies to this specification. Equivalent flared end fitting hose assemblies may be substituted for qualifying hose Types to this specification.

TABLE VII
TEST SPECIMEN CONFIGURATIONS

SPECI-MEN	HOSE TYPE	HOSE ASSEMBLY SIZE CODE AND SPECIMEN PART NUMBER					
		04	06	08	10	12	16
1	I	AS1474-04-0180	AS1474-06-0180	AS1474-08-0180	AS1474-10-0180	AS1474-12-0180	AS1474-16-0230
2	I	AS1475-04-0180	AS1475-06-0180	AS1475-08-0180	AS1475-10-0180	AS1475-12-0180	AS1475-16-0230
3	I	AS1473-04-0180	AS1473-06-0180	AS1473-08-0200	AS1473-10-0200	AS1473-12-0240	AS1473-16-0240
4	I	AS1473-04-0180	AS1473-06-0180	AS1473-08-0200	AS1473-10-0200	AS1473-12-0240	AS1473-16-0240
5	I	AS1473-04-0080	AS1473-06-0080	AS1473-08-0100	AS1473-10-0100	AS1473-12-0120	AS1473-16-0120
6	I	AS1473-04-0080	AS1473-06-0080	AS1473-08-0100	AS1473-10-0100	AS1473-12-0120	AS1473-16-0120
7	I	AS1478E0700-000	AS1478G0700-000	AS1478H0700-000	AS1478J0700-000	AS1478K0700-000	AS1478M0700-000
1	II & III	AS1484-04-0180 [1]	AS1484-06-0200 [1]	AS1484-08-0260 [1]	AS1484-10-0310 [1]	AS1484-12-0370 [1]	AS1484-16-0480 [1]
2	II & III	AS1485-04-0180 [1]	AS1485-06-0200 [1]	AS1485-08-0260 [1]	AS1485-10-0310 [1]	AS1485-12-0370 [1]	AS1485-16-0480 [1]
3	II & III	AS1483-04-0180 [1]	AS1483-06-0180 [1]	AS1483-08-0200 [1]	AS1483-10-0200 [1]	AS1483-12-0240 [1]	AS1483-16-0240 [1]
4	II & III	AS1483-04-0180 [1]	AS1483-06-0180 [1]	AS1483-08-0200 [1]	AS1483-10-0200 [1]	AS1483-12-0240 [1]	AS1483-16-0240 [1]
5	II & III	AS1483-04-0080 [1]	AS1483-06-0080 [1]	AS1483-08-0100 [1]	AS1483-10-0100 [1]	AS1483-12-0120 [1]	AS1483-16-0120 [1]
6	II & III	AS1483-04-0080 [1]	AS1483-06-0080 [1]	AS1483-08-0100 [1]	AS1483-10-0100 [1]	AS1483-12-0120 [1]	AS1483-16-0120 [1]
7	II & III	AS1487E0700 [1] 000	AS1487G0700 [1] 000	AS1487H0700 [1] 000	AS1487J0700 [1] 000	AS1487K0700 [1] 000	AS1487M0700 [1] 000

[1] ADD CODE LETTER "A" FOR TYPE II, SEMI-RIGID, SELF-EXTINGUISHING, -65°F TO +275°F
ADD CODE LETTER "B" FOR TYPE III, SEMI-RIGID, FLAME RETARDANT, -40°F TO +160°F

4.4.2 Test Schedule and Sequence

The test specimens shall be subjected to qualification tests in the order indicated in Table VIII for the Type I, II and Type III hose assemblies.

TABLE VIII
TEST SCHEDULE AND SEQUENCE POTABLE WATER HOSE - TYPES I, II & III

TEST TITLE	PARAGRAPH NUMBER	SPECIMEN NUMBERS [1]						
		1	2	3	4	5	6	7
1. Examination of Product	4.6.1	X	X	X	X	X	X	X
2. Proof Pressure Test	4.6.2	X	X	X	X	X	X	X
3. Length and Diameter Change Test	4.6.3	X	X					
4. Repeated Freeze Test	4.6.4			X	X			
5. Bend Radius Test	4.6.5	X	X					
6. Proof Pressure Test	4.6.2	X	X	X	X			
7. Hose Droop Test	4.6.6							X
8. Vacuum Test	4.6.7	X	X					
9. Tensile Test	4.6.8			X	X			
10. Repeated Torque Test	4.6.9					X	X	X
11. Proof Pressure Test	4.6.2	X	X			X	X	X
12. Odor and Taste Test	4.6.10	X	X					
13. Burst Test	4.6.11					X	X	
14. Chlorine and Detergent Test	4.6.12	X	X					
15. Proof Pressure Test	4.6.2	X	X					
16. Self-Extinguishing Test [2]	4.6.13							
17. Water Absorption Test [2]	4.6.14							
18. Fungus Test [2]	4.6.15							

[1] See Table VII for hose end fitting configuration and length
[2] Hose Material Only