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Superseding AIR797D

Hose Characteristics and Selection Chart

RATIONALE

AIR797E has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE:

This document lists military and industry specifications and standards which are used in aerospace systems and for ground servicing equipment. The characteristic limitations of the hose, which are of major importance to designers, and the sizes in which the hoses are standard are shown. Revisions and amendments, which are current for these specifications and standards, are not listed.

2. REFERENCES:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this specification and references cited herein, the text of this specification takes precedence. Nothing in this specification, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

Specific hose assembly (performance/procurement) specifications, bulk hose and assembly configuration standards are not listed in Section 2 but are the basis of the tables herein.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AS150	Hose Assembly, Type Classification of, Basic Performance and Fire/Resistance
ARP600	Torque Determination, Method of
ARP603	Impulse Test Equipment for Hydraulic System Components
ARP605	Routine Inspection and Test Procedure for Refueling Hoses
AS611	Tetrafluoroethylene Hose Assembly Cleaning Methods
ARP908	Hose Fitting, Installation and Qualification Test Torque Requirement
AS1055	Fire Testing of Flexible Hose, Tube Assemblies, Coils, Fittings and Similar System Components
AIR1377	Fire Test Equipment for Flexible Tube and Hose Assemblies
ARP1569	Handling and Installation Practice for Aerospace Hose Assemblies

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2.1 (Continued):

ARP1658	Visual Inspection Guide for Installed Hose Assemblies
AIR1698	Hose Assembly Identification Practices
AS1933	Age Controls for Hose Containing Age Sensitive Elastomeric Material
AIR2000	Aerospace Fluid System Standards, Metric National and International (Note: Provides Cross Reference AS/ARP to MA/ISO Documents for Hose, Hose Assemblies, and Related Items)
AIR4092	Investigation of PTFE "Melt" Phenomenon for High Pressure Hoses
AIR4918	Industry Practices and Guidelines for Selection of Coiled Tubes, Flex Hoses, Swivels and Extensive Fittings for Aircraft Fluid Systems

2.2 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-H-6002	Marking; Standard Hose, Aircraft
MS33620	Chart, Hose Selection
MIL-STD-1523	Age Controls of Age Sensitive Elastomeric Materials (Cancelled, see AS1933)

3. GENERAL:

3.1 See Tables 1 through 4 for military and SAE hose assemblies and military and SAE hose protective sleeves.

3.2 Classifications:

3.2.1 AS150 lists most military specification and industry specification aerospace hose assemblies assigning a "universal" type designation that may also be coded for fire resistance. Equivalency to DOT-FAA technical standard order (TSO) designation is also included.

3.3 Metric Hose Assemblies:

AIR2000 reflects metric and International Standard Organization (ISO) equivalent or similar hose assemblies.

3.4 Installation and Maintenance:

ARP1569 provides guidance for installation and routing while ARP1658 provides visual inspection guidance for hose assemblies.

4. NOTES:

- 4.1 The change bar (|) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title indicates a complete revision of the document.

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PREPARED BY SAE SUBCOMMITTEE G-3D, AEROSPACE HOSE OF
COMMITTEE G-3, AEROSPACE COUPLINGS, FITTINGS, HOSE, AND TUBING ASSEMBLIES

TABLE 1 - Military Hose Assembly Specification and Standards

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End Fitting Drawing or Specification	Usage Media	Temperature Range	Sizes	Pressure Working (psig)	Pressure Proof (psig)	Pressure Burst (psig)	Impulse Life	Bend Radius (in)	Remarks
AN 6270	MIL-H-5593 Hose Assembly, Hose, Aircraft, Low Pressure, Flexible	MIL-A-38726 Adapter, Assembly, reusable ... MS27404	Gas Water Alcohol Oil	-65 to +160 °F	-2 -3 -4 -6 -8 -10	300 250 200 150 150 150	600 500 400 300 250 250	2 000 1 700 1 250 1 000 750 700	No Life Test	Not Stated	
MIL-H-8790 Hose Assemblies, Rubber, Hydraulic High Pressure (3000 psi)	MIL-H-8788 Hose, Hydraulic High Pressure Assy. Config. MS28759 MS28762 MS28920 MS28921 MS28922 MS28923 MS28924	MIL-F-8789 Fitting End, Attachable ... MS28760 MS28761 MS28780 MS28781	Hydraulic Oil	-65 to +160 °F	-4 -5 -6 -8 -10 -12 -16	3000 3000 3000 3000 3000 3000 3000	8000 7000 7000 7000 6000 6000 5000	16 000 14 000 14 000 14 000 12 000 12 000 10 000	100 000 (1) 100 000 100 000 75 000 50 000 35 000 45 000 (2)	3 3.375 5 5.750 6.500 7.750 9.625	No Gas Test (1) -4 to -12, peaks 150% working pressure bent at 120 °F (2) No impulse peaks, straight
MIL-H-8795 Hose Assemblies Rubber, Hydraulic Fuel and Oil Resistant	MIL-H-8794 Hose, Rubber, Hydraulic, Fuel, and Oil Resistant Assy. Config. MS28741 (Flare) AS1863 thru AS1868 (Flareless)	MIL-A-5070 Adapter, Hose to Tube ...	Hydraulic Fuel Oil	-65 to +160 °F	-3 -4 -5 -6 -8 -10 -12 -16 -20 -24 -32 -40 -48	3000 3000 3000 2000 2000 1750 1500 800 600 500 350 200 (1) 200 (1)	6000 6000 5000 4500 4000 3500 3000 1600 1250 1000 700 300 300	12 000 12 000 10 000 9 000 8 000 7 000 6 000 3 200 2 500 2 000 1 000 800	200 000 (2) 200 000 200 000 200 000 200 000 200 000 200 000 200 000 200 000 100 000 100 000 No Impulse	3 3 3.375 4 4.625 5.500 6.500 7.375 9 11 13.250 24 33	No Gas Test (1) The pressure based on fuel, all others based on hydraulic (2) -3 to -16, 125% peak, bent (3) -20 to -32, 100% peak pressure straight
MIL-H-22343 Hose Assembly Metal Liquid Oxygen	MIL-H-22343 Assy. Config. MS90457	MS90457	Oxygen, Liquid and Gaseous	-297 to +260 °F	-4 -5 -6 -8	None Stated	450 450	4 500 3 500 3 500 3 500	None 3 500 3 500 3 500	2 2.500 3 4	Low Temp Flex Test Vibration Test

TABLE 1 (Continued)

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End Filling Drawing or Specification	Usage Media	Temperature Range	Sizes	Pressure (psig) Working	Pressure (psig) Proof	Pressure (psig) Burst	Impulse Life	Bend Radius (in)	Remarks
MIL-H-25579 Hose Assembly Tetrafluoroethylene, High Temperature, Medium Pressure See Also AS1946	MIL-H-27287 Hose, Tetrafluoroethylene, High Temperature, Medium Pressure MS27381 thru MS27385 Assy. Config. MS8000 thru MS8009	MIL-F-27272 Field Attach. MS27053 thru MS27060 MS27381 thru MS27385	Fuel Lube Oil Water-Alcohol Chemical Hydraulic Pneumatic	-85 to +450 °F (1) (2)	-3/4 -4 -5 -6 -8 -10 -12 -16Z -20Z -24Z	1500 1500 1500 1500 1500 1500 1000 1250 1000	3 000 3 000 3 000 3 000 3 000 3 000 2 000 2 500 2 000	12 000 (3) 12 000 10 000 9 000 8 000 7 000 5 000 5 000 4 000 4 000	100 000 (4&5) 100 000 100 000 100 000 100 000 100 000 100 000 (6) 100 000 (7) 100 000 100 000	2 2 2 4 4.625 5.500 5.500 7.375 11 14	Corrosion Tests Conductivity Tests (1) 400 °F for hydraulic and pneumatic usage (2) 275 °F Alum. Figs. -8 and larger (3) Room Temp values (4) -3/4 not for hydraulic use (5) 125% peak at 400 °F bent (6) -16Z and larger, straight (7) -20Z and -24Z, 100% peaks (1) 100% peaks
MIL-H-26499 Hose Assembly, Metal, Flexible Breathing Oxygen	MIL-H-26499	MIL-H-26499	Oxygen	-85 °F To Unstated Max.	-4	3500	7 000	14 000	50 000 (1)	4	
MIL-H-26626 Hose Assembly, Tetrafluoroethylene	MIL-H-26626 Assy. Config. MS24548	MIL-H-26626	Oxygen	-287 to +260 °F	-5 -6 -8	500 500 500	1 000 1 000 1 000	2 200 2 200 2 200	None	6 8 9.250	Cold Flex Test Leakage (A-U-W) Air (or Nitrogen) Under Water
MIL-H-26633 Hose Assembly, Polytetrafluoroethylene, Oxygen	MIL-H-26633	(MS28760 Type)	Oxygen	-85 to +160 °F	-4 -5 -6 -8	3000	6 000	12 000	2000 (Amb.) (1)	3.250	100% peak pressure cold flex test tensile test
MIL-H-26666 Hose Assembly Pneumatic High Pressure Polyethylene	MIL-H-26666	(MS28760 Type)	Pneumatic (Ground Support Equipment) Not for Oxygen	-65 to +160 °F	-4 -6 -8 -10 -12	4000 4000 4000 4000 4000	8 000 8 000 8 000 8 000 8 000	16 000 16 000 16 000 16 000 16 000	1000 (1) 1000 1000 1000 1000	3.250 5.250 6 6.750 8	100% peak pressure 1000 cycles at room temp and 1000 cycles at 160 °F
MIL-H-27462 Hose Assembly Pneumatic, High Pressure (8500 psi) CANCELLED, NOTICE 1	MIL-H-27462	MIL-H-27462 (Pipe Threads)	Pneumatic (Ground Support Equipment)	-65 to +160 °F	-4 -6 -8	8500 8500 8500	17 000 17 000 17 000	34 000 34 000 34 000	No Life Test	6 7 10	CANCELLED
MIL-H-38360 Hose Assembly, TFE High Temperature Hydraulic and Pneumatic Notice 1, Cancellation, See AS604 and AS1339 (2.3)	MIL-H-38360 see AS604 & AS1339 See also MIL-H-83298 (3) Assy. Config. MS27384 thru MS27374 (2) CANCELLED	MIL-H-38360 see AS604 & AS1339 See also MIL-F-83296 (3)	Hydraulic Pneumatic	-65 to +400 °F (3)	-4 -6 -8 -10 -12 -16 -20	3000 3000 3000 3000 3000 3000	6 000 6 000 6 000 6 000 6 000 6 000	16 000 14 000 14 000 12 000 12 000 12 000	250 000 (1) 250 000 250 000 250 000 250 000 250 000	3.250 5 5.750 6.500 7.750 9.625 12	CANCELLED (1) 150% peak pressure bent (2) Length end of nipple to end of nipple (flareless) (3) Pneumatic limit for field attachable assemblies is +160 °F

TABLE 1 (Continued)

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End-Fitting Drawing or Specification (Type)	Usage Media	Temperature Range	Sizes	Pressure (psig) Working	Pressure (psig) Proof	Pressure (psig) Burst	Impulse Life	Bend Radius (in)	Remarks
MIL-H-38390 Hose Assembly Tetrafluoroethylene Pneumatic High Pressure See also AS614	MIL-H-38390 (1)	(MS28760 Type)	Pneumatic (Ground Support Equipment)	-65 to +160 °F	-4 -6 -8 -10 -12	4000 4000 4000 4000 4000	8 000 8 000 8 000 8 000 8 000	16 000 16 000 16 000 16 000 16 000	2 000 (Amb.) 2 000 2 000 2 000 2 000	3.250 5.250 6 6.750 8	(1) Chloroprene or equivalent cover sleeve
MIL-H-83772 Hose Assembly Metal Cryogenic Liquid, Aircraft Servicing	MIL-H-83772	MIL-H-83772	Cryogenic Liquids Oxygen and Nitrogen	-320 to +500 °F	3/8	100	150	500	None	12	(1) Nonvacuum Insulated (2) .12 BTU/h F/ft of Length Maximum Thermal Conductivity
MIL-H-83796 Hose Assembly Rubber Lightweight Medium Pressure	MIL-H-83797 Hose, Rubber, Lightweight, Medium Pressure Assy. Config. MIL-H-83796/1 thru 9	MIL-H-83798/1 thru 9 Fillings, Rubber Hose ...	Aircraft Fuel Oil	-65 to +250 °F	-3 -4 -5 -6 -8 -10 -12 -16 -20 -24 -32	1000 1000 1000 1000 1000 1000 1000 750 500 250 200	3 000 (1) 3 000 3 000 3 000 2 500 2 500 2 000 1 500 1 300 800 600	6 000 6 000 6 000 6 000 5 000 5 000 3 750 2 500 2 000 1 750 1 200	None	1.75 2.00 2.25 2.50 3.50 4.00 4.50 5.50 8.00 9.00 12.50	(1) All flanges to be tested at rated proof or 1500 psi whichever is less Vacuum Test Cold Flex Test Corrosion Test
MIL-H-95800 (AS) Hose Assemblies, Polytetrafluoroethylene, Aramid Fiber Reinforced 5000 and 8000 psi	MIL-H-95800	MIL-H-95800 (1)	Lubricant Fuel Hydraulic	-65 to +275 °F	-3 -4 -6 -8 -10 -12 -14 -16	8000 (2) 8000 8000 8000 8000 8000 8000 8000	16 000 16 000 16 000 16 000 16 000 16 000 16 000 16 000	28 000 (3) 28 000 28 000 28 000 28 000 25 000 24 000 24 000	200 000 (2) 200 000 200 000 200 000 200 000 200 000 200 000 200 000	2.5 (2) 3.00 5.00 5.75 6.50 7.75 8.75 9.63	(1) Beam seal mates with MIL-F-85720/1 (2) Bend radius for 5000, and differs for 8000 psi (3) Room temp, lower for 275 °F

TABLE 2 - SAE Hose Assembly Standards¹

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End Fitting Drawing or Specification	Usage Media	Temperature Range	Sizes	Pressure (psig) Working	Pressure (psig) Proof	Pressure Burst (psig)	Impulse Life	Bend Radius (in)	Remarks
AS604 Hose Assemblies Aircraft and Missiles, High Temperature, High Pressure 3000 psi DODISS	AS604 Assy. Config. AS621 thru AS626 (3) and AS627 thru AS632 (37") and AS4352 thru AS4357 (Beam Seal)	AS604	Hydraulics Lubricants Pneumatics	-65 to +400 °F (4)	-4 -6 -8 -10 -12 -16 -20	3000 3000 3000 3000 3000 3000 3000	6 000 6 000 6 000 6 000 6 000 6 000 6 000	16 000 (1) 14 000 12 000 12 000 12 000 12 000 12 000	250 000 (2) 250 000 250 000 250 000 250 000 250 000 250 000	3 5 5.750 6.500 7.750 9.625 12	(1) Room temp values. 400 °F are lower (2) 150% peaks following 50 h corrosion conditioning (3) Length gage point to gage point (flareless) (4) -20 only +275 °F
AS614 Polytetrafluoroethylene Heavy Duty, High Temperature High Pressure 4000 psi DODISS (MA614)	AS614 Assy. Config. AS4642 thru AS4647 (Flare)	AS614	Hydraulics Lubricants Pneumatics (3)	-65 to +400 °F	-4 -6 -8 -10 -12 -16	4000 4000 4000 4000 4000 4000	8 000 8 000 8 000 8 000 8 000 8 000	16 000 (1) 16 000 16 000 16 000 16 000 16 000	100 000 (2) 100 000 100 000 100 000 100 000 100 000	3 5 5.750 6.500 7.750 9.625	(1) Room temp values. 400 °F are lower (2) 150% peaks and bent (3) No gas test Note: Metric equivalent MA614
AS620 High Temperature Convoluted Polytetrafluoroethylene DODISS (MA2079)	AS620 Assy. Config. AS1633 to AS1638 (Flareless) AS4499 thru AS4504 (Flare)	AS620	Lubricant Fuel Hydraulics Pneumatics (3)	-65 to +400 °F	-4 -6 -8 -10 -12 -16 -20 -24 -32 -40 -48 -64	1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000	2 000 2 000 2 000 1 800 1 800 1 800 1 800 1 500 500 200 200 200	4 000 (1) 4 000 4 000 3 600 3 600 3 600 3 600 3 000 1 000 400 400 400	50 000 (2) 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000	(1) Room temp values. 400 °F are lower (2) Bent, 100% peaks (3) No gas test except Class 2 Type II - Conductive Inerttube Type I - Nonconductive Inerttube Note: Metric equivalent MA2079	
ARP824 High Temperature High Pressure Aircraft, Flexible Metal CANCELLED 1994-04	ARP824	ARP824	Lubricant Fuel Hydraulics Pneumatics (4) Molten Salts (1)	Type I -65 to +650 °F Type II -65 to +1000 °F	-4 -6 -8 -10 -12 -16	4000 4000 4000 4000 4000 4000	10 000 10 000 10 000 10 000 10 000 10 000	12 000 (2) 12 000 12 000 12 000 12 000 12 000	75 000 (3) 75 000 55 000 35 000 35 000 30 000	3.50 5.50 6.50 8.00 9.75 13.00	(1) Type II only (2) At 650 °F for Type I at 1000 °F for Type II (3) 150% peaks bent (4) No gas tests
ARP907 High Temperature High Pressure Missile and Rockets Flexible Metal (In Review)	ARP907	ARP907	Lubricant Fuel Hydraulics Pneumatics (1) Molten Salts (2)	Type I -65 to +650 °F Type II -65 to +1000 °F	-4 -6 -8 -10 -12 -16	4000 4000 4000 4000 4000 4000	10 000 10 000 10 000 10 000 10 000 10 000	12 000 (6) 12 000 12 000 12 000 12 000 12 000	10 000 10 000 10 000 10 000 10 000 10 000	3.50 5.50 6.50 8.00 9.75 13.00	(1) No gas tests (2) Type II only (3) At 650 °F for Type I at 1000 °F for Type II

¹ "DODISS" indicates DoD acceptance and listing. "DODISS" indicates adoption requested.

TABLE 2 (Continued)¹

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End Fitting Drawing or Specification	Usage Media	Temperature Range	Sizes	Pressure Working (psig)	Pressure Proof (psig)	Pressure Burst (psig)	Impulse Life	Bend Radius (in)	Remarks
AS1227 High Temperature Low Pressure Convuluted Tetrafluoroethylene	AS1227	AS1227	Hydraulics Fuels Lubricants (3) Pneumatics	Class 1 -65 to +400 °F Class 2 -85 to +275 °F	-4 -6 -8 -10 -12 -16 -20 -24 -32 -40 -48 -64Z	300 300 250 250 200 150 150 300 300 75 50 50	600 600 500 500 400 400 300 600 600 150 100 200	1 200 (1) 1 200 1 000 1 000 800 800 600 600 600 300 200 200	50 000 (2) 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000 50 000	.50 .75 1.00 1.50 2.00 3.00 4.00 5.00 6.00 8.00 9.00 12.00 20.00	(1) Burst is room temp (2) Peak is max. operating pressure (3) Type I - Conductive Tube (3) Type II - Nonconductive Tube
AS1339 Hose Assembly, Tetrafluoroethylene 400 °F, 3000 psi Lightweight (MA2007)	AS1624 Hose Polyetrafluoroethylene (PTFE) Lightweight, 3000 psi, High Temperature, Hydraulic and Pneumatic	AS1339	Hydraulics Pneumatics (4)	-65 to +400 °F	-4 -6 -8 -10 -12 -16	3000 3000 3000 3000 3000 3000	6000 6000 6000 6000 6000 6000	16 000 (1) 14 000 14 000 12 000 12 000 12 000	250 000 (2) 250 000 250 000 250 000 250 000 250 000	1.500 2.500 2.875 3.250 4 5	Conductivity Tests (1) Room temp burst (2) 150% peak pressure bent following 50 h corrosion conditioning (3) Length gage point to gage point (4) See AIR4092 for application comments Note: MA2007 metric equivalent
AS1424 Hose Assemblies, Metal Medium Pressure High Temperature	AS1424 Assy. Config. AS136 to 141 (NAS 1780 Flareless)		Pneumatic Systems Bleed Air Systems Heavy Ventil-lation System Instrument Air Systems	UP to 850 °F Continuous (1)	-4 -6 -8 -10 -12 -16 -20	2000 (2) 1600 1400 1200 1050 800 550	3000 2400 2100 1800 1575 1200 825	8 000 (2) 6 400 5 600 4 800 4 200 3 200 2 200	(3) (3) (3) (3) (3) (3) (3)	2 (4) 3 4 4.500 5 6 7	(1) Short excursions to 1200 °F (2) Pressure values are room temperature 850 °F pressure value are 65% of noted values (3) 100% peak combined with 50,000 flexure cycles (4) Static (no flex) (5) See also MA2100 (ISO 7314)
AS1946 Hose Assembly, Polyetrafluoroethylene (PTFE), Up to 450 °F (232 °C) and 1500 psi	AS1946 Assy. Config. AS4006 thru AS4011 (Beam Seal) AS647 thru AS652 (Flareless)	AS1946	Fuel Lube Oil Water- Alcohol Chemical Hydraulic Pneumatic	-65 to +450 °F (1) (2)	-3 -4 -5 -6 -8 -10 -12	1500 1500 1500 1500 1500 1500 1000	3000 3000 3000 3000 3000 3000 2000	12 000 (3) 12 000 10 000 10 000 9 000 8 000 7 000 5 000	100 000 (4&5) 100 000 100 000 100 000 100 000 100 000 100 000 100 000	2 2 2 4 4.625 5.500 6.500	Corrosion Tests Conductivity Tests (1) 400 °F for hydraulic and pneumatic usage (2) 275 °F alum. figs. -8 and larger (3) Room temp values

¹ "DODISS" indicates DoD acceptance and listing, "DODISS" indicates adoption requested.

TABLE 2 (Continued)¹

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End Fitting Drawing or Specification	Usage Media	Temperature Range	Sizes	Pressure (psig) Working	Pressure (psig) Proof	Pressure (psig) Burst	Impulse Life	Bend Radius (in)	Remarks
(10 500 kPa) Procurement Specification (MA2126) (9)	AS833 thru AS838 (37") In Work				-16Z -20Z -24Z	1250 1000 1000	2500 2000 2000	5 000 4 000 4 000	100 000 (6) 100 000 (7) 100 000	7.375 11 14	(4) -3 not for hydraulic use (5) 125% peak at 400 °F bent (6) -16Z and larger, straight (7) -20Z and 24Z, 100% peaks (8) Length gage to gage (9) See also MIL-H-25579 and MS8005 - MS8009 Note: MA2126 metric equivalent
AS1975 Hose Assemblies PTFE, Aramid Reinforced, 4000 psi, Hydraulic and Pneumatic (MA1975)	AS1975 Assy, Conflg. AS4568 thru AS4573 (Flareless) AS4574 thru AS4579 (Beam Seal) (In Work)	AS1975	Hydraulic Pneumatic	-65 to +275 °F	-4 -6 -8 -10 -12 -16	4000 4000 4000 4000 4000 4000	8 000 8 000 8 000 8 000 8 000 8 000	16 000 (1) 16 000 16 000 16 000 16 000 16 000	100 000 (3) 100 000 100 000 100 000 100 000 100 000	3.00 (2) 5.00 5.75 6.50 7.75 12.00	(1) 12 000 psi for high temperature (+275 °F) (2) Smaller (50%) bend radius for 3000 psi operating pressure (3) 250 000 cycles for 3000 psi operating pressure Note: Metric equivalent MA1975 (was MA2140)
AS4098 Hose Assembly, Polytetrafluoroethylene, Heavy Duty, Metallic Reinforced, 400 °F (204 °C), 5000 psi (34 500 kPa) Hydraulic and Pneumatic	AS4098	AS4098	Hydraulic	-65 to +400 °F	-4 -6 -8 -10 -12 -16	5000 5000 5000 5000 5000 5000	10 000 10 000 10 000 10 000 10 000 10 000	20 000 (1) 20 000 20 000 20 000 20 000 20 000	100 000 (2) 100 000 100 000 100 000 100 000 100 000	3 5 5.75 6.5 7.75 9.63	(1) High temp burst (min) 15 000 psi (2) 150% peak -12 and -16 may be tested with 90° bend, other 180°
AS4388 Hose Assembly, PTFE, Heavy Duty, -65 to 400 °F (55 to 204 °C) 8000 psi (55 000 kPa) Hydraulic and Pneumatic	AS4388	AS4388	Hydraulic	-65 to +400 °F	-3 -5 -7 -9 -11 -13 -15	8000 8000 8000 8000 8000 8000 8000	16 000 16 000 16 000 16 000 16 000 16 000 16 000	28 000 (1) 28 000 28 000 28 000 28 000 28 000 28 000	200 000 (2) 200 000 200 000 200 000 200 000 200 000 200 000	3 5 6 7 9 11.5 14	(1) High temp burst (min) is 24 000 psi (2) Peak pressure 135%
AS4468 Hose Assembly, Lined Silicone, Potable Water	AS4468 Assy, Conflg. AS4469 thru AS4478 (NAS1760 Flareless) (2) AS4704 thru AS4706 and AS4796 thru AS4803 (AS1656 Fixed Cavity)	—	Potable Water	-65 to +160 °F	-04 -06 -08 -10 -12 -16	125 125 125 125 125 125	250 250 250 250 250 250	500 (1) 500 500 500 500 500	200 000 200 000 200 000 200 000 200 000 200 000	1.50 2.00 2.75 3.75 5.00 7.00	(1) Room temp burst (2) Length, gage point to gage point

¹ "DODISS" indicates DoD acceptance and listing; "DODISS" indicates adoption requested.

TABLE 2 (Continued)¹

Assembly Drawing or Procurement Specification	Hose/Hose Assembly Specification	End Fitting Drawing or Specification	Usage Media	Temperature Range	Sizes	Pressure (psig) Working	Pressure (psig) Proof	Pressure (psig) Burst	Impulse Life	Bend Radius (in)	Remarks
AS4604 (1) Hose Assembly, Polytetrafluoroethylene, CRES Reinforced, Heavy Duty, 400 °F, 3000 psi, Aircraft Hydraulic Systems	AS4604 Assy. Config. AS4605 thru AS4610 (Flareless) AS4611 thru AS4616 (Flare) AS4617 thru AS4622 (Beam Seal)	AS4604	Hydraulic	-65 to +400 °F	-4 -6 -8 -10 -12 -16 -20	3000 3000 3000 3000 3000 3000 3000	6 000 6 000 6 000 6 000 6 000 6 000 6 000	16 000 (2) 14 000 14 000 12 000 12 000 12 000 12 000	50 000/ 1 000 000 (3) 50 000/ 1 000 000 50 000/ 1 000 000 50 000/ 1 000 000 50 000/ 1 000 000	3 5 5.75 6.50 7.75 9.63 12	(1) Heavy duty for rapid rate impulsing and/or torsional or longitudinal flexing (2) High temp burst (min) is lower (3) 50 000 cycles with torsion followed by 1 000 000 rapid rate cycles
AS4623 Hose Assembly, Polytetrafluoroethylene, Para Aramid Reinforced Heavy Duty, 275 °F, 3000 psi, Aircraft Hydraulic Systems	AS4623 Assy. Config. AS4624 thru AS4629 (Flareless) AS4630 thru AS4635 (Flare) AS4636 thru AS4641 (Beam Seal)	AS4623	Hydraulic	-65 to +275 °F	-4 -6 -8 -10 -12 -16 -20	3000 3000 3000 3000 3000 3000 3000	6000 6000 6000 6000 6000 6000 6000	16 000 14 000 14 000 12 000 12 000 12 000 12 000	(1) (2) 250 000 with final 50 000 including torsion followed by 1 000 000 rapid rate cycles Peak pressure 150%	1.50 2.50 2.88 3.25 4.00 7.50 12.00	(1) 250 000 with final 50 000 including torsion followed by 1 000 000 rapid rate cycles (2) Peak pressure 150%
AS4697 Hose Assembly, Polytetrafluoroethylene, Low Pressure, 450 °F and Fireproof (2)	AS4697	AS4697	Low Pressure Fuel, Lube Oil	-65 to +450 °F	-3 -4 -5 -6 -8 -10 -12	1000 1000 800 750 750 700 600	2000 2000 1600 1500 1500 1400 1200	4000 4000 3200 3000 3000 2800 2400	At 400 °F Similar to MIL-H-25579 or AS1946 except pressure, bend radius and inherent line protection	.75 1.00 1.25 2.00 2.00 3.00 4.50	(1) At 400 °F (2) Similar to MIL-H-25579 or AS1946 except pressure, bend radius and inherent line protection
N/A	AMS 3380 Hose, Polytetrafluoroethylene Wire Reinforced	N/A	Fuel	-65 to +450 °F	-3 -4 -5 -6 -8 -10 -12 -16Z -20Z -24Z	1500 1500 1500 1500 1500 1200 1000 1000	3000 3000 3000 3000 3000 2000 2400 2000	12 000 (1) 12 000 10 000 9 000 8 000 7 000 6 500 5 000 4 000 4 000	100 000 (2) 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000 100 000	2 2 2 4 4.875 5.500 6.500 7.625 11.00 14.00	(1) Room temperature (2) -3 to -162Z at 125% peak See MIL-H-25579 or AS1946 for hose assemblies with similar hose characteristics

¹ "DOD/ISS" indicates DoD acceptance and listing. "DOD/ISS" indicates adoption requested.

TABLE 3 - Military Hose Protective Sleeve Standards and Specification¹

Drawing or Standards	Sleeve Specification	Sleeve Material	Usage Media	Temp Ranges	Sizes	Remarks
MIL-I-7444 Insulation Sleeving, Electrical, Flexible	MIL-I-7444	Vinyl Type I - Clear Type II - Color	Petroleum Base Fluids	Class 1 to 90 °F Class 2 to 67 °F To 212 °F	1/16 in ID increments From 5/16 to 2-1/2	
MIL-I-22129 Insulation Tubing, Electrical, Polytetrafluoro- ethylene, Nonrigid	MIL-I-22129	PTFE Natural color milky white to straw yellow	Excellent resistance to petroleum and synthetic hydraulic fluids, fuels, solvents, ozone, and most chemicals	-65 to +480 °F	Specify AWG-size (.010 to .347 in ID)	(1) Wall thickness varies by size, nominal .009 to .020 in
MIL-I-23053 Insulation Sleeving, Electrical, Heat shrinkable	MIL-I-23053/1	Polychloroprene black	Moderate oil, flex and ozone resistance	Class 1 (1) -67 to +194 °F Class 2 -94 to +250 °F	.250/.143 (2) to 4.000/2.280 in	(1) Not for new design (2) As furnished ID/after unrestricted shrink (3) Wall thickness (nom) .035 to .140, varies by size
	MIL-I-23053/2	Polyvinyl chloride flexible Class 1 - crosslinked Class 2 - noncrosslinked (colored)		-4 to +221 °F	.046/.023 (1) to 2.000/1.000 in	(1) As furnished ID/after unrestricted shrink (2) Wall thickness (nom) .020 to .050 Class 1 and 2 (3) Thin wall .014 to .034 Class 2 only
	MIL-I-23053/5	Polyolefin flexible crosslinked Class 1 - Flame resistant colored Class 2 - Flammable clear Class 3 - Highly flame resistant colored		Classes 1 and 2 -67 to +275 °F Class 3 -13 to +257 °F	.046/.023 (1) to 4.000/2.000 in	(1) As furnished ID/after unrestricted shrink (2) Wall thickness, .016 in to .055 in varies by size (3) Sizes in inches
	MIL-I-23053/11	Fluorinated ethylene propylene (FEP) noncrosslinked Class 1 - normal shrink Class 2 - high shrink	Excellent resistance to petroleum and synthetic hydraulic fluids, fuels, solvents, ozone, and most chemicals	-88 to +392 °F	(1) (3) .031/.027 to 4.300/3.600 (2) (3) .093/.056 to 2.000/1.200	(1) Class 1, heavy wall, .008 to .020 (2) Class 2, medium wall, .008 to .030 (3) As furnished ID/after unrestricted shrink (4) Sizes in inches

¹ Most are listed for "electrical" insulation in DODISS.

TABLE 3 (Continued)¹

Sleeve Drawing or Standards	Sleeve Specification	Sleeve Material	Usage Media	Temp Ranges	Sizes	Remarks
MIL-I-23053 (Continued)	MIL-I-23053/12	Polytetrafluoroethylene (PTFE)	Excellent resistance to petroleum and synthetic hydraulic fluids, fuels, solvents, ozone, and most chemicals	-88 to +480 °F	Class 1 (1) .166/.130 to 1.330/1.020 Class 2 and 4 .050/.027 .470/.329 Class 3 .470/.347 1.500/1.036	(1) As furnished ID/after unrestrained shrink at 680 °F (2) Sizes in inches
MIL-I-23053/3 MIL-I-23053/4 and /6 - /10 and /13 - /18 Not commonly applied to hose assemblies						

¹ Most are listed for "electrical" insulation in DODISS.