

HOSE CHARACTERISTICS AND SELECTION CHART

Issued 9-30-63
Revised

1. SCOPE:

1.1 This report 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.

1.2 Listing Documents: Attention is called to the following documents which list specifications and standards and are used as a basis for this report.

1.2.1 Military Standards - The Department of Defense, Index of Specifications and Standards; prepared by the Standardization Division, Armed Forces Supply Support Center, Washington 25, D.C. This document is published semiannually, with monthly cumulative supplements.

1.2.2 Society of Automotive Engineers, Inc. Standards - SAE Aerospace Standards, Recommended Practices, Information Reports (AS, ARP, AIR Index). This document is published annually by the Society of Automotive Engineers, Inc., 485 Lexington Ave., New York 17, N.Y.

2. SPECIFICATIONS AND STANDARDS:

2.1 Miscellaneous Documents:

MIL-H-6002 Marking; Standard Hose, Aircraft

MS33620 Chart, Hose Selection

ANA Bulletin No. 438 AGE Controls for Synthetic Rubber Parts

ARP 611 Tetrafluoroethylene Hose Assembly Cleaning Methods

2.2 Military Specifications and Standards:

Prepared by
SAE Committee G-3,
Aerospace Fittings & Flexible Hose Assemblies

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Assembly Drawing or Specification	Hose Specification	End Fitting Drawing or Specification	Usage Media	Temp. Range	Sizes	Pressure			Impulse Life	Bend Radius	Remarks
						Working	Proof	Burst			
AN6270 Hose Assembly - Detachable Swivel Fitting, Low Pressure	MIL-H-5553 Hose, Aircraft, Low Pressure, Flexible	AN773	Gas Water Alcohol Oil	- 65°F to +160°F	- 2 - 3 - 4 - 6 - 8 - 10	Not Stated	1,000 800 1,700 500 500 300 300 750	2,000 1,700 1,250 1,000 1,000 750 700	No Life Test	Not Stated	
MIL-H-8790 Hose Assemblies Hydraulic and Pneumatic, High Pressure MS-28759 MS-28762	MIL-H-8788 Hose	MIL-F-8789 MS-28760 MS-28780 MS-28781	Hydraulic Pneumatic	- 65°F to +160°F	- 4 - 5 - 6 - 8 - 10 - 12 - 16	3,000 3,000 3,000 3,000 3,000 3,000 3,000	8,000 7,000 7,000 7,000 6,000 6,000 5,000	16,000 14,000 14,000 14,000 12,000 12,000 10,000	100,000 (1) 100,000 100,000 100,000 75,000 50,000 35,000 45,000 (2)	3 3 3/8 5 5 3/4 6 1/2 7 3/4 9 5/8	No gas test (1) -4 to -12, peaks 125% of working, bent (2) No impulse peaks, straight
MIL-H-8795 Hose Assemblies Rubber, Hydraulic and Pneumatic, Fuel and oil Resistant MS-28741	MIL-H-8794	MIL-A-005070	Hydraulic Pneumatic Fuel Oil	- 65°F to +160°F	- 3 - 4 - 5 - 6 - 8 - 10 - 12 - 16 - 20 - 24 - 32 - 40 - 48	3,000 3,000 3,000 2,000 2,000 1,750 1,500 800 600 500 350 (1) 200 (1) 200	6,000 6,000 5,000 4,500 4,000 3,500 3,000 1,600 1,250 1,000 700 300 300	12,000 12,000 10,000 9,000 8,000 7,000 6,000 3,200 2,500 2,000 1,400 1,000 800	100,000(2) 100,000 100,000 100,000 100,000 100,000 100,000 100,000 (3) 50,000 50,000 50,000 No impulse	3 3 4 4 5 1/2 6 1/2 7 3/8 9 11 13 1/4 24 33	No gas test (1) The pressures based on fuel, all others based on hydraulic (2) -3 to -16, 125% peak, bent (3) -20 to -32, 125% peak straight
MIL-H-25579 Hose Assembly Tetrafluoroethylene, High Temperature, Power Plant, Aircraft	MIL-H-25579	MIL-H-25579	Fuel Lube Oil Water-Alcohol Chemical Fluid Hydraulic Pneumatic	- 65°F to +450°F (1)	- 3 - 4 - 5 - 6 - 8 - 10 - 12 - 162 - 202 - 242	1,500 1,500 1,500 1,500 1,500 1,000 1,250 1,000 1,000 1,000	3,000 3,000 3,000 3,000 3,000 2,000 2,500 2,000 2,000 2,000	12,000 (2) 12,000 10,000 9,000 8,000 7,000 6,000 5,000 4,000 4,000	100,000 (3 & 4) 100,000 100,000 100,000 100,000 100,000 100,000 (5) 100,000 (6) 100,000	2 2 2 4 5 1/2 6 1/2 7 3/4 11 14	No gas test (1) 400°F for hydraulic & pneumatic usage (2) Room temp. values 450°F are lower (3) 125% peak @ 400°F, bent (4) -3 not for hyd use (5) -162 & larger, straight (6) -202 & 242, 100% peaks
MIL-H-26499 Hose Assembly, Metal, Flexible Breathing Oxygen	MIL-H-26499	MIL-H-26499	Oxygen	- 65°F to unstated max.	- 4	3,500	7,000	14,000	50,000 (1)	4	(1) 100% peaks
MIL-H-26626 Hose Assembly, Tetrafluoroethylene, Oxygen, MS 24548	MIL-H-26626	MIL-H-26626	Oxygen	-297°F to +260°F	- 5 - 6 - 8	500	1,000	2,200	Vibration Test	6 8 9 1/4	
MIL-H-26633 Hose Assembly Polytetrafluoroethylene Oxygen MS22028	MIL-H-26633	MS28760	Oxygen	- 65°F to +160°F	- 5 end - 4 hose	3,000	6,000	12,000	No Life Test	3 1/4	

Assembly Drawing or Specification	Hose Specification	End Fitting Drawing or Specification	Usage Media	Temp. Range	Sizes	Pressure			Impulse Life	Bend Radius	Remarks
						Working	Proof	Burst			
MIL-H-26666 Hose Assemblies Pneumatic, High Pressure	MIL-H-26666	MS28760	Pneumatic (Ground Support Equipment)	- 65°F to +160°F	- 4 - 6 - 8 - 10 - 12	4,000 4,000 4,000 4,000 4,000	8,000 8,000 8,000 8,000 8,000	16,000 16,000 16,000 16,000 16,000	No Life Test	3 1/4 5 1/4 6 6 3/4 8	No gas test (1) 400°F for hydraulic & pneumatic usage (2) Room temp. values. (3) 450°F are lower (4) 125% peak @400°F, bent (5) -3 not for hyd use (6) -162 & larger straight (7) -202 & -242, 100% peaks
MIL-H-27267 Hose, Tetrafluore - ethylene, High Temperature, Medium Pressure	MIL-H-27267	MIL-F-27272 MS27053 thru MS27089	Fuel Lube Oil Water-Alcohol Chemical Hydraulic Pneumatic	- 67°F to +450°F (1)	- 3 - 4 - 5 - 6 - 8 - 10 - 12 -162 -202 -242	1,500 1,500 1,500 1,500 1,500 1,500 1,500 1,250 1,250 1,000 1,000	3,000 3,000 3,000 3,000 3,000 3,000 3,000 2,500 2,500 2,000 2,000	12,000(2) 12,000 10,000 8,000 8,000 7,000 5,500 5,000 5,000 4,000 4,000	100,000 (3 & 100,000 4) 100,000 100,000 100,000 100,000 100,000 100,000 (5) 100,000 (6) 100,000 100,000	2 2 2 4 5/8 5 1/2 6 1/2 7 3/8 11 14	No gas test (1) 400°F for hydraulic & pneumatic usage (2) Room temp. values. (3) 450°F are lower (4) 125% peak @400°F, bent (5) -3 not for hyd use (6) -162 & larger straight (7) -202 & -242, 100% peaks
MIL-H-27462 Hose Assembly Pneumatic, High Pressure (8500 psi)	MIL-H-27462	MIL-H-27462 (Pipe Threads)	Pneumatic (Ground Support Equipment)	- 65°F to +160°F	- 4 - 6 - 8	8,500 8,500 8,500	17,000 17,000 17,000	34,000 34,000 34,000	No Life Test	6 7 9	

2.3 S.A.E. SPECIFICATIONS & STANDARDS

ARP-601 Hose Assemblies Flexible Metal, Aeronautical, Low Pressure	ARP-601	AS1011T01016	Fuels Lubricants Coolants Hot Gas	Type I-400°F - 3 Type II-600°F - 4 Type III - 5 800°F Type IV - 6 1200°F - 8	- 3 - 4 - 5 - 6 - 8	1,500(1) 1,300 1,100 900 800 700	2,250 1,950 1,650 1,350 1,200 1,050	11,500 3,900 3,300 2,700 2,400 2,100	No Impulse 50,000 pres. cycles to 50% working	1.5 1.75 2.125 2.375 2.75 3.0 3.75 4.375 6.0 7.5 10.5	(1) Room temp. values high temp. reduced per curve in ARP.
ARP-602 Hose Assemblies Flexible Metal Aeronautical, Medium Pressure	ARP-602	AS1011 to 1016	Fuels Lubricants Coolants Hot Gas	Type I-400°F - 3 Type II-600°F - 4 Type III - 5 800°F Type IV - 6 1200°F	- 3 - 4 - 5 - 6 - 8 - 10 - 12 - 16 - 20 - 24 - 32	3,000 (1) 2,600 2,200 1,800 1,600 1,400 1,100 800 600 530 400	4,500 3,900 3,300 2,700 2,400 2,100 1,650 1,200 900 800 600	9,000 7,800 6,600 5,400 4,800 4,200 3,300 2,400 1,800 1,600 1,200	No Impulse 50,000 pres. Cycles to 50% working	3.062 3.125 3.500 4.120 5.0 5.750 6.875 7.875 9.500 11.750 14.250	(1) Room temp values, high temp. reduced per curve in ARP
ARP-604 Hose Assemblies Aircraft & Missiles, High Temperature, High Pressure (250,000 cycles)	ARP-604	ARP-604	Hydraulics Lubricants Pneumatics	- 65°F to +400°F	- 4 - 6 - 8 - 10 - 12 - 16	3,000 3,000 3,000 3,000 3,000 3,000	6,000 6,000 6,000 6,000 6,000 6,000	16,000(1) 14,000 14,000 12,000 12,000 12,000	250,000 (2) 250,000 250,000 100,000 100,000 45,000	3 5 5 3/4 6 1/2 7 3/4 9 5/8	No gas test (1) Room temp. values 400°F are lower (2) 150% peaks