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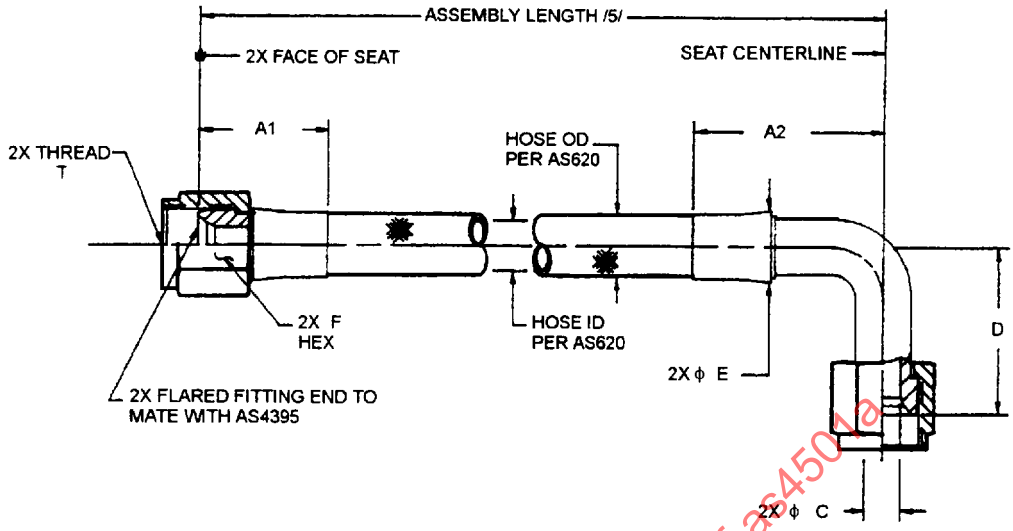
FEDERAL SUPPLY CLASS



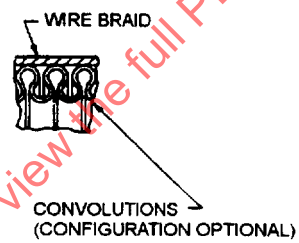


FIGURE 1 - HOSE ASSEMBLY

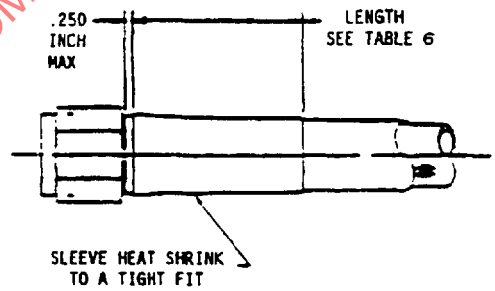


FIGURE 2 - SPIRAL ABRASION COVER /6/

ISSUED 1991-12-30 REVISED 1998-03

CUSTODIAN: SAE G-3/G-3D

PROCUREMENT SPECIFICATION: AS620 /2/

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

HOSE ASSEMBLY, CONVOLUTED, POLYTETRAFLUOROETHYLENE, METALLIC REINFORCED CONDUCTIVE, FLARED, STRAIGHT TO 90°

QUESTIONS REGARDING THIS DOCUMENT: (412) 772-8510 FAX: (412) 776-0243
TO PLACE A DOCUMENT ORDER: (412) 776-4970

TABLE 1 - ASSEMBLY DIMENSIONS

HOSE ASSEMBLY NO. AND SIZE CODE	HOSE ASSEMBLY SIZE (REF)	THREAD T PER MIL-S-8879 REF	A_1 MAX	A_2 MAX	C /8/ MIN	D MIN	D MAX	E /9/ MAX WITHOUT SLEEVING	F HEX (REF)
AS4501-04	.250	.4375-20UNJF-3B	1.05	1.24	.132	.607	.677	.55	.56
AS4501-06	.375	.5625-18UNJF-3B	1.28	1.56	.256	.855	.925	.68	.69
AS4501-08	.500	.7500-16UNJF-3B	1.44	1.85	.345	1.072	1.142	.86	.88
AS4501-10	.625	.8750-14UNJF-3B	1.58	2.19	.430	1.246	1.316	.95	1.00
AS4501-12	.750	1.0625-12UNJ-3B	1.74	2.67	.635	1.370	1.440	1.28	1.25
AS4501-16	1.00	1.3125-12UNJ-3B	1.79	2.87	.835	1.673	1.743	1.47	1.50
AS4501-20	1.25	1.6250-12UNJ-3B	2.29	3.39	1.085	2.015	2.085	1.70	1.81
AS4501-24	1.50	1.8750-12UNJ-3B	2.38	3.65	1.310	2.335	2.405	2.00	2.12

TABLE 2 - ASSEMBLY LENGTH TOLERANCE

HOSE ASSEMBLY LENGTH	TOLERANCE
UNDER 18 in	±.125 in
18 TO 36 in EXCLUSIVE	±.250 in
36 TO 50 in EXCLUSIVE	±.500 in
50 in AND OVER	±1%

TABLE 3 - HOSE OR COVER OUTSIDE DIAMETER

HOSE OR COVER CODE	HOSE OR TYPE OF PROTECTIVE COVER	HOSE SIZE -04	HOSE SIZE -06	HOSE SIZE -08	HOSE SIZE -10	HOSE SIZE -12	HOSE SIZE -16	HOSE SIZE -20	HOSE SIZE -24	UPPER TEMP. LIMIT °F
NONE (REF)	HOSE ONLY PER AS620									
B (REF)	SPIRAL ABRASION /6/	.505	.615	.825	.935	1.140	1.358	1.630	1.890	275
H ± .032	INTEGRAL FIRESLEEVE /10/	–	.830	1.010	1.170	1.360	1.510	1.750	2.000	400
N (REF)	FIRESLEEVE SIL/FG (AS1072) /10/ /11/ /12/	.760	.870	1.030	1.130	1.370	1.630	1.870	2.130	400
K ± .032	INTEGRAL ABRASION /7/ (BRAIDED) POLYESTER	.500	.630	.840	.920	1.135	1.373	1.600	1.870	300
J ± .032	INTEGRAL FIRESLEEVE /13/	.685	.795	.995	1.090	1.300	1.530	–	–	400

TABLE 4 - HOSE ASSEMBLIES PHYSICAL CHARACTERISTICS (REF)

HOSE SIZE (REF)	OPERATING PRESSURE MAX PSI	PROOF PRESSURE MIN PSI	BURST PRESSURES ROOM TEMP MIN PSI	BURST PRESSURES HIGH TEMP MIN PSI	BEND RADIUS AT INSIDE OF BEND INCHES (HOSE ONLY)
-04	1000	2000	4000	2800	1.25
-06	1000	2000	4000	2800	2.25
-08	1000	2000	4000	2800	2.88
-10	1000	1800	3600	2500	3.00
-12	1000	1800	3600	2500	3.75
-16	1000	1800	3600	2500	5.00
-20	1000	1800	3600	2500	6.25
-24	750	1500	3000	2100	7.50

TABLE 5 - WEIGHTS (NOM)

HOSE SIZE (REF)	HOSE ONLY LB-IN	HOSE WITH SPIRAL ABRASION COVER CODE B LB/IN	HOSE WITH INTEGRAL FIRESLEEVE COVER CODE H & J LB/IN	HOSE WITH TUBULAR FIRESLEEVE COVER CODE N LB/IN	HOSE WITH POLYESTER ABRASION COVER CODE K LB/IN	STR END FITTING LB EACH	90° END FITTING LB EACH	HOSE LENGTH CORRECTION FACTOR-IN /15/ STR	HOSE LENGTH CORRECTION FACTOR-IN /15/ 90°
-04	.008	.011	–	.018	.009	.06	.06	.45	.61
-06	.010	.014	.028	.021	.012	.10	.12	.57	.82
-08	.015	.020	.032	.030	.018	.16	.19	.72	1.10
-10	.020	.025	.042	.035	.022	.25	.30	.72	1.10
-12	.027	.032	.050	.044	.028	.34	.42	.71	1.48
-16	.033	.039	.055	.057	.038	.49	.66	.78	1.84
-20	.050	.060	.070	.077	.045	.90	1.00	.94	2.01
-24	.060	.071	.082	.107	.058	1.28	1.41	.94	2.28

TABLE 6 - SLEEVE LENGTH

(REF) HOSE SIZE	LENGTH (in)
-04/-06	2.00 ± .25
-08/-10	2.50 ± .25
-12/-16	3.00 ± .25
-20/-24	3.50 ± .25

TABLE 7 - MINIMUM INSPECTION BALL SIZE FOR VERIFYING HOSE ASSEMBLY ID /8/

HOSE SIZE (REF)	STRAIGHT END FITTING DIA IN	ELBOW END FITTING DIA IN
-04	.119	.112
-06	.230	.218
-08	.310	.293
-10	.387	.366
-12	.572	.540
-16	.752	.710
-20	.976	.922
-24	1.179	1.114

NOTES:

1. MATERIALS: HOSE AND FITTINGS PER AS620, TYPE II, CLASS 1 OR 2, AS SPECIFIED BY PART NUMBER.
   CODE B, SPIRAL ABRASION COVER, BLACK NYLON COIL PER AS1294
   CODE H AND J, INTEGRAL FIRESLEEVE, RED OR BROWN SILICONE
   CODE N, TUBULAR FIRESLEEVE, FIBERGLASS SILICONE PER AS1072
   CODE K, INTEGRAL ABRASION SLEEVE, BRAIDED POLYESTER

/2/ THIS HOSE ASSEMBLY STANDARD SHALL BE QUALIFIED IN ACCORDANCE WITH PROCUREMENT SPECIFICATION AS620. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL(S) BY STANDARD PAGE SUPPLEMENT SHEET OR SIMILAR MEANS.

3. MARKING SHALL BE PER AS620 ON A STAINLESS STEEL BAND NOT OVER 1.0 in WIDE OR ON THE END FITTING COLLAR. THE CHARACTERS SHALL BE A MINIMUM OF .06 in HIGH. THE BAND SHALL BE SO DESIGNED AS TO REMAIN TIGHT ON THE HOSE TO PREVENT RELATIVE MOTION AND CHAFING. IT SHALL BE OF SUFFICIENT STRENGTH TO PREVENT REMOVAL BY HAND.

4. CONSTRUCTION AND PERFORMANCE PER AS620. FITTINGS SHALL BE PERMANENTLY ATTACHED TO HOSE.

/5/ LENGTH "L" IS A FOUR DIGIT NUMBER OF WHICH THE FIRST THREE DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE INCHES, AND THE FOURTH DIGIT IN FRACTION OF AN INCH IN EIGHTHS. LENGTH "L" IS MEASURED FROM "END" TO "END." SEE TABLE 2 FOR LENGTH TOLERANCES.

/6/ SPIRAL ABRASION COVER WHEN ASSEMBLED IN THE STRAIGHT CONDITION ON THE HOSE SHALL HAVE AN AVERAGE GAP BETWEEN SPIRALS NOT EXCEEDING .05 in. DISPLACEMENT OF THE SPIRAL COVER, CAUSING A GREATER GAP, SHALL NOT BE CAUSE FOR REJECTION IF THE SPIRALS CAN BE REPOSITIONED TO MEET THE GAP REQUIREMENT. ENDS OF THE SPIRAL COVER SHALL BE TERMINATED WITH A LENGTH OF MIL-I-23053/5 BLACK POLYOLEFIN TUBING PER TABLE 6 AND FIGURE 2.

/7/ BRAIDED POLYESTER ABRASION COVER SHALL FORM AN INTEGRAL, PERMANENT PART OF THE HOSE AND SHALL TERMINATE A MAXIMUM OF .625 in FROM THE END OF THE END FITTING COLLAR.

/8/ HOSE ASSEMBLY INSIDE DIAMETER SHALL BE VERIFIED BY PASSING THE DESIGNATED, OR LARGER, SPHERICAL BALL PER TABLE 7 THROUGH THE HOSE ASSEMBLY.

/9/ DISTANCE ACROSS CORNERS OF COUPLING NUT MAY EXCEED THIS DIMENSION.

/10/ ADD "AS1055 TYPE IIb CLASS B-S/P" OR "AS150 TYPE IIIbB" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE-PROOF" (15 min), WITH AS1055 OR AS150.

/11/ THE CUT ENDS OF THE FIRESLEEVE SHALL BE COATED WITH RTV SILICONE RUBBER, OR EQUIVALENT, PRIOR TO INSTALLATION TO PREVENT WICKING OF FLUID. THE FIRESLEEVE ENDS SHALL BE SECURED TO THE HOSE ASSEMBLY END FITTINGS WITH CORROSION RESISTANT STEEL BANDS. AFTER INSTALLATION, CRACKS OR VOIDS IN THE FIRESLEEVE, WHICH EXPOSE THE FIBERGLASS, SHALL BE COATED WITH RTV SILICONE.

/12/ THE TABLE 3 SLEEVE DIAMETERS FOR AS1072 SLEEVE SHALL APPLY WHEN THE SLEEVE IS COMPRESSED, OR CLAMPED, TO CONTACT THE HOSE. IN THIS CASE A WRINKLE MAY OCCUR OVER APPROXIMATELY 10% OF THE SLEEVE CIRCUMFERENCE.

/13/ ADD "AS1055 TYPE IIa CLASS A-S/P" OR "AS150 TYPE IIIaA" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE "FIRE RESISTANT" (5 min) WITH AS1055 OR AS150.

14. STANDARD COUPLING NUTS SHALL BE IN ACCORDANCE WITH AN818 OR AS4370 AND MATE WITH AS4395 FLARED FITTING END. NONSTANDARD COUPLING NUTS MAY BE USED PROVIDED THEY ARE DIMENSIONALLY AND FUNCTIONALLY EQUIVALENT AND PROVIDED THEY CANNOT BE REMOVED FROM THE FITTING AND USE THE SAME MATERIALS.

/15/ FOR EACH END FITTING, DEDUCT APPROPRIATE LENGTH FACTOR FROM HOSE LENGTH TO DETERMINE ASSEMBLY WEIGHT.