FEDERAL SUPPLY CLASS

RATIONALE

CORRECTED NOTE NUMBERS AND CLARIFIED COVER CODES SHOWN IN TABLE 3. UPDATED NOTE 2 TO CURRENT STANDARD QPL WORDING.

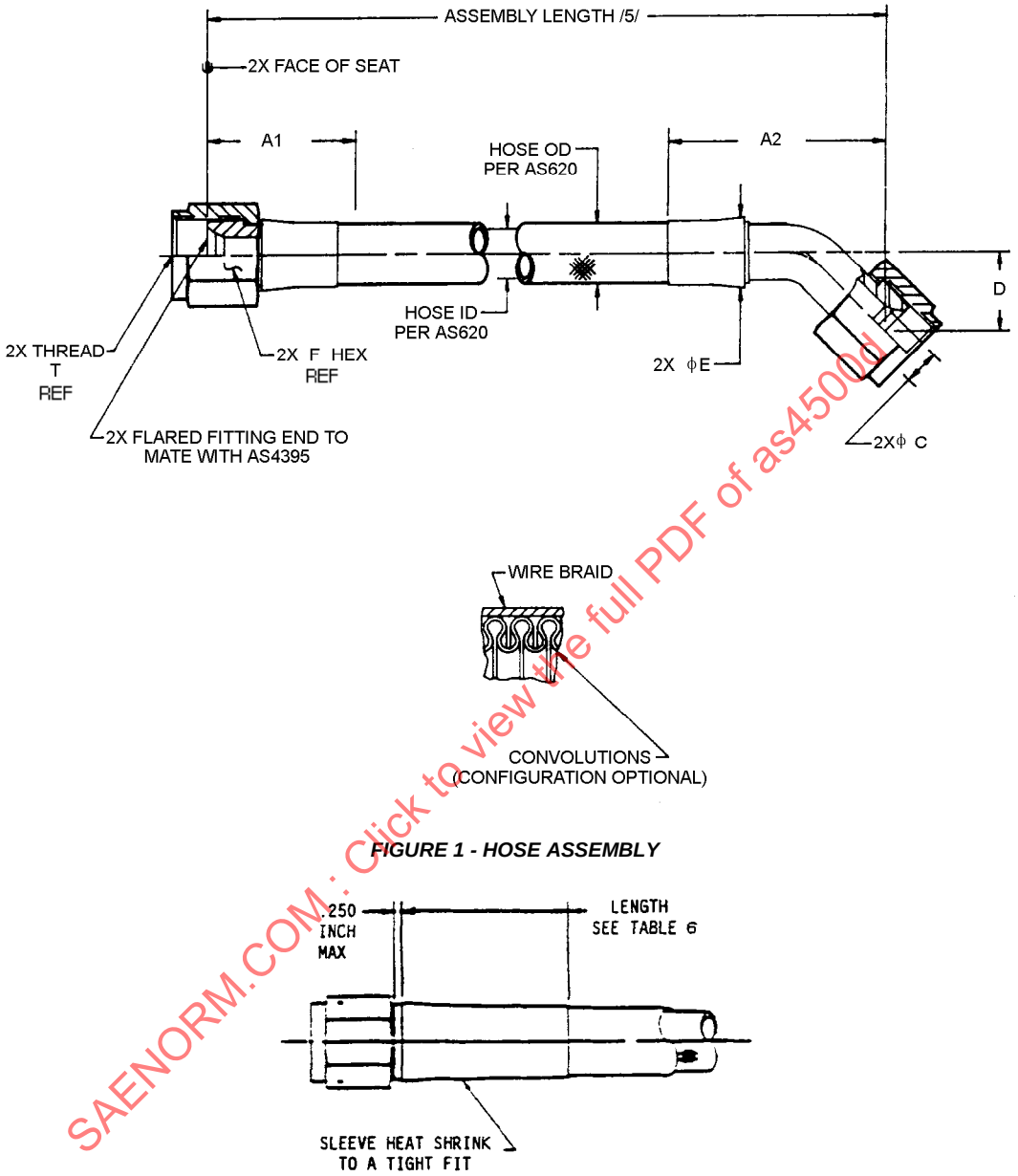
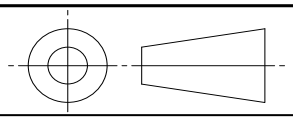


FIGURE 1 - HOSE ASSEMBLY

FIGURE 2 - SPIRAL AND POLYESTER ABRASION COVER /6/, /7/

ISSUED 1991-12 REVISED 2015-04

THIRD ANGLE PROJECTION



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http://www.sae.org/technical/standards/AS4500D

CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: AS620 /2/

AEROSPACE STANDARD

HOSE ASSEMBLY, CONVOLUTED, POLYTETRAFLUOROETHYLENE, METALLIC REINFORCED CONDUCTIVE, FLARED, STRAIGHT TO 45°

AS4500
SHEET 1 OF 5

REV. D

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TABLE 1 - ASSEMBLY DIMENSIONS

HOSE ASSEMBLY AS4500 SIZE CODE	HOSE ASSEMBLY SIZE REF	THREAD T PER AS8879 REF	A_1 MAX	A_2 MAX	∅C /8/ MIN	D MIN	D MAX	∅E /9/ MAX WITHOUT SLEEVING	F HEX REF
04	.250	.4375-20UNJF-3B	1.20	1.62	.132	.312	.382	.55	.56
06	.375	.5625-18UNJF-3B	1.28	1.86	.256	.436	.506	.68	.69
08	.500	.7500-16UNJF-3B	1.44	2.18	.345	.537	.607	.86	.88
10	.625	.8750-14UNJF-3B	1.58	2.42	.430	.608	.678	.95	1.00
12	.750	1.0625-12UNJ-3B	1.74	2.77	.635	.644	.714	1.28	1.25
16	1.000	1.3125-12UNJ-3B	1.79	3.05	.835	.755	.825	1.47	1.50
20	1.250	1.6250-12UNJ-3B	2.29	3.68	1.085	.894	.964	1.70	1.81
24	1.500	1.8750-12UNJ-3B	2.38	3.95	1.310	1.016	1.086	2.00	2.12
32	2.000	2.5000-12UNJ-3B	3.00	5.38	1.780	1.300	1.370	2.56	2.75

TABLE 2 - ASSEMBLY LENGTH TOLERANCE

+.250/-.125 INCH FOR LENGTHS UNDER 18 INCHES
+.500/-.250 INCH FOR LENGTHS FROM 18 TO 36 INCHES EXL.
+1.000/-.500 INCH FOR LENGTHS FROM 36 TO 50 INCHES EXL.
+2%/-1% FOR LENGTHS 50 INCHES AND OVER

TABLE 3 - HOSE OR COVER OUTSIDE DIAMETER

COVER CODE	HOSE OR TYPE OF PROTECTIVE COVER	HOSE SIZE .250	.375	.500	.625	.750	1.00	1.25	1.50	2.00	UPPER TEMP. LIMIT °F
–	HOSE ONLY PER AS620	.413/.477	.523/.587	.723/.787	.818/.882	1.028/1.092	1.266/1.330	1.494/1.558	1.758/1.822	2.293/2.357	–
B	SPIRAL ABRASION /6/	.505	.615	.825	.935	1.140	1.358	1.630	1.890	2.395	275
H	INTEGRAL FIRESLEEVE /10/	.710/.760	.798/.862	.978/1.055	1.100/1.202	1.300/1.392	1.478/1.610	1.718/1.840	1.968/2.120	2.480/2.564	400
N	FIRESLEEVE SIL/FG (AS1072) /10/ /11/ /12/	.900	1.030	1.150	1.380	1.590	1.800	2.060	2.320	2.740	400
K	INTEGRAL ABRASION /7/ (BRAIDED) POLYESTER	.468/.532	.598/.662	.808/.872	.888/.952	1.103/1.167	1.313/1.405	1.568/1.632	1.838/1.902	2.370/2.452	300
J	INTEGRAL FIRESLEEVE /13/	.653/.717	.763/.827	.963/1.027	1.058/1.122	1.268/1.332	1.498/1.562	–	–	2.480/2.564	400

TABLE 4 - HOSE ASSEMBLIES PHYSICAL CHARACTERISTICS

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
32	250	500	1000	700	10.00

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	45° END FITTING LB EACH
04	.010	.011	–	.018	.009	.06	.06
06	.010	.014	.028	.021	.012	.10	.10
08	.022	.020	.032	.030	.018	.16	.18
10	.020	.025	.042	.035	.022	.25	.28
12	.027	.032	.050	.044	.028	.34	.40
16	.040	.039	.055	.057	.038	.49	.60
20	.055	.060	.070	.077	.045	.90	.96
24	.060	.071	.082	.107	.058	1.28	1.33
32	.090	.105	.129	.142	.100	2.01	2.40

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
32	4.00 ± .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
32	1.602	1.513

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/ PROCUREMENT SPECIFICATION: AS620 EXCEPT AS SPECIFIED ON THIS STANDARD. PRODUCT SUPPLIED TO THIS SPECIFICATION SHALL BE MANUFACTURED AND ASSEMBLED BY AN ACCREDITED MANUFACTURER OR ASSEMBLED BY AN ACCREDITED DISTRIBUTOR LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED PRODUCTS LIST (QPL) PRI QPL AS620 FOR THIS STANDARD. SEE www.eAuditNet.com FOR CURRENT QPL ON-LINE.

3. MARKING SHALL BE PER AS620 ON A STAINLESS STEEL BAND NOT OVER 1.0 INCH WIDE OR ON THE END FITTING COLLAR. THE CHARACTERS SHALL BE A MINIMUM OF .06 INCH 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 INCH. 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 AMS-DTL-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 INCH FROM THE END OF THE END FITTING COLLAR. ENDS OF POLYESTER ABRASION COVER MAY BE TERMINATED WITH A LENGTH OF AMS-DTL-23053/11 (FEP) CLASS 1 OR 2, COLOR CLEAR, PER TABLE 6 AND FIGURE 2.

/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, NIPPLE HEX OR SOCKET HEX 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 ARE THE AS1072 MAXIMUM FOR THE LARGEST SIZE FIRESLEEVE AS QUALIFIED BY THE VARIOUS HOSE ASSEMBLY MANUFACTURERS. THE SLEEVE MAY STRETCH OVER A FITTING, OR WRINKLE OVER THE HOSE DUE TO SLEEVE LENGTH TO ALLOW HOSE BENDING. THE SLEEVE MAY BE COMPRESSED OVER THE HOSE FOR MEASUREMENT OR CLAMPING. 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.