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FEDERAL SUPPLY CLASS

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AS4503

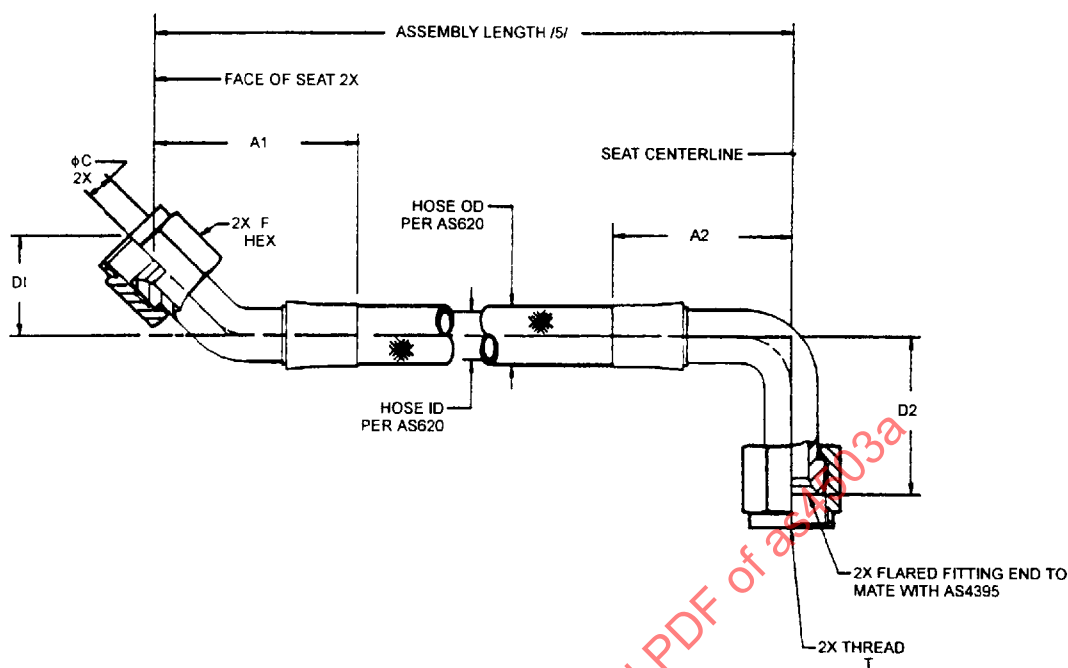


FIGURE 1 - HOSE ASSEMBLY

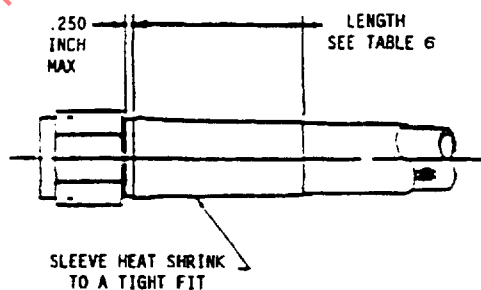


FIGURE 2 - SPIRAL ABRASION COVER /6/

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, 45° TO 90°

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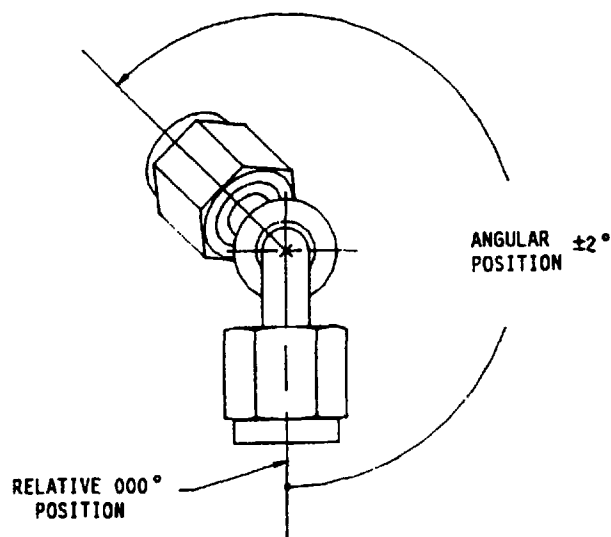


FIGURE 3 - FITTING ANGULAR ORIENTATION /16/

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 ₁ MIN	D ₁ MAX	D ₂ MIN	D ₂ MAX	E /9/ MAX WITHOUT SLEEVING	F HEX (REF)
AS4503E	.250	.4375-20UNJF-3B	1.44	1.24	.132	.312	.382	.607	.677	.55	.56
AS4503G	.375	.5625-18UNJF-3B	1.86	1.56	.256	.436	.506	.855	.925	.68	.69
AS4503H	.500	.7500-16UNJF-3B	2.18	1.85	.345	.537	.607	1.072	1.142	.86	.88
AS4503J	.625	.8750-14UNJF-3B	2.42	2.14	.430	.608	.678	1.246	1.316	.95	1.00
AS4503K	.750	1.0625-12UNJ-3B	2.77	2.67	.635	.644	.714	1.370	1.440	1.28	1.25
AS4503M	1.00	1.3125-12UNJ-3B	3.05	2.87	.835	.755	.825	1.673	1.743	1.47	1.50
AS4503N	1.25	1.6250-12UNJ-3B	3.68	3.39	1.085	.894	.964	2.015	2.085	1.70	1.81
AS4503P	1.50	1.8750-12UNJ-3B	3.95	3.65	1.310	1.016	1.086	2.335	2.405	2.00	2.12

TABLE 2 - ASSEMBLY LENGTH TOLERANCE

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

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TABLE 3 - HOSE OR COVER OUTSIDE DIAMETER

HOSE OR COVER CODE	HOSE OR TYPE OF PROTECTIVE COVER	HOSE SIZE E	HOSE SIZE G	HOSE SIZE H	HOSE SIZE J	HOSE SIZE K	HOSE SIZE M	HOSE SIZE N	HOSE SIZE P	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

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)
E	1000	2000	4000	2800	1.25
G	1000	2000	4000	2800	2.25
H	1000	2000	4000	2800	2.88
J	1000	1800	3600	2500	3.00
K	1000	1800	3600	2500	3.75
M	1000	1800	3600	2500	5.00
N	1000	1800	3600	2500	6.25
P	750	1500	3000	2100	7.50

TABLE 5 - WEIGHTS (NOM)

HOSE SIZE (REF)	HOSE ONLY LB/IN (REF)	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	45° END FITTING LB EACH	90° END FITTING LB EACH	HOSE LENGTH CORRECTION FACTOR-IN /15/ 45°	HOSE LENGTH CORRECTION FACTOR-IN /15/ 90°
E	.008	.011	—	.018	.009	.06	.06	.81	.61
G	.010	.014	.028	.021	.012	.10	.12	1.11	.82
H	.015	.020	.032	.030	.018	.18	.19	1.43	1.10
J	.020	.025	.042	.035	.022	.28	.30	1.52	1.10
K	.027	.032	.050	.044	.028	.40	.42	1.72	1.48
M	.033	.039	.055	.057	.038	.60	.66	2.02	1.84
N	.050	.060	.070	.077	.045	.96	1.00	2.21	2.01
P	.060	.071	.082	.107	.058	1.33	1.41	2.45	2.28

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TABLE 6 - SLEEVE LENGTH

(REF) HOSE SIZE	LENGTH (in)
E/G	2.00 ± .25
H/J	2.50 ± .25
K/M	3.00 ± .25
N/P	3.50 ± .25

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

HOSE SIZE (REF)	ELBOW END FITTING DIA IN
E	.112
G	.218
H	.293
J	.366
K	.540
M	.710
N	.922
P	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 THREE DIGIT NUMBER OF WHICH THE FIRST TWO DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE INCHES, AND THE THIRD 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.

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