FEDERAL SUPPLY CLASS
4720

RATIONALE

AS1636D HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

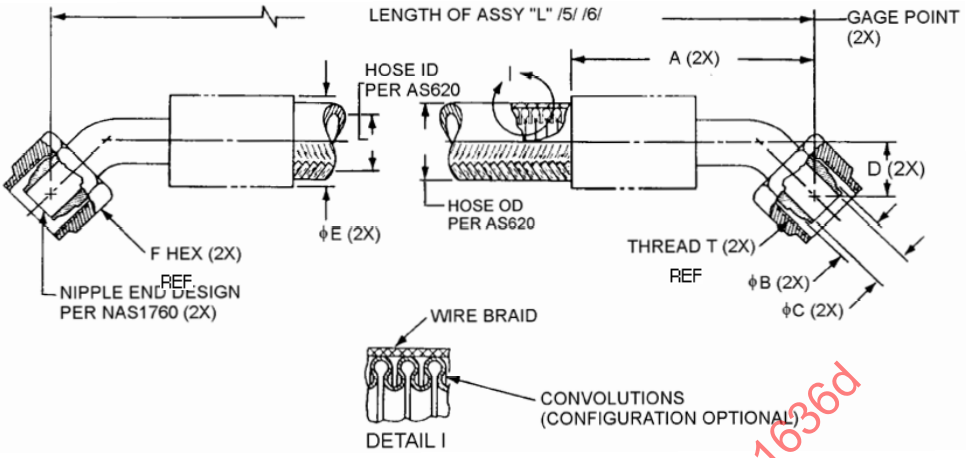


FIGURE 1 - HOSE ASSEMBLY

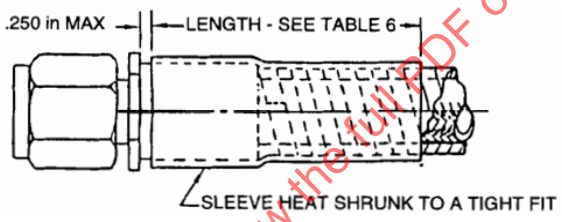


FIGURE 2 - SPIRAL AND POYESTER ABRASION COVER /7/, /8/

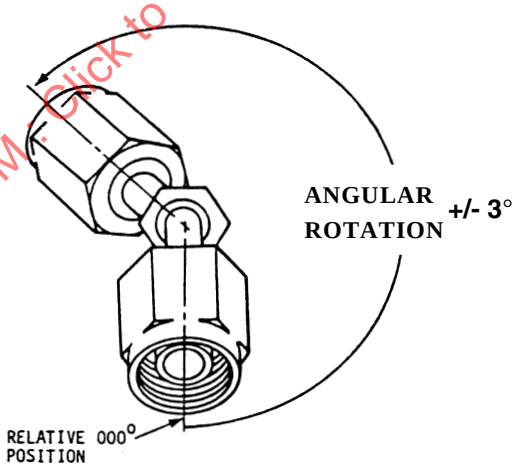
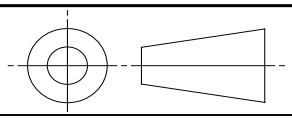


FIGURE 3 - FITTING ANGULAR ORIENTATION /16/

THIRD ANGLE PROJECTION



ISSUED 1980-01 REVISED 2007-02 REAFFIRMED 2014-11

CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: AS620 /2/

AEROSPACE STANDARD

HOSE ASSEMBLY, CONVOLUTED, POLYTETRAFLUOROETHYLENE, METALLIC REINFORCED CONDUCTIVE, FLARELESS, 45° TO 45°

AS1636

REV. D

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TABLE 1 - ASSEMBLY DIMENSIONS

HOSE ASSEMBLY AS1636 SIZE CODE	HOSE ASSEMBLY SIZE REF	THREAD T PER AS8879 REF	A MAX	∅ B GAGE BASIC	∅ C /9/ MIN	D MIN	D MAX	∅ E /10/ MAX WITHOUT SLEEVING	F HEX REF
E	.250	.4375-20 UNJF-3B	1.66	.2930	.132	.384	.454	.55	.56
G	.375	.5625-18 UNJF-3B	1.93	.4120	.256	.509	.579	.68	.69
H	.500	.7500-16 UNJF-3B	2.16	.5600	.345	.567	.637	.86	.88
J	.625	.8750-14 UNJF-3B	2.55	.6730	.430	.700	.770	.95	1.00
K	.750	1.0625-12 UNJ -3B	2.87	.8100	.635	.700	.770	1.28	1.25
M	1.000	1.3125-12 UNJ -3B	3.19	1.0620	.835	.901	.971	1.47	1.50
N	1.250	1.6250-12 UNJ -3B	4.02	1.3160	1.085	1.013	1.083	1.70	1.81
P	1.500	1.8750-12 UNJ -3B	4.57	1.5650	1.310	1.241	1.311	2.00	2.12
R	2.000	2.5000-12 UNJ -3B	5.50	2.0680	1.780	1.370	1.440	2.56	2.75

TABLE 2 - ASSEMBLY LENGTH TOLERANCE

+.250/-.125 in FOR LENGTHS UNDER 18 in
+.500/-.250 in FOR LENGTHS FROM 18 to 36 in EXL.
+1.000/-.500 in FOR LENGTHS FROM 36 to 50 in EXL.
+2%/-1% FOR LENGTHS 50 in 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 REF	SPIRAL ABRASION /7/	.505	.615	.825	.935	1.140	1.358	1.630	1.890	2.395	275
H	INTEGRAL FIRESLEEVE /11/	.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 REF	FIRESLEEVE SIL/FG (AS1072) /11/ /12/ /13/	.900	1.030	1.150	1.380	1.590	1.800	2.060	2.320	2.740	400
K	INTEGRAL ABRASION /8/ (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 /14/	.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)
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
R	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	45° END FITTING LB EACH
E	.010	.011	–	.018	.009	.07
G	.010	.014	.028	.021	.012	.11
H	.022	.020	.032	.030	.018	.18
J	.020	.025	.042	.035	.022	.29
K	.027	.032	.050	.044	.028	.43
M	.040	.039	.055	.057	.038	.65
N	.055	.060	.070	.077	.045	1.09
P	.060	.071	.082	.107	.058	1.63
R	.090	.105	.129	.142	.100	2.25

TABLE 6 - SLEEVE LENGTH

HOSE SIZE	LENGTH (INCHES)
E G	2.00 ± .25
H J	2.50 ± .25
K M	3.00 ± .25
N P	3.50 ± .25
R	4.00 ± .25

TABLE 7 - MINIMUM INSPECTION BALL SIZE FOR VERIFYING HOSE ASSEMBLY ID /9/

HOSE SIZE REF	DIA IN
E	.112
G	.218
H	.293
J	.366
K	.540
M	.710
N	.922
P	1.114
R	1.513

TABLE 8 - LENGTH CORRECTION FACTORS

HOSE SIZE REF	45° END FITTING
E	.11
G	.12
H	.13
J	.14
K	.16
M	.21
N	.21
P	.26
R	.26

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/ PRODUCT SUPPLIED TO THIS SPECIFICATION SHALL BE ASSEMBLED BY AN ACCREDITED MANUFACTURER OR ASSEMBLING DISTRIBUTOR LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED PRODUCTS LIST FOR PRI-QPL-AS620 FOR THIS STANDARD. SEE http://www.pri.sae.org/QPL/as620.pdf FOR CURRENT QPL ONLINE. NOTE THAT MANUFACTURERS AND ASSEMBLING DISTRIBUTORS ARE ACCREDITED BY PART NUMBER, SIZE AND MATERIAL ON THE PRI-QPL-AS620.

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, THE FRACTION OF AN INCH IN EIGHTHS. LENGTH "L" IS MEASURED FROM "GAGE POINT" TO "GAGE POINT." SEE TABLE 2 FOR LENGTH TOLERANCES.

/6/ TO CONVERT "GAGE POINT" TO "GAGE POINT" TO "END" TO "END" MEASUREMENT, ADD TO "L" THE APPROPRIATE TABLE 8 CORRECTION FACTOR FOR EACH END FITTING.

/7/ 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 AMS-DTL-23053/5 BLACK POLYOLEFIN TUBING PER TABLE 6 AND FIGURE 2.

/8/ 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. 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.

/9/ HOSE ASSEMBLY INSIDE DIAMETER SHALL BE VERIFIED BY PASSING THE DESIGNATED, OR LARGER, SPHERICAL BALL PER TABLE 7 THROUGH THE ASSEMBLY.

/10/ DISTANCE ACROSS CORNERS OF COUPLING NUT, NIPPLE HEX OR SOCKET HEX MAY EXCEED THIS DIMENSION.