

REV.
E

AS158

FEDERAL SUPPLY CLASS
4720

RATIONALE

THIS DOCUMENT HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE 5-YEAR REVIEW POLICY.

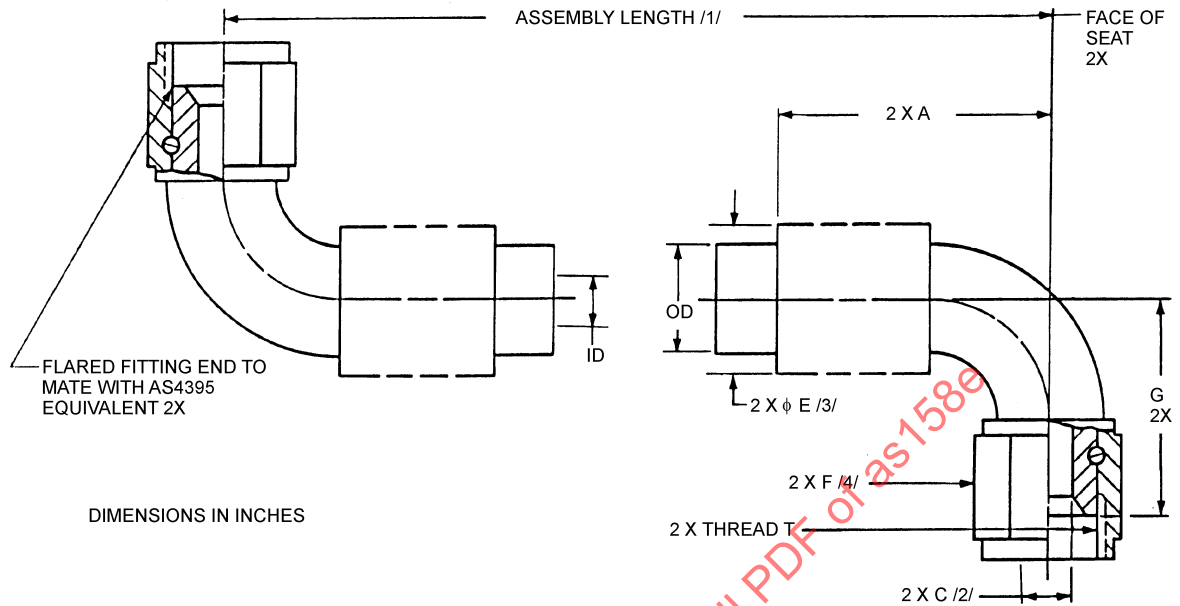


FIGURE 1 - HOSE AND FITTING DIMENSIONS

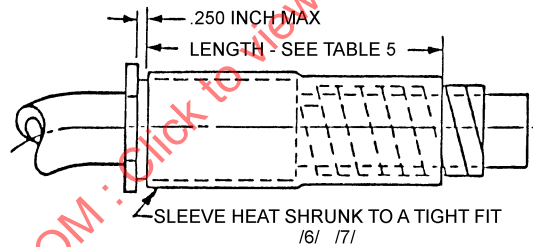


FIGURE 2 - TUBULAR/COIL ABRASION END

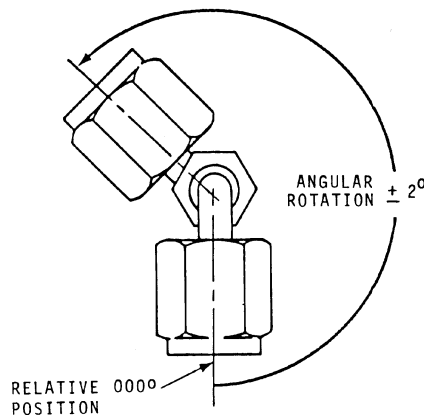


FIGURE 3 - FITTING ANGULAR ORIENTATION

CUSTODIAN: SAE G-3/G-3D

PROCUREMENT SPECIFICATION: AS1339 /20/

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

HOSE ASSEMBLY, PTFE, CRES REINFORCED,
3000 PSI, 400 °F, 90° TO 90°, FLARED,
LIGHTWEIGHT

AS158
SHEET 1 OF 6

**REV.
E**

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ISSUED 1979-02 REVISED 2003-02 REAFFIRMED 2007-07

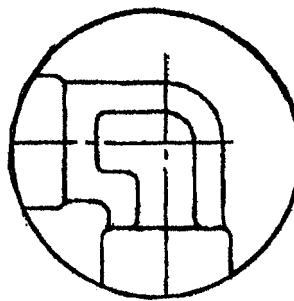


FIGURE 4 - ALTERNATE ELBOW CONFIGURATION /21/

TABLE 1 - ASSEMBLY DIMENSION

HOSE ASSEMBLY AS158 SIZE CODE	SIZE	THREAD T PER AS8879	ID MIN (REF)	A MAX	C /2/ DIA MIN	E /3/ DIA MAX WITHOUT SLEEVING	F HEX (REF)	G MIN	G MAX
E	.250	.4375-20 UNJF-3B	.212	1.75	.135	.69	.56	.615	.740
G	.375	.5625-18 UNJF-3B	.298	2.00	.240	.80	.69	.830	.920
H	.500	.7500-16 UNJF-3B	.391	2.38	.340	.97	.88	.910	1.140
J	.625	.8750-14 UNJF-3B	.485	2.81	.410	1.11	1.00	1.110	1.310
K	.750	1.0625-12 UNJ-3B	.602	3.25	.510	1.38	1.25	1.340	1.500
M	1.000	1.3125-12 UNJ-3B	.852	3.30	.760	1.66	1.50	1.805	1.865

TABLE 2 - HOSE AND SLEEVE OUTSIDE DIAMETER

SLEEVE CODE	SLEEVE MATERIAL	TEMP. LIMIT °F	TOLE- RANCE	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .250	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .375	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .500	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .625	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .750	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE 1.000
-	(-) INDICATES HOSE ONLY, NO SLEEVE (SEE AS1339)	400	MAX MIN						
A	ABRASION SLEEVE TUBULAR (TFE-AS1291-CODE B) /6/	400	MAX MIN	.500 .440	.600 .540	.730 .670	.840 .780	1.110 1.050	1.400 1.340
B	ABRASION SLEEVE COIL (NYLON AS1294) /7/	275	MAX MIN	.450 .390	.550 .490	.695 .635	.810 .750	1.080 1.020	1.360 1.300
C	FIRE SLEEVE (AS1072 SIL-FG) (15 min) /8/ /9/ /13/	400	MAX MIN	.625 .500	.750 .625	.875 .750	1.000 .875	1.250 1.125	1.500 1.375
D	ABRASION SLEEVE INTEGRAL SILICONE COMPOSITE /10/ /14/	350	MAX MIN	.500 .460	.600 .560	.700 .660	.830 .790	1.120 1.070	1.400 1.350
E	ABRASION SLEEVE SHRINK-ON (FEP) /11/	350	MAX MIN	.424 .374	.540 .480	.665 .615	.790 .730	1.070 1.010	1.350 1.290
F	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073 - CODE B) /11/	275	MAX MIN	.450 .400	.560 .505	.695 .645	.810 .750	1.080 1.020	1.360 1.300

REV. E	TABLE 2 - HOSE AND SLEEVE OUTSIDE DIAMETER (CONTINUED)									
	SLEEVE CODE	SLEEVE MATERIAL	TEMP. LIMIT °F	TOLE- RANCE	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .250	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .375	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .500	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .625	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE .750	HOSE OR SLEEVE OUTSIDE DIAMETER /5/ HOSE SIZE 1.000
AS158	G	FIRESLEEVE (AS1072 SIL-FG) (5 min) /8/ /9/ /12/	400	MAX MIN	.625 .500	.750 .625	.875 .750	1.000 .875	1.250 1.125	1.500 1.375
	H	FIRESLEEVE INTEGRAL SILICONE (15 min) /13/	400	MAX MIN	.660 .600	.745 .685	.895 .835	1.005 .945	1.240 1.160	1.515 1.455
	J	FIRESLEEVE INTEGRAL SILICONE (5 min) /12/	400	MAX MIN	.660 .600	.745 .685	.895 .835	1.005 .945	1.240 1.160	1.515 1.455
	K	INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER /10/	300	MAX MIN	.490 .444	.570 .535	.695 .650	.800 .760	1.070 1.030	1.350 1.310
	L	ABRASION SLEEVE COIL (PTFE-AS1293) /7/	400	MAX MIN	.500 .440	.600 .540	.730 .670	.862 .802	1.110 1.050	1.400 1.340
TABLE 3 - 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 4 - WEIGHT										
HOSE OR SLEEVE CODE	HOSE OR TYPE SLEEVE	UNITS	MAXIMUM WEIGHT HOSE SIZE .250	MAXIMUM WEIGHT HOSE SIZE .375	MAXIMUM WEIGHT HOSE SIZE .500	MAXIMUM WEIGHT HOSE SIZE .625	MAXIMUM WEIGHT HOSE SIZE .750	MAXIMUM WEIGHT HOSE SIZE 1.000		
-	HOSE ONLY	LB/IN	.009	.015	.020	.027	.058	.085		
A	ABRASION SLEEVE (TFE-AS1291-CODE B)	LB/IN	.003	.004	.004	.005	.007	.009		
B	ABRASION SLEEVE (NYLON AS1294)	LB/IN	.001	.002	.003	.003	.004	.005		
C	FIRESLEEVE (15 min) AS1072	LB/IN	.007	.009	.011	.012	.017	.021		
D	ABRASION SLEEVE INTEGRAL WITH HOSE	LB/IN	.012	.016	.024	.034	.067	.110		
E	ABRASION SLEEVE (FEP)	LB/IN	.002	.003	.003	.005	.006	.007		
F	ABRASION SLEEVE (AS1073-CODE B)	LB/IN	.002	.003	.003	.004	.005	.006		
G	FIRESLEEVE (5 min) AS1072	LB/IN	.007	.009	.011	.012	.017	.021		
H	FIRESLEEVE INTEGRAL (15 min) WITH HOSE	LB/IN	.019	.027	.035	.047	.099	.117		
J	FIRESLEEVE INTEGRAL (5 min) WITH HOSE	LB/IN	.019	.027	.035	.047	.099	.117		
K	ABRASION SLEEVE POLYESTER WITH HOSE	LB/IN	.012	.016	.022	.030	.060	.090		
L	ABRASION SLEEVE (PTFE-AS1293)	LB/IN	.003	.004	.005	.005	.006	.007		
NONE	FIRESLEEVE CLAMP	LB/EA	.025	.025	.025	.026	.026	.026		
NONE	FITTING END (HOSE SIZE - 90°)	LB/EA	.075	.121	.207	.306	.584	.840		
SAE Aerospace An SAE International Group			AEROSPACE STANDARD HOSE ASSEMBLY, PTFE, CRES REINFORCED, 3000 PSI, 400 °F, 90° TO 90°, FLARED, LIGHTWEIGHT				AS158 SHEET 3 OF 6		REV. E	

TABLE 5 - SLEEVE LENGTH

HOSE SIZE	LENGTH (INCHES)
E G	2.00 ± .25
H J	2.50 ± .25
K M	3.00 ± .25

TABLE 6 - SPHERICAL BALL SIZE FOR DETERMINING
MINIMUM HOSE ASSEMBLY ID /2/

HOSE SIZE	ELBOW FITTING
E	.115
G	.204
H	.289
J	.349
K	.434
M	.646

NOTES:

- /1/ 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 "FACE OF SEAT" TO "FACE OF SEAT." FOR LENGTH TOLERANCES SEE TABLE 3.
- /2/ HOSE ASSEMBLY INSIDE DIAMETER SHALL BE VERIFIED BY PASSING THE DESIGNATED, OR LARGER, SPHERICAL BALL PER TABLE 6 THROUGH THE HOSE ASSEMBLY.
- /3/ DISTANCE ACROSS CORNERS OF THE COUPLING NUT MAY EXCEED THIS DIMENSION.
- /4/ STANDARD COUPLING NUTS SHALL BE IN ACCORDANCE WITH AN818 OR AS4730 AND MATE WITH AS4395 FLARED FITTING ENDS. NONSTANDARD COUPLING NUTS MAY BE USED, PROVIDED THEY ARE DIMENSIONALLY AND FUNCTIONALLY EQUIVALENT, AND PROVIDED THEY CANNOT BE REMOVED FROM THE FITTING. NUTS SHALL MEET TORQUE TEST REQUIREMENTS PER AS1339.
- /5/ DIAMETERS ARE LISTED FOR CLAMP SELECTION. TUBULAR SLEEVES MAY NOT BE A PERFECT ROUND AND SHALL BE MEASURED WITH A DIAMETER TAPE RULE (OFTEN REFERRED TO AS A PI-TAPE).
- /6/ TUBULAR ABRASION (TFE) SLEEVES SHALL HAVE AN ID NO GREATER THAN HOSE OD + .05 in. AXIAL MOVEMENT OF THE SLEEVE INSTALLED ON THE HOSE SHALL NOT EXCEED .05 in. ENDS OF THE TUBULAR SLEEVE SHALL BE TERMINATED WITH A LENGTH OF AMS-DTL-23053/11 (FEP) CLASS 1 OR 2, COLOR CLEAR, PER TABLE 5 FIGURE 2.
- /7/ COIL ABRASION SLEEVES, WHEN ASSEMBLED ON A STRAIGHT HOSE, SHALL HAVE AN AVERAGE GAP BETWEEN COILS NOT EXCEEDING .05 in. DISPLACEMENT OF THE COILS OF THE SLEEVE, CAUSING A GREATER GAP, SHALL NOT BE CAUSE FOR REJECTION IF THE COILS CAN BE REPOSITIONED TO MEET THE GAP REQUIREMENTS. ENDS OF THE COIL SLEEVE SHALL BE TERMINATED WITH A LENGTH OF HEAT SHRINKABLE SLEEVING IN ACCORDANCE WITH TABLE 5 AND FIGURE 2. CODE "B" (NYLON COIL) ABRASION SLEEVES SHALL BE TERMINATED WITH AMS-DTL-23053/5 CLASS 1 OR 3, COLOR BLACK. CODE "L" (COIL ABRASION) SLEEVES SHALL BE TERMINATED WITH AMS-DTL-23053/12, CLASS 1, COLOR TRANSPARENT, PTFE (OPTIONAL AMS-DTL-23053/11 (FEP) CLASS 1 OR 2, COLOR CLEAR).
- /8/ THE TABLE 2 SLEEVE DIAMETERS FOR AS1072 SLEEVES 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.
- /9/ THE CUT ENDS OF THE FIRESLEEVE SHALL BE COATED WITH RTV SILICONE RUBBER, PRIOR TO INSTALLATION, TO PREVENT WICKING OF FLUIDS. 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 RUBBER.