

REV.
J

AS157™

FEDERAL SUPPLY CLASS
4720

RATIONALE

ADD CONFIGURATION FOR A NEW "N" CODE THIN WALL INTEGRAL FIRESLEEVE (15 MINUTE); ADD DRY FILM LUBE CONFIGURATION.

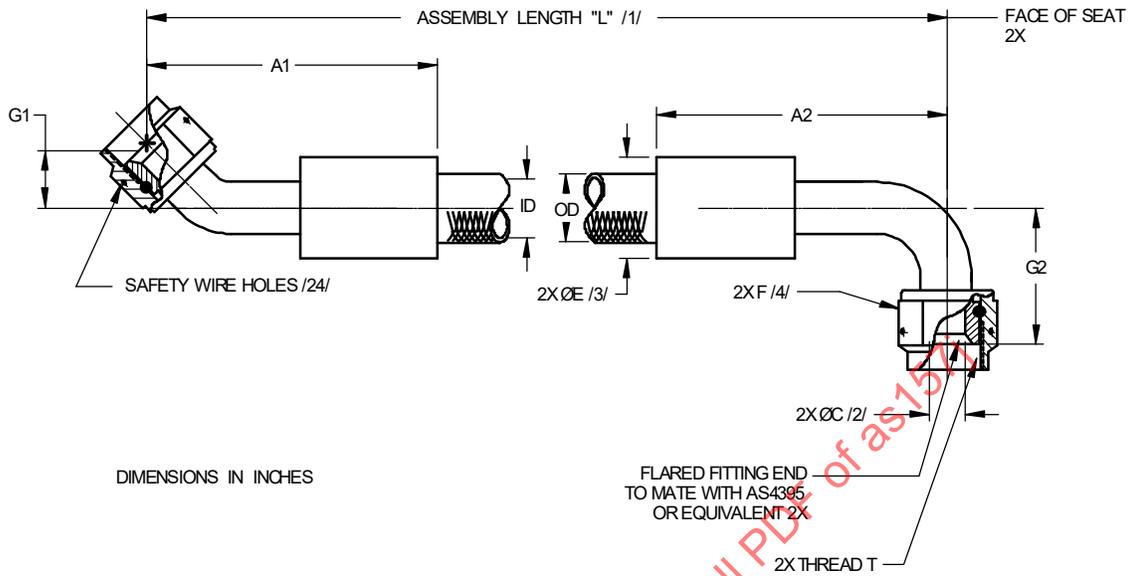


FIGURE 1 - HOSE AND FITTING DIMENSIONS

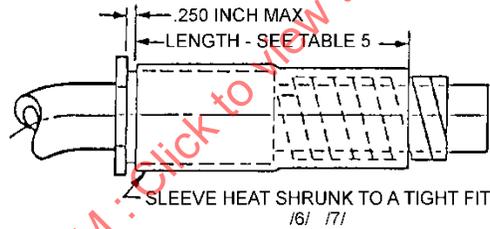
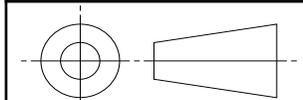


FIGURE 2 - TUBULAR/COIL ABRASION END

For more information on this standard, visit
<https://www.sae.org/standards/content/AS157J/>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: AS1339 /20/



AEROSPACE STANDARD

HOSE ASSEMBLY, PTFE, CRES REINFORCED,
3000 PSI, 400 °F, 45° TO 90°,
FLARED, LIGHTWEIGHT

AS157™
SHEET 1 OF 7

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ISSUED 1979-02 REAFFIRMED 2007-07 REVISED 2021-12

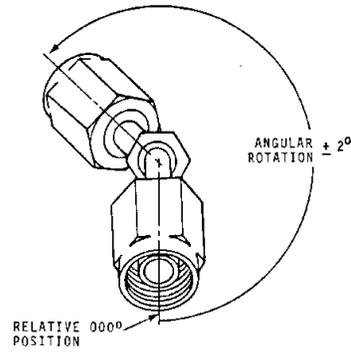


FIGURE 3 - FITTING ANGULAR ORIENTATION

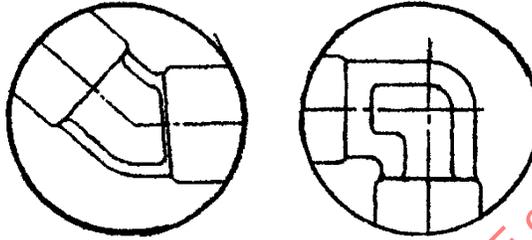


FIGURE 4 - ALTERNATE ELBOW CONFIGURATION /21/

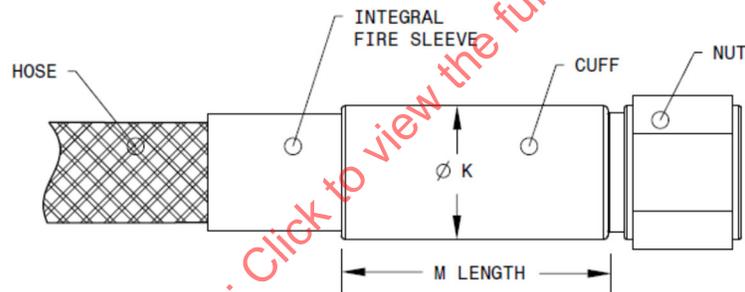


FIGURE 5 - INTEGRAL FIRESLEEVE DIMENSIONS - SEE TABLE 7 /27/

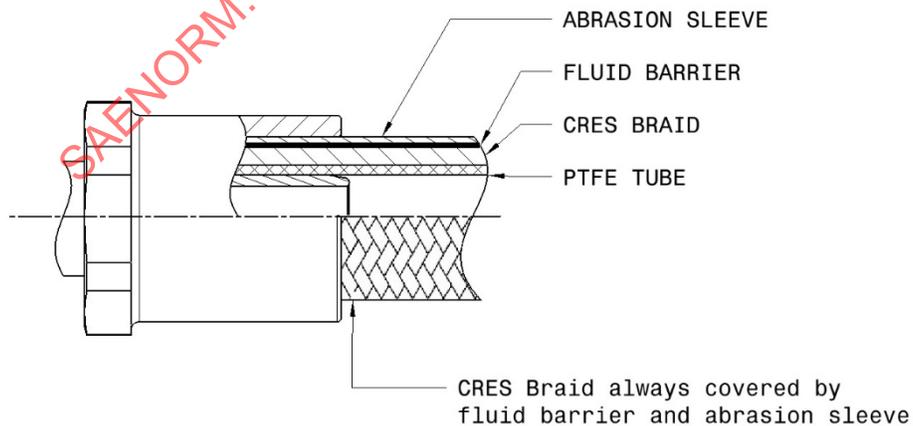


FIGURE 6 - FITTING CAPTURED INTEGRAL ABRASION SLEEVE WITH FLUID BARRIER /29/

	AEROSPACE STANDARD	AS157™ SHEET 2 OF 7	REV. J
	HOSE ASSEMBLY, PTFE, CRES REINFORCED, 3000 PSI, 400 °F, 45° TO 90°, FLARED, LIGHTWEIGHT		

TABLE 1 - ASSEMBLY DIMENSION

HOSE ASSEMBLY AS157 SIZE CODE	HOSE SIZE	THREAD T PER AS8879	ID MIN (REF)	A ₁ MAX	A ₂ MAX	C /2/ DIA MIN	E /3/ DIA MAX WITHOUT SLEEVING	F HEX (REF)	G ₁ MIN	G ₁ MAX	G ₂ MIN	G ₂ MAX
E	.250	.4375-20 UNJF-3B	.212	2.08	1.75	.135	.69	.56	.280	.450	.615	.740
G	.375	.5625-18 UNJF-3B	.298	2.29	2.00	.240	.80	.69	.370	.565	.830	.920
H	.500	.7500-16 UNJF-3B	.391	2.61	2.38	.340	.97	.88	.430	.645	.910	1.140
J	.625	.8750-14 UNJF-3B	.485	3.09	2.81	.410	1.11	1.00	.510	.675	1.110	1.310
K	.750	1.0625-12 UNJ-3B	.602	3.44	3.25	.510	1.38	1.25	.590	.720	1.340	1.500
M	1.000	1.3125-12 UNJ-3B	.852	3.75	3.30	.760	1.66	1.50	.680	.820	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					
-	(-) INDICATES HOSE ONLY, NO SLEEVE (REFER TO AS1339)	400	MAX MIN	.250	.375	.500	.625	.750	1.000
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 MINUTES) /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
G	FIRE SLEEVE (AS1072 SIL-FG) (5 MINUTES) /8/ /9/ /12/	400	MAX MIN	.625 .500	.750 .625	.875 .750	1.000 .875	1.250 1.125	1.500 1.375
H	FIRE SLEEVE INTEGRAL SILICONE (15 MINUTES) /13/ /27/	400	MAX MIN	.660 .600	.745 .685	.895 .835	1.005 .945	1.240 1.160	1.515 1.455
J	FIRE SLEEVE INTEGRAL SILICONE (5 MINUTES) /12/ /27/	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
M	FITTING CAPTURED INTEGRAL ABRASION SLEEVE (BRAIDED) WITH FLUID BARRIER /29/	275	MAX MIN	.530 .444	.610 .530	.740 .650	.870 .760	1.105 1.025	1.450 1.300
N	THIN WALL FIRE SLEEVE INTEGRAL SILICONE (15 MINUTES) /13/ /27/	400	MAX MIN	.625 .490	.725 .585	.850 .715	.955 .820	1.230 1.080	1.515 1.370

TABLE 3 - ASSEMBLY LENGTH TOLERANCE

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

TABLE 4 - HOSE WEIGHT MAX - ALL OTHERS REFERENCE

HOSE OR SLEEVE CODE	HOSE OR TYPE SLEEVE	UNITS	HOSE SIZE						
			.250	.375	.500	.625	.750	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 MINUTES) 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 MINUTES) AS1072	LB/IN	.007	.009	.011	.012	.017	.021	
H	FIRESLEEVE INTEGRAL (15 MINUTES) WITH HOSE	LB/IN	.019	.027	.035	.047	.099	.117	
J	FIRESLEEVE INTEGRAL (5 MINUTES) 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	
M	FITTING CAPTURED INTEGRAL ABRASION SLEEVE (BRAIDED) WITH FLUID BARRIER	LB/IN	.004	.005	.006	.007	.010	.015	
N	THIN WALL FIRESLEEVE INTEGRAL (15 MINUTES) WITH HOSE	LB/IN	.018	.026	.034	.045	.098	.117	
NONE	FIRESLEEVE CLAMP	LB/EA	.025	.025	.025	.026	.026	.026	
NONE	FITTING END (HOSE SIZE - 45°) /30/	LB/EA	.075	.121	.207	.306	.566	.780	
NONE	FITTING END (HOSE SIZE - 90°) /30/	LB/EA	.075	.121	.207	.306	.584	.840	

TABLE 5 - SLEEVE LENGTH

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

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

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

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	HOSE ASSEMBLY, PTFE, CRES REINFORCED, 3000 PSI, 400 °F, 45° TO 90°, FLARED, LIGHTWEIGHT		

TABLE 7 - INTEGRAL FIRE SLEEVE CUFF DIMENSIONS /27/

HOSE SIZE	"K" MAX (INCHES)	"M" MAX (INCHES)
E	.96	2.05
G	1.08	2.18
H	1.22	2.55
J	1.37	2.67
K	1.54	2.67
M	1.87	3.10

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. IF HOSE LENGTH IS AN EXACT WHOLE NUMBER IN INCHES (NO FRACTIONAL LENGTH ADDITIONS), FOURTH DIGIT SHALL BE SPECIFIED AS "0."

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 AS4370 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 INCH. AXIAL MOVEMENT OF THE SLEEVE INSTALLED ON THE HOSE SHALL NOT EXCEED .05 INCH. 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 AND FIGURE 2.
- /7/ COIL ABRASION SLEEVES, WHEN ASSEMBLED ON A STRAIGHT HOSE, SHALL HAVE AN AVERAGE GAP BETWEEN COILS NOT EXCEEDING .05 INCH. 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.
- /10/ INTEGRAL ABRASION SLEEVE SHALL FORM AN INTEGRAL, PERMANENT PART OF THE HOSE AND SHALL TERMINATE A MAXIMUM OF .200 INCH FROM THE END OF THE COLLAR.
- /11/ FEP AND POLYOLEFIN SHRINK ABRASION SLEEVES SHALL BE SHRUNK TO A SNUG FIT OVER THE HOSE AND END FITTING COLLARS.
- /12/ ADD "AS1055 TYPE IIb CLASS A-S/P" OR "AS150 TYPE IXbA" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE RESISTANT" (5 MINUTES), WITH AS1055.
- /13/ ADD "AS1055 TYPE IIb CLASS B-S/P" OR "AS150 TYPE IXbB" TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE PROOF" (15 MINUTES), WITH AS1055.
- /14/ SLEEVES CODED "D" ARE NOT RECOMMENDED FOR FUTURE DESIGN AND SUPERSEDED BY CODE "K", AS OF THE RELEASE DATE OF REVISION "A" OF THIS STANDARD.
- 15. CONSTRUCTION AND PERFORMANCE: REFER TO AS1339. FITTINGS SHALL BE PERMANENTLY ATTACHED TO THE HOSE.
- 16. OPERATING CHARACTERISTICS: REFER TO AS1339.

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	HOSE ASSEMBLY, PTFE, CRES REINFORCED, 3000 PSI, 400 °F, 45° TO 90°, FLARED, LIGHTWEIGHT		