FEDERAL SUPPLY CLASS
4720

RATIONALE

ADD CONFIGURATION FOR A NEW "N" CODE THIN WALL INTEGRAL FIRESLEEVE (15 MINUTE); TABLE 2 DIMENSIONS CHANGED TO ALIGN WITH AS604 AND AS627-632 STANDARDS; GENERAL NOTE 2 CHANGED TO CURRENT PRI STANDARD; REPLACED MIL STANDARDS WITH CURRENT AS STANDARDS THROUGHOUT.

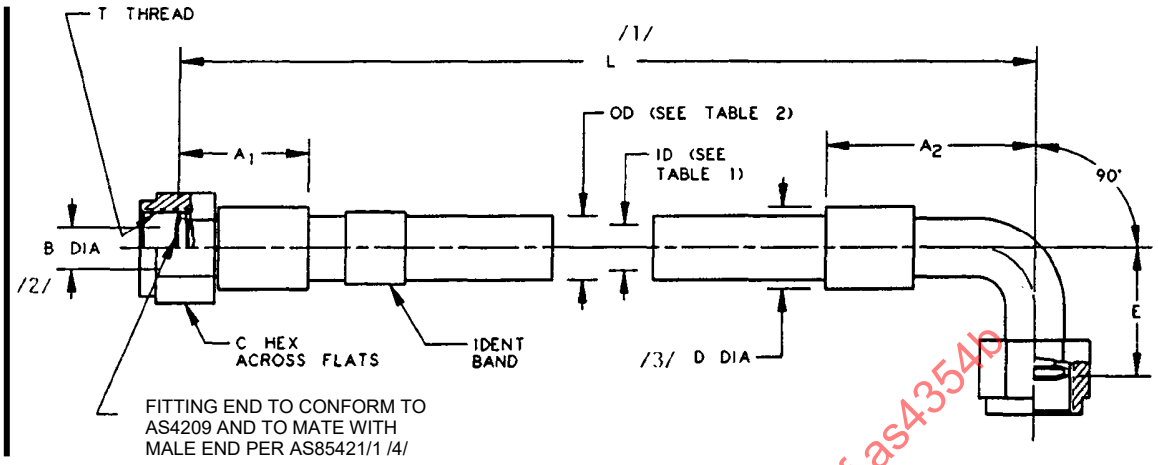


FIGURE 1A

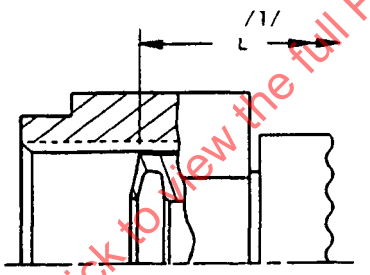


FIGURE 1B (ENLARGED VIEW)

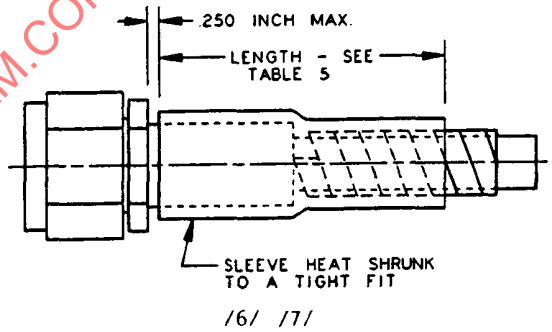
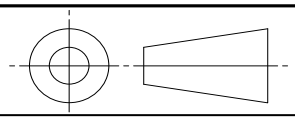


FIGURE 2

For more information on this standard, visit
https://www.sae.org/standards/content/AS4354B/

THIRD ANGLE PROJECTION



ISSUED 1991-06 REAFFIRMED 2013-01 REVISED 2022-05

CUSTODIAN: G-3/G-3D

PROCUREMENT SPECIFICATION: AS604

AEROSPACE STANDARD

HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, CRES REINFORCED, 400 °F, 3000 PSI, HEAVYWEIGHT, BEAM SEAL, STRAIGHT TO 90°

TABLE 1

HOSE ASSEMBLY AS4354 SIZE CODE	SIZE REF	THREAD T PER AS8879 REF	ID MIN	A_1 MAX	A_2 MAX	B BALL SIZE MIN THRU DIA /2/ DIA IN	C HEX REF	D /3/ DIA MAX WITHOUT SLEEVING	E MIN	E MAX
04	.250	.4375-24 UNJS-3B	.212	1.53	2.02	.109	.56	.88	.795	.983
06	.375	.5625-20 UNJS-3B	.298	1.68	2.25	.188	.69	1.00	1.000	1.125
08	.500	.7188-20 UNJS-3B	.391	1.80	2.38	.313	.88	1.20	1.033	1.240
10	.625	.8438-18 UNJS-3B	.485	2.06	2.94	.375	1.00	1.41	1.258	1.445
12	.750	1.0000-16 UNJ-3B	.602	2.15	3.57	.469	1.125	1.69	1.530	1.954
16	1.000	1.2500-14 UNJS-3B	.852	2.62	4.10	.719	1.50	2.00	1.860	2.681
20 /15/	1.250	1.5781-14UNJS-3B	1.101	2.52	4.13	.875	1.875	2.10	2.002	2.220

TABLE 2

SLEEVE CODE	SLEEVE MATERIAL	TEMP LIMIT °F	HOSE SIZE .250	HOSE SIZE .375	HOSE SIZE .500	HOSE SIZE .625	HOSE SIZE .750	HOSE SIZE 1.00	HOSE SIZE 1.25
NONE	(-) INDICATES HOSE ONLY, NO SLEEVE	400	.465 .405	.595 .535	.735 .675	.935 .875	1.090 1.030	1.410 1.350	1.650 1.560
A	ABRASION SLEEVE TUBULAR (TFE-AS1291-CODE B) /6/	400	.540 .468	.715 .635	.855 .770	1.025 .960	1.195 1.125	1.515 1.445	1.825 1.755
B	ABRASION SLEEVE COIL (NYLON AS1294) /7/	275	.509 .413	.684 .584	.809 .733	1.005 .923	1.170 1.088	1.492 1.408	1.750 1.690
C	FIRESLEEVE (AS1072 SIL-FG) (15 MINUTES) /8/ /9/ /13/	400	.688 .562	.875 .750	1.000 .875	1.250 1.125	1.375 1.250	1.750 1.625	2.000 1.875
E	ABRASION SLEEVE SHRINK-ON (FEP) /11/	350	.458 .417	.638 .592	.773 .727	.973 .927	1.148 1.102	1.438 1.392	1.688 1.632
F	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073 - CODE B) /11/	275	.490 .440	.670 .610	.795 .745	.997 .937	1.174 1.112	1.482 1.428	1.740 1.680
G	FIRESLEEVE (AS1072 SIL-FG) (5 MINUTES) /8/ /9/ /12/	400	.688 .562	.875 .750	1.000 .875	1.250 1.125	1.375 1.250	1.750 1.625	2.000 1.875
H	FIRESLEEVE INTEGRAL SILICONE (15 MINUTES) /13/ /14/	400	.700 .640	.880 .820	1.000 .940	1.203 1.143	1.343 1.283	1.656 1.596	1.906 1.846
J	FIRESLEEVE INTEGRAL SILICONE (5 MINUTES) /12/ /14/	400	.705 .645	.880 .820	1.005 .945	1.217 1.143	1.382 1.280	1.748 1.593	1.906 1.846
K	INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER /10/	300	.505 .480	.675 .645	.795 .765	.985 .955	1.150 1.120	1.470 1.440	1.720 1.680
L	ABRASION SLEEVE COIL (PTFE-AS1293) /7/	400	.522 .449	.692 .622	.817 .747	1.007 .937	1.172 1.102	1.492 1.422	1.750 1.690
N	THIN WALL FIRESLEEVE INTEGRAL SILICONE (15 MINUTES) /13/ /14/	400	.650 .590	.790 .730	.930 .870	1.130 1.070	1.295 1.235	1.630 1.570	1.860 1.800

TABLE 3

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 - WEIGHTS (NOMINAL)

HOSE OR SLEEVE CODE	HOSE OR TYPE SLEEVE	UNITS	HOSE SIZE .250	HOSE SIZE .375	HOSE SIZE .500	HOSE SIZE .625	HOSE SIZE .750	HOSE SIZE 1.00	HOSE SIZE 1.25
NONE	HOSE ONLY	LB/IN	.012	.028	.040	.062	.086	.140	.154
A	ABRASION SLEEVE (TFE-AS1291-CODE B)	LB/IN	.003	.004	.004	.005	.007	.009	.011
B	ABRASION SLEEVE (NYLON AS1294)	LB/IN	.001	.002	.003	.003	.004	.005	.007
C	FIRESLEEVE (15 MINUTES) AS1072	LB/IN	.007	.010	.011	.015	.017	.021	.025
E	ABRASION SLEEVE (FEP)	LB/IN	.002	.003	.003	.005	.006	.007	.009
F	ABRASION SLEEVE (AS1073-CODE B)	LB/IN	.002	.003	.003	.004	.005	.006	.008
G	FIRESLEEVE (5 MINUTES) AS1072	LB/IN	.007	.010	.011	.015	.017	.021	.025
H	FIRESLEEVE INTEGRAL (15 MINUTES) ON HOSE	LB/IN	.022	.042	.056	.081	.102	.154	.190
J	FIRESLEEVE INTEGRAL (5 MINUTES) ON HOSE	LB/IN	.022	.042	.056	.081	.102	.154	.190
K	ABRASION SLEEVE POLYESTER WITH HOSE	LB/IN	.013	.028	.039	.060	.082	.130	.160
L	ABRASION SLEEVE (PTFE-AS1293)	LB/IN	.003	.004	.005	.005	.006	.007	.009
N	THIN WALL FIRESLEEVE INTEGRAL (15 MINUTES) ON HOSE	LB/IN	.020	.038	.052	.072	.101	.163	.173
NONE	FIRESLEEVE CLAMP (*)	LB/EA	.020	.020	.025	.026	.026	.033	.038
NONE	FITTING END (STRAIGHT) (*)	LB/EA	.085	.115	.170	.260	.375	.540	1.200
NONE	FITTING END (90°) (*)	LB/EA	.089	.160	.235	.310	.460	.735	1.330

(*) NOTE: FIRESLEEVE CLAMP AND FITTING END ARE IN POUNDS EACH.

TABLE 5

HOSE SIZE	LENGTH (INCHES)
.250	2.00 ± .25
.375	2.00 ± .25
.500	2.50 ± .25
.625	2.50 ± .25
.750	3.00 ± .25
1.000	3.00 ± .25
1.250	3.50 ± .25

FLAG NOTES:

/1/ 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, THE FRACTION OF AN INCH IN EIGHTHS. LENGTH “L” IS MEASURED FROM OUTER CORNER OF SEALING SURFACE AS SHOWN IN FIGURE 1B FOR STRAIGHT FITTINGS TO THE CENTERLINE OF THE ELBOW FOR 90° FITTINGS. FOR LENGTH INCREMENTS AND TOLERANCES, SEE TABLE 3.

/2/ A TRUE CIRCULAR CROSS SECTION IS NOT REQUIRED THROUGH THE FITTING ID. HOWEVER, THE APPLICABLE BALL DIAMETER LISTED IN TABLE 1 SHALL PASS THROUGH THE END FITTING AFTER IT IS ASSEMBLED TO THE HOSE.

/3/ DISTANCE ACROSS CORNERS OF THE COUPLING NUT MAY EXCEED THIS DIMENSION.

/4/ STANDARD COUPLING NUTS SHALL MATE WITH AS85421 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 AS604, EXCEPT TORQUE VALUES SHALL BE PER AS85421.

/5/ DIAMETERS ARE LISTED FOR CLAMP SELECTION. TUBULAR SLEEVES MAY NOT BE A PERFECT ROUND AND SHALL BE MEASURED WITH A DIAMETER TAPE RULER (OFTEN REFERRED TO AS PI-TAPE).

/6/ TUBULAR ABRASION (TFE) SLEEVES SHALL HAVE AN I.D. 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 .20 INCH FROM THE END OF THE COLLAR.

/11/ FEP PER AMS-DTL-23053/11 AND POLYOLEFIN PER AS1073 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” TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, “FIRE RESISTANT" (5 MINUTES), WITH AS1055.

/13/ ADD “AS1055 TYPE IIb CLASS B-S/P” TO IDENTIFICATION MARKING TO SHOW LEVEL OF COMPLIANCE, "FIRE PROOF” (15 MINUTES), WITH AS1055.

/14/ THE ENDS OF THE INTEGRAL FIRESLEEVE SHALL BE COVERED WITH SILICONE EXTENDING OVER THE END FITTING SOCKET.

/15/ PREVIOUS TO THIS STANDARD, THE SIZE 20 END FITTING WAS ORIGINALLY DESIGNATED AS SIZE 21 PROCURED TO INDIVIDUAL MANUFACTURER STANDARDS. THE ORIGINAL -20 THREAD SIZE 1.5156-14 UNJS DOES NOT EXIST AS A STANDARD PART AND MUST BE PROCURED TO THE ORIGINAL MANUFACTURER'S DRAWINGS. CAUTION MUST BE EXERCISED WHEN PURCHASING -20 SIZE REPLACEMENT PARTS FOR ORIGINAL EQUIPMENT BECAUSE THE -20 SIZE IN THIS SPECIFICATION WILL NOT MATE TO THE OLDER DESIGNS.