

REV.
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SAE AS642

RATIONALE

FEDERAL SUPPLY CLASS

ESTABLISH CUFF DIMENSIONAL REQUIREMENTS FOR INTEGRAL FIRE SLEEVE ON HOSE AND SLEEVE CODE H & J CONFIGURATIONS, FOR STANDARIZATION PURPOSES.

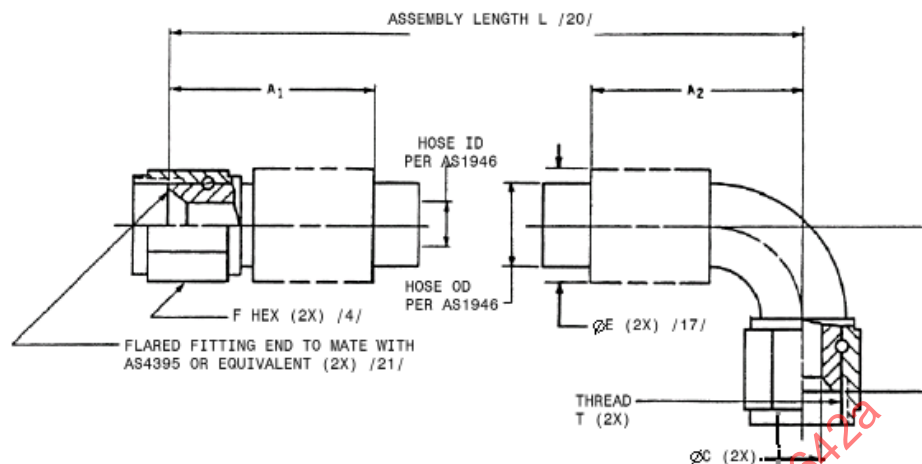


FIGURE 1 - HOSE ASSEMBLY

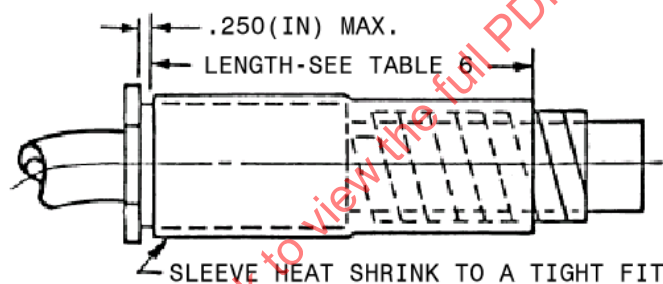


FIGURE 2 - ABRASION SLEEVE ATTACHMENT /7/ /8/

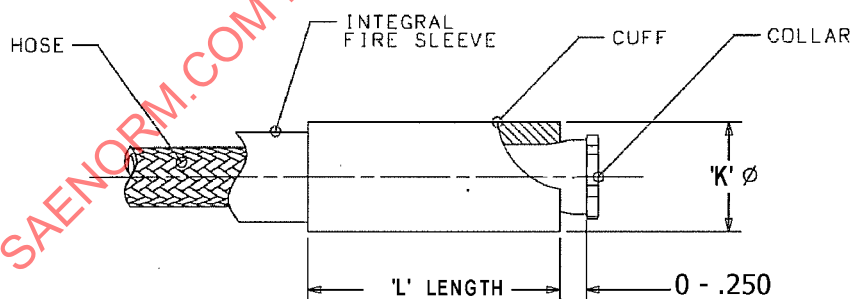
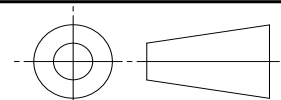


FIGURE 3 - SEE TABLE 7 /26/

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/AS642A>

THIRD ANGLE PROJECTION



CUSTODIAN: SAE G-3/G-3D

PROCUREMENT SPECIFICATION: /15/ AS1946

SAE Aerospace
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AEROSPACE STANDARD

HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, METAL BRAID, MEDIUM PRESSURE, FLARED, STRAIGHT TO 90°

SAE AS642
SHEET 1 OF 7

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TABLE 1 - DIMENSIONS

HOSE ASSEMBLY NO. & SIZE /24/	HOSE SIZE (REF)	FITTING TYPE /25/	FITTING MATL /5/	THREAD T PER AS8879 (REF)	HOSE ID MIN (REF)	A1 MAX	A2 MAX	C MIN BALL DIA ELB/STR /16/	E MAX WITHOUT SLEEVEING /17/	F HEX (REF)	G MIN	G MAX
AS642D (-03)	.188	-	-	-	-	-	-	-	-	-	-	-
AS642D (-03)	.188	S	CRES	.3750-24UNJF-3B	.110	1.14	1.56	.068/.072	.49	.500	.510	.680
			AL	.3750-24UNJF-3B	.110	1.14	1.56	.068/.072	.49	.500	.510	.680
			TI	.3750-24UNJF-3B	.110	1.14	1.56	.068/.072	.49	.500	.510	.680
AS642D (-03)	.188	E	CRES	.4375-20UNJF-3B	.110	1.14	1.56	.068/.072	.49	.562	.510	.635
			AL	.4375-20UNJF-3B	.110	1.14	1.56	.068/.072	.49	.562	.510	.635
			TI	.4375-20UNJF-3B	.110	1.14	1.56	.068/.072	.49	.562	.510	.635
AS642E (-04)	.250	R	CRES	.3750-24UNJF-3B	.173	1.14	1.56	.068/.072	.55	.500	.510	.685
			AL	.3750-24UNJF-3B	.173	1.14	1.56	.068/.072	.55	.500	.510	.685
			TI	.3750-24UNJF-3B	.173	1.14	1.56	.068/.072	.55	.500	.510	.685
AS642E (-04)	.250	S	CRES	.4375-20UNJF-3B	.173	1.14	1.56	.112/.119	.55	.562	.560	.685
			AL	.4375-20UNJF-3B	.173	1.14	1.56	.112/.119	.55	.562	.560	.685
			TI	.4375-20UNJF-3B	.173	1.14	1.56	.112/.119	.55	.562	.560	.685
AS642E (-04)	.250	E	CRES	.5000-20UNJF-3B	.173	1.26	1.62	.112/.119	.55	.625	.560	.840
			AL	.5000-20UNJF-3B	.173	1.26	1.62	.112/.119	.55	.625	.560	.840
			TI	.5000-20UNJF-3B	.173	1.26	1.62	.112/.119	.55	.625	.560	.840
AS642F (-05)	.313	R	CRES	.4375-20UNJF-3B	.235	1.26	1.62	.112/.119	.63	.562	.560	.840
			AL	.4375-20UNJF-3B	.235	1.26	1.62	.112/.119	.63	.562	.560	.840
			TI	.4375-20UNJF-3B	.235	1.26	1.62	.112/.119	.63	.562	.560	.840
AS642F (-05)	.313	S	CRES	.5000-20UNJF-3B	.235	1.26	1.62	.164/.174	.63	.625	.635	.840
			AL	.5000-20UNJF-3B	.235	1.26	1.62	.164/.174	.63	.625	.635	.840
			TI	.5000-20UNJF-3B	.235	1.26	1.62	.164/.174	.63	.625	.635	.840
AS642F (-05)	.313	E	CRES	.5625-18UNJF-3B	.235	1.38	1.81	.164/.174	.63	.688	.635	.885
			AL	.5625-18UNJF-3B	.235	1.38	1.81	.164/.174	.63	.688	.635	.885
			TI	.5625-18UNJF-3B	.235	1.38	1.81	.164/.174	.63	.688	.635	.885
AS642G (-06)	.375	R	CRES	.5000-20UNJF-3B	.298	1.38	1.81	.164/.174	.70	.625	.635	.885
			AL	.5000-20UNJF-3B	.298	1.38	1.81	.164/.174	.70	.625	.635	.885
			TI	.5000-20UNJF-3B	.298	1.38	1.81	.164/.174	.70	.625	.635	.885
AS642G (-06)	.375	S	CRES	.5625-18UNJF-3B	.298	1.38	1.81	.218/.230	.70	.688	.700	.885
			AL	.5625-18UNJF-3B	.298	1.38	1.81	.218/.230	.70	.688	.700	.885
			TI	.5625-18UNJF-3B	.298	1.38	1.81	.218/.230	.70	.688	.700	.885
AS642G (-06)	.375	E	CRES	.7500-16UNJF-3B	.298	1.61	1.99	.218/.230	.70	.875	.700	1.060
			AL	.7500-16UNJF-3B	.298	1.61	1.99	.218/.230	.70	.875	.700	1.060
			TI	.7500-16UNJF-3B	.298	1.61	1.99	.218/.230	.70	.875	.700	1.060
AS642H (-08)	.500	R	CRES	.5625-18UNJF-3B	.391	1.61	1.99	.218/.230	.83	.688	.700	1.060
			AL	.5625-18UNJF-3B	.391	1.61	1.99	.218/.230	.83	.688	.700	1.060
			TI	.5625-18UNJF-3B	.391	1.61	1.99	.218/.230	.83	.688	.700	1.060
AS642H (-08)	.500	S	CRES	.7500-16UNJF-3B	.391	1.61	1.99	.289/.306	.83	.875	.810	1.060
			AL	.7500-16UNJF-3B	.391	1.61	1.99	.289/.306	.83	.875	.810	1.060
			TI	.7500-16UNJF-3B	.391	1.61	1.99	.289/.306	.83	.875	.810	1.060
AS642H (-08)	.500	E	CRES	.8750-14UNJF-3B	.391	1.80	2.38	.289/.306	.83	1.000	.810	1.341
			AL	.8750-14UNJF-3B	.391	1.80	2.38	.289/.306	.83	1.000	.810	1.341
			TI	.8750-14UNJF-3B	.391	1.80	2.38	.289/.306	.83	1.000	.810	1.341

HOSE ASSEMBLY NO. & SIZE /24/	HOSE SIZE (REF)	FITTING TYPE /25/	FITTING MATL /5/	THREAD T PER AS8879 (REF)	HOSE ID MIN (REF)	A1 MAX	A2 MAX	C MIN BALL DIA ELB/STR /16/	E MAX WITHOUT SLEEVEING /17/	F HEX (REF)	G MIN	G MAX
AS642J (-10)	.625	R	CRES	.7500-16UNJF-3B	.485	1.80	2.38	.289/.306	.97	.875	.810	1.341
			AL	.7500-16UNJF-3B	.485	1.80	2.38	.289/.306	.97	.875	.810	1.341
			TI	.7500-16UNJF-3B	.485	1.80	2.38	.289/.306	.97	.875	.810	1.341
AS642J (-10)	.625	S	CRES	.8750-14UNJF-3B	.485	1.80	2.38	.366/.387	.97	1.000	1.091	1.341
			AL	.8750-14UNJF-3B	.485	1.80	2.38	.366/.387	.97	1.000	1.091	1.341
			TI	.8750-14UNJF-3B	.485	1.80	2.38	.366/.387	.97	1.000	1.091	1.341
AS642J (-10)	.625	E	CRES	1.0625-12UNJ-3B	.485	1.96	2.99	.366/.387	.97	1.250	1.091	1.591
			AL	1.0625-12UNJ-3B	.485	1.96	2.99	.366/.387	.97	1.250	1.091	1.591
			TI	1.0625-12UNJ-3B	.485	1.96	2.99	.366/.387	.97	1.250	1.091	1.591
AS642K (-12)	.750	R	CRES	.8750-14UNJF-3B	.615	1.96	2.99	.366/.387	1.17	1.000	1.091	1.591
			AL	.8750-14UNJF-3B	.615	1.96	2.99	.366/.387	1.17	1.000	1.091	1.591
			TI	.8750-14UNJF-3B	.615	1.96	2.99	.366/.387	1.17	1.000	1.091	1.591
AS642K (-12)	.750	S	CRES	1.0625-12UNJ-3B	.615	1.96	2.99	.466/.493	1.17	1.250	1.341	1.591
			AL	1.0625-12UNJ-3B	.615	1.96	2.99	.466/.493	1.17	1.250	1.341	1.591
			TI	1.0625-12UNJ-3B	.615	1.96	2.99	.466/.493	1.17	1.250	1.341	1.591
AS642K (-12)	.750	E	CRES	1.3125-12UNJ-3B	.615	2.32	3.24	.466/.493	1.17	1.500	1.341	1.715
			AL	1.3125-12UNJ-3B	.615	2.32	3.24	.466/.493	1.17	1.500	1.341	1.715
			TI	1.3125-12UNJ-3B	.615	2.32	3.24	.466/.493	1.17	1.500	1.341	1.715
AS642M (-16)	1.000	R	CRES	1.0625-12UNJ-3B	.851	2.32	3.24	.466/.493	1.52	1.250	1.341	1.715
			AL	1.0625-12UNJ-3B	.851	2.32	3.24	.466/.493	1.52	1.250	1.341	1.715
			TI	1.0625-12UNJ-3B	.851	2.32	3.24	.466/.493	1.52	1.250	1.341	1.715
AS642M (-16)	1.000	S	CRES	1.3125-12UNJ-3B	.851	2.32	3.24	.661/.700	1.52	1.500	1.465	1.715
			AL	1.3125-12UNJ-3B	.851	2.32	3.24	.661/.700	1.52	1.500	1.465	1.715
			TI	1.3125-12UNJ-3B	.851	2.32	3.24	.661/.700	1.52	1.500	1.465	1.715
AS642M (-16)	1.000	E	CRES	1.6250-12UNJ-3B	.851	2.37	3.68	.661/.700	1.52	1.812	1.465	2.122
			AL	1.6250-12UNJ-3B	.851	2.37	3.68	.661/.700	1.52	1.812	1.465	2.122
			TI	1.6250-12UNJ-3B	.851	2.37	3.68	.661/.700	1.52	1.812	1.465	2.122
AS642N (-20)	1.250	R	CRES	1.3125-12UNJ-3B	1.101	2.37	3.68	.661/.700	2.00	1.500	1.465	2.122
			AL	1.3125-12UNJ-3B	1.101	2.37	3.68	.661/.700	2.00	1.500	1.465	2.122
			TI	1.3125-12UNJ-3B	1.101	2.37	3.68	.661/.700	2.00	1.500	1.465	2.122
AS642N (-20)	1.250	S	CRES	1.6250-12UNJ-3B	1.101	2.37	3.68	.850/.900	2.00	1.812	1.747	2.122
			AL	1.6250-12UNJ-3B	1.101	2.37	3.68	.850/.900	2.00	1.812	1.747	2.122
			TI	1.6250-12UNJ-3B	1.101	2.37	3.68	.850/.900	2.00	1.812	1.747	2.122
AS642N (-20)	1.250	E	CRES	1.8750-12UNJ-3B	1.101	2.40	4.17	.850/.900	2.00	2.125	1.747	2.372
			AL	1.8750-12UNJ-3B	1.101	2.40	4.17	.850/.900	2.00	2.125	1.747	2.372
			TI	1.8750-12UNJ-3B	1.101	2.40	4.17	.850/.900	2.00	2.125	1.747	2.372
AS642P (-24)	1.500	R	CRES	1.6250-12UNJ-3B	1.344	2.40	4.17	.850/.900	2.28	1.812	1.747	2.372
			AL	1.6250-12UNJ-3B	1.344	2.40	4.17	.850/.900	2.28	1.812	1.747	2.372
			TI	1.6250-12UNJ-3B	1.344	2.40	4.17	.850/.900	2.28	1.812	1.747	2.372
AS642P (-24)	1.500	S	CRES	1.8750-12UNJ-3B	1.344	2.40	4.17	1.063/1.125	2.28	2.125	1.997	2.372
			AL	1.8750-12UNJ-3B	1.344	2.40	4.17	1.063/1.125	2.28	2.125	1.997	2.372
			TI	1.8750-12UNJ-3B	1.344	2.40	4.17	1.063/1.125	2.28	2.125	1.997	2.372
AS642P (-24)	1.500	-	-	-	-	-	-	-	-	-	-	-

TABLE 2 - TOLERANCES

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

TABLE 3 - HOSE AND SLEEVE CODES

HOSE OR SLEEVE CODE	SLEEVE MATERIAL	TEMP. LIMIT °F
-	(-) INDICATES HOSE ONLY, NO SLEEVE (AS1946)	450
A	ABRASION SLEEVE TUBULAR (PTFE - AS1291 - CODE B) /7/	450
B	ABRASION SLEEVE COIL (NYLON AS1294) /8/	275
C	FIRE SLEEVE (AS1072 SIL-FG) (15 MIN) /9/ /10/ /14/	450
E	ABRASION SLEEVE SHRINK-ON (FEP) /12/	350
F	ABRASION SLEEVE SHRINK-ON (POLYOLEFIN AS1073 - CODE B) /12/	275
G	FIRE SLEEVE (AS1072 SIL-FG) (5 MIN) /9/ /10/ /13/	450
H	FIRE SLEEVE INTEGRAL SILICONE (AS1723) (15 MIN) /14/ /26/	450
J	FIRE SLEEVE INTEGRAL SILICONE (5 MIN) /13/ /26/	450
K	INTEGRAL ABRASION SLEEVE (BRAIDED) POLYESTER /11/	300
L	ABRASION SLEEVE COIL (PTFE - AS1293) /8/	450

TABLE 4 - HOSE AND OUTSIDE SLEEVE DIAMETERS

HOSE OR SLEEVE CODE	TOLERANCE	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/	HOSE SIZE /6/
-	MAX	.285	.347	.417	.500	.614	.799	.906	1.140	1.390	1.707
	MIN	.234	.304	.367	.430	.546	.641	.766	1.078	1.328	1.637
A	MAX	.390	.473	.524	.620	.715	.818	.955	1.295	1.550	1.841
	MIN	.320	.393	.454	.515	.645	.748	.870	1.210	1.450	1.771
B	MAX	.339	.409	.472	.535	.669	.767	.896	1.224	1.474	1.807
	MIN	.260	.330	.393	.456	.590	.681	.810	1.122	1.372	1.681
C	MAX	.692	.692	.780	.840	.970	1.090	1.220	1.590	1.900	2.190
	MIN	.487	.533	.598	.658	.778	.891	1.016	1.288	1.578	1.887
E	MAX	.301	.375	.438	.507	.635	.749	.887	1.288	1.460	1.777
	MIN	.248	.320	.383	.452	.578	.679	.811	1.146	1.358	1.667
F	MAX	.341	.411	.474	.547	.663	.769	.904	1.244	1.482	1.823
	MIN	.278	.348	.411	.484	.600	.699	.834	1.158	1.396	1.729
G	MAX	.692	.692	.780	.840	.970	1.090	1.220	1.590	1.900	2.190
	MIN	.487	.533	.598	.658	.778	.891	1.016	1.288	1.578	1.887
H	MAX	.641	.641	.704	.766	.891	1.016	1.141	1.454	1.704	2.016
	MIN	.537	.594	.657	.719	.844	.949	1.074	1.394	1.649	1.957
J	MAX	.641	.641	.704	.766	.891	1.016	1.141	1.454	1.704	2.016
	MIN	.450	.550	.595	.670	.775	.875	.995	1.310	1.508	1.815
K	MAX	.378	.430	.499	.559	.665	.772	.887	1.210	1.460	1.782
	MIN	.320	.390	.450	.510	.625	.726	.841	1.148	1.398	1.712
L	MAX	.375	.445	.508	.571	.687	.789	.914	1.242	1.492	1.809
	MIN	.267	.333	.407	.470	.586	.681	.828	1.138	1.388	1.697

TABLE 5 - HOSE WEIGHT MAX - ALL OTHERS REF

HOSE OR SLEEVE CODE OR FITTING	FITTING TYPE /25/	UNITS	HOSE SIZE .188	HOSE SIZE .250	HOSE SIZE .313	HOSE SIZE .375	HOSE SIZE .500	HOSE SIZE .625	HOSE SIZE .750	HOSE SIZE 1.000	HOSE SIZE 1.250	HOSE SIZE 1.500
-		LB/IN	.005	.007	.008	.010	.012	.016	.020	.045	.058	.074
A		LB/IN	.003	.004	.004	.006	.007	.008	.010	.014	.020	.045
B		LB/IN	.001	.001	.002	.002	.003	.004	.004	.005	.006	.009
C		LB/IN	.009	.009	.011	.012	.017	.018	.028	.030	.040	.047
E		LB/IN	.001	.002	.002	.002	.003	.004	.006	.007	.007	.008
F		LB/IN	.002	.002	.002	.002	.003	.003	.005	.006	.006	.007
G		LB/IN	.009	.009	.011	.012	.017	.018	.028	.030	.040	.047
H		LB/IN	.016	.018	.020	.023	.030	.037	.045	.085	.107	.132
J		LB/IN	.016	.017	.018	.021	.027	.035	.042	.079	.100	.123
K		LB/IN	.006	.008	.009	.011	.015	.018	.023	.050	.063	.081
L		LB/IN	.003	.004	.004	.005	.008	.009	.011	.018	.022	.028
FIRE SLEEVE CLAMP		LB/EA	.015	.016	.018	.019	.021	.023	.025	.029	.033	.037
FITTING END												
A/D - CRES	R, S, E	LB/EA	.040	.055	.075	.085	.155	.235	.330	.535	.995	1.370
B/E - AL	R, S, E	LB/EA	---	.019	.026	.029	.053	.080	.112	.182	.338	.466
C/F - TI	R, S, E	LB/EA	.024	.033	.045	.051	.093	.141	.198	.321	.597	.822

TABLE 6 - SLEEVE LENGTH

HOSE SIZE	LENGTH
.188, .250, .313, .375	2.00 ± .25
.500, .625	2.50 ± .25
.750, 1.000	3.00 ± .25
1.250, 1.500	4.00 ± .25

TABLE 7 - INTEGRAL FIRE SLEEVE CUFF DIMENSIONS /26/

HOSE SIZE (REF)	'K' MAX	'L' MAX
.250	.90	1.61
.313	.97	1.70
.375	1.03	2.18
.500	1.15	2.50
.625	1.29	2.67
.750	1.41	2.67
1.00	1.71	3.10
1.25	2.04	2.80
1.50	2.37	2.95