

REV. A

SAE AS640

FEDERAL SUPPLY CLASS

RATIONALE

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

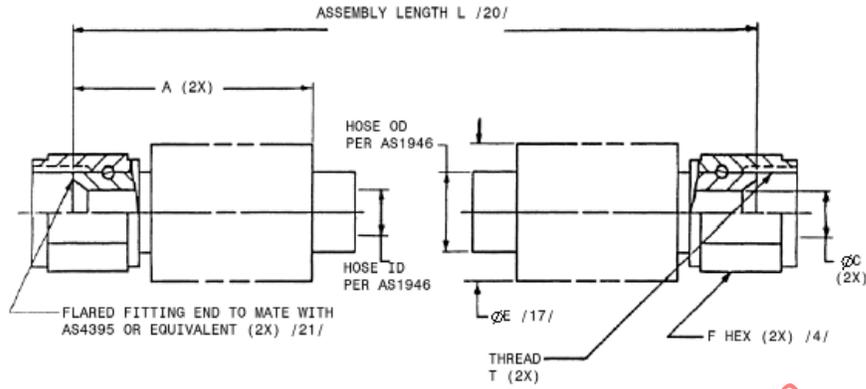


FIGURE 1 - HOSE ASSEMBLY

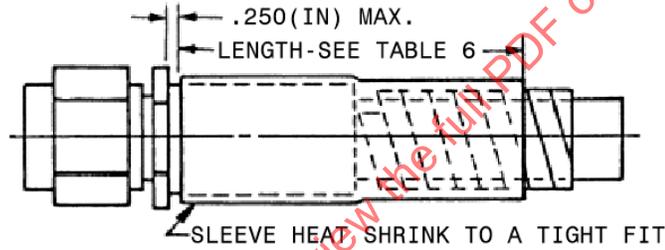


FIGURE 2 - ABRASION SLEEVE ATTACHMENT /7/ /8/

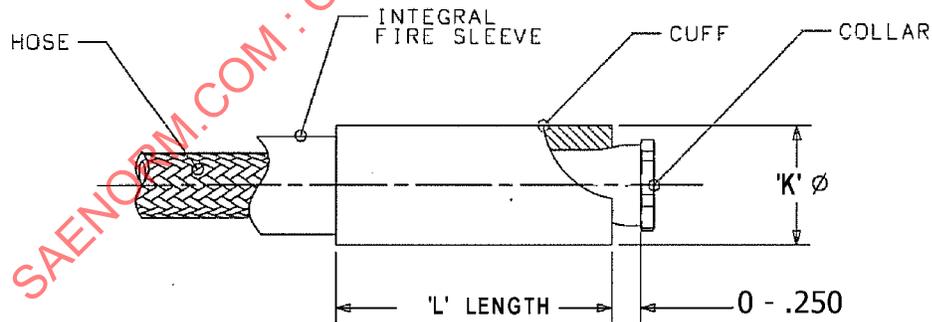
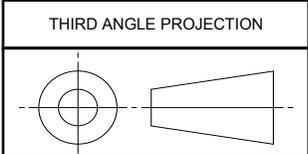


FIGURE 3 - SEE TABLE 7 /26/

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CUSTODIAN: SAE G-3/G-3D

PROCUREMENT SPECIFICATION: /15/ AS1946

**SAE Aerospace**  
An SAE International Group

**AEROSPACE STANDARD**  
HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, METAL BRAID, MEDIUM PRESSURE, FLARED, STRAIGHT TO STRAIGHT

**SAE AS640**  
SHEET 1 OF 7

**REV. A**

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ISSUED 2007-03 REVISED 2011-06

TABLE 1 - DIMENSIONS

HOSE ASSEMBLY NO. & SIZE /24/	HOSE SIZE (REF)	FITTING TYPE /25/	FITTING MATERIAL /5/	THREAD T PER AS8879 (REF)	HOSE ID MIN (REF)	A MAX	C MIN BALL DIA /16/	E MAX WITHOUT SLEEVING /17/	F HEX (REF)
AS640D (-03)	.188	-	-	-	-	-	-	-	-
AS640D (-03)	.188	S	CRES	.3750-24UNJF-3B	.110	1.14	.072	.49	.500
			AL	.3750-24UNJF-3B	.110	1.14	.072	.49	.500
			TI	.3750-24UNJF-3B	.110	1.14	.072	.49	.500
AS640D (-03)	.188	E	CRES	.4375-20UNJF-3B	.110	1.14	.072	.49	.562
			AL	.4375-20UNJF-3B	.110	1.14	.072	.49	.562
			TI	.4375-20UNJF-3B	.110	1.14	.072	.49	.562
AS640E (-04)	.250	R	CRES	.3750-24UNJF-3B	.173	1.14	.072	.55	.500
			AL	.3750-24UNJF-3B	.173	1.14	.072	.55	.500
			TI	.3750-24UNJF-3B	.173	1.14	.072	.55	.500
AS640E (-04)	.250	S	CRES	.4375-20UNJF-3B	.173	1.14	.119	.55	.562
			AL	.4375-20UNJF-3B	.173	1.14	.119	.55	.562
			TI	.4375-20UNJF-3B	.173	1.14	.119	.55	.562
AS640E (-04)	.250	E	CRES	.5000-20UNJF-3B	.173	1.26	.119	.55	.625
			AL	.5000-20UNJF-3B	.173	1.26	.119	.55	.625
			TI	.5000-20UNJF-3B	.173	1.26	.119	.55	.625
AS640F (-05)	.313	R	CRES	.4375-20UNJF-3B	.235	1.26	.119	.63	.562
			AL	.4375-20UNJF-3B	.235	1.26	.119	.63	.562
			TI	.4375-20UNJF-3B	.235	1.26	.119	.63	.562
AS640F (-05)	.313	S	CRES	.5000-20UNJF-3B	.235	1.26	.174	.63	.625
			AL	.5000-20UNJF-3B	.235	1.26	.174	.63	.625
			TI	.5000-20UNJF-3B	.235	1.26	.174	.63	.625
AS640F (-05)	.313	E	CRES	.5625-18UNJF-3B	.235	1.38	.174	.63	.688
			AL	.5625-18UNJF-3B	.235	1.38	.174	.63	.688
			TI	.5625-18UNJF-3B	.235	1.38	.174	.63	.688
AS640G (-06)	.375	R	CRES	.5000-20UNJF-3B	.298	1.38	.174	.70	.625
			AL	.5000-20UNJF-3B	.298	1.38	.174	.70	.625
			TI	.5000-20UNJF-3B	.298	1.38	.174	.70	.625
AS640G (-06)	.375	S	CRES	.5625-18UNJF-3B	.298	1.38	.230	.70	.688
			AL	.5625-18UNJF-3B	.298	1.38	.230	.70	.688
			TI	.5625-18UNJF-3B	.298	1.38	.230	.70	.688
AS640G (-06)	.375	E	CRES	.7500-16UNJF-3B	.298	1.61	.230	.70	.875
			AL	.7500-16UNJF-3B	.298	1.61	.230	.70	.875
			TI	.7500-16UNJF-3B	.298	1.61	.230	.70	.875
AS640H (-08)	.500	R	CRES	.5625-18UNJF-3B	.391	1.61	.230	.83	.688
			AL	.5625-18UNJF-3B	.391	1.61	.230	.83	.688
			TI	.5625-18UNJF-3B	.391	1.61	.230	.83	.688
AS640H (-08)	.500	S	CRES	.7500-16UNJF-3B	.391	1.61	.306	.83	.875
			AL	.7500-16UNJF-3B	.391	1.61	.306	.83	.875
			TI	.7500-16UNJF-3B	.391	1.61	.306	.83	.875
AS640H (-08)	.500	E	CRES	.8750-14UNJF-3B	.391	1.80	.306	.83	1.000
			AL	.8750-14UNJF-3B	.391	1.80	.306	.83	1.000
			TI	.8750-14UNJF-3B	.391	1.80	.306	.83	1.000

HOSE ASSEMBLY NO. & SIZE /24/	HOSE SIZE (REF)	FITTING TYPE /25/	FITTING MATERIAL /5/	THREAD T PER AS8879 (REF)	HOSE ID MIN (REF)	A MAX	C MIN BALL DIA /16/	E MAX WITHOUT SLEEVING /17/	F HEX (REF)
AS640J (-10)	.625	R	CRES	.7500-16UNJF-3B	.485	1.80	.306	.97	.875
			AL	.7500-16UNJF-3B	.485	1.80	.306	.97	.875
			TI	.7500-16UNJF-3B	.485	1.80	.306	.97	.875
AS640J (-10)	.625	S	CRES	.8750-14UNJF-3B	.485	1.80	.387	.97	1.000
			AL	.8750-14UNJF-3B	.485	1.80	.387	.97	1.000
			TI	.8750-14UNJF-3B	.485	1.80	.387	.97	1.000
AS640J (-10)	.625	E	CRES	1.0625-12UNJ-3B	.485	1.96	.387	.97	1.250
			AL	1.0625-12UNJ-3B	.485	1.96	.387	.97	1.250
			TI	1.0625-12UNJ-3B	.485	1.96	.387	.97	1.250
AS640K (-12)	.750	R	CRES	.8750-14UNJF-3B	.615	1.96	.387	1.17	1.000
			AL	.8750-14UNJF-3B	.615	1.96	.387	1.17	1.000
			TI	.8750-14UNJF-3B	.615	1.96	.387	1.17	1.000
AS640K (-12)	.750	S	CRES	1.0625-12UNJ-3B	.615	1.96	.493	1.17	1.250
			AL	1.0625-12UNJ-3B	.615	1.96	.493	1.17	1.250
			TI	1.0625-12UNJ-3B	.615	1.96	.493	1.17	1.250
AS640K (-12)	.750	E	CRES	1.3125-12UNJ-3B	.615	2.32	.493	1.17	1.500
			AL	1.3125-12UNJ-3B	.615	2.32	.493	1.17	1.500
			TI	1.3125-12UNJ-3B	.615	2.32	.493	1.17	1.500
AS640M (-16)	1.000	R	CRES	1.0625-12UNJ-3B	.851	2.32	.493	1.52	1.250
			AL	1.0625-12UNJ-3B	.851	2.32	.493	1.52	1.250
			TI	1.0625-12UNJ-3B	.851	2.32	.493	1.52	1.250
AS640M (-16)	1.000	S	CRES	1.3125-12UNJ-3B	.851	2.32	.700	1.52	1.500
			AL	1.3125-12UNJ-3B	.851	2.32	.700	1.52	1.500
			TI	1.3125-12UNJ-3B	.851	2.32	.700	1.52	1.500
AS640M (-16)	1.000	E	CRES	1.6250-12UNJ-3B	.851	2.37	.700	1.52	1.812
			AL	1.6250-12UNJ-3B	.851	2.37	.700	1.52	1.812
			TI	1.6250-12UNJ-3B	.851	2.37	.700	1.52	1.812
AS640N (-20)	1.250	R	CRES	1.3125-12UNJ-3B	1.101	2.37	.700	2.00	1.500
			AL	1.3125-12UNJ-3B	1.101	2.37	.700	2.00	1.500
			TI	1.3125-12UNJ-3B	1.101	2.37	.700	2.00	1.500
AS640N (-20)	1.250	S	CRES	1.6250-12UNJ-3B	1.101	2.37	.900	2.00	1.812
			AL	1.6250-12UNJ-3B	1.101	2.37	.900	2.00	1.812
			TI	1.6250-12UNJ-3B	1.101	2.37	.900	2.00	1.812
AS640N (-20)	1.250	E	CRES	1.8750-12UNJ-3B	1.101	2.40	.900	2.00	2.125
			AL	1.8750-12UNJ-3B	1.101	2.40	.900	2.00	2.125
			TI	1.8750-12UNJ-3B	1.101	2.40	.900	2.00	2.125
AS640P (-24)	1.500	R	CRES	1.6250-12UNJ-3B	1.344	2.40	.900	2.28	1.812
			AL	1.6250-12UNJ-3B	1.344	2.40	.900	2.28	1.812
			TI	1.6250-12UNJ-3B	1.344	2.40	.900	2.28	1.812
AS640P (-24)	1.500	S	CRES	1.8750-12UNJ-3B	1.344	2.40	1.125	2.28	2.125
			AL	1.8750-12UNJ-3B	1.344	2.40	1.125	2.28	2.125
			TI	1.8750-12UNJ-3B	1.344	2.40	1.125	2.28	2.125
AS640P (-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/	/6/	/6/	/6/	/6/	/6/	/6/	/6/	/6/	/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	.250	.313	.375	.500	.625	.750	1.000	1.250	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
FIRESLEEVE 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