Life Test Data – Metalized Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72
* Cont. 1-2-73

Temp, °C	RT	70°	80°	*85°	85°
Voltage	550	550	550	550	550
Time, hrs	0	1416	168	504	672
1X Column Treated					
MIBP (Dixie)	.00051	.00086	.00089	.00071	
+0.3% Unox221	3.413 µfd.	3.349	3.335	2.300	
				265.5 hrs.	568.5 hrs
				265.5	568.5
				265.5	568.5
					568.5

DSW 283970

STLCOPCB4065389

Life Test Data – Metallized Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

*Cont. 1-2-73

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	*85°	85°	85°	85°
V_o/Type	550	550	550	550	550	550	550	550	550	550	550	550	550	550
Time, hrs	0	168	336	504	744	912	1080	1248	1416	168	168	336	504	672

1X Column Treated
MIBP (Dixie)
+0.3% Unox 221
(Impregnated 8-1-72)
Capacitors

#1	.00062	.00059	.00060	.00059	.00059	.00059	.00059	.00058	.00059	.00060	.00070			
(μfd)	3.461	3.398	3.397	3.397	3.397	3.397	3.397	3.397	3.397	3.383	3.375	265.5 hrs		
#2	.00064	.00071	.00070	.00073	.00070	.00069	.00069	.00069	.00069	.00070	.00081	.00059	.00061	
(μfd)	3.494	3.427	3.427	3.427	3.427	3.427	3.426	3.426	3.426	3.412	3.404	3.404	3.405	568.5 hrs.
#3	.00046	.00082	.00082	.00082	.00084	.00081	.00080	.00080	.00081	.00083	.00093	.00066	.00068	
(μfd)	3.250	3.188	3.188	3.188	3.188	3.189	3.188	3.188	3.188	3.175	3.167	3.167	3.168	568.5 hrs.
#4	.00042	.00088	.00088	.00094	.00087	.00087	.00086	.00086	.00086	.00089	.00098	.00069	.00068	
(μfd)	3.264	3.202	3.202	3.202	3.202	3.203	3.202	3.202	3.202	3.189	3.182	3.182	3.182	568.5 hrs.
#5	.00042	.00093	.00093	.00093	.00092	.00093	.00093	.00093	.00092	.00094	.00105			
(μfd)	3.484	3.419	3.418	3.419	3.419	3.419	3.418	3.418	3.418	3.405	3.397	265.5 hrs.		
#6	.00063	.00101	.00101	.00102	.00098	.00098	.00099	.00098	.00099	.00102	.00113	.00078	.00079	
(μfd)	3.508	3.443	3.443	3.443	3.443	3.444	3.443	3.443	3.443	3.429	3.422	3.422	3.423	568.5 hr.
#7	.00029	.00106	.00103	.00104	.00104	.00100	.00099	.00100	.00099	.00105	.00113			
(μfd)	3.439	3.375	3.374	3.375	3.375	3.375	3.374	3.374	3.374	3.360	3.353	265.5 hrs.		
#8	.00057	.00105	.00104	.00104	.00103	.00103	.00103	.00103	.00103	.00105	.00115	.00080	.00080	
(μfd)	3.403	3.343	3.343	3.343	3.343	3.343	3.343	3.343	3.343	3.329	3.322	3.322	3.323	568.5 hrs.
Avg.	.00051	.00091	.00088	.00089	.00087	.00086	.00086	.00086	.00086	.00089	.00099	.00068	.00071	
(μfd)	3.413	3.349	3.349	3.349	3.349	3.350	3.349	3.349	3.349	3.335	3.328	3.299	3.300	

DSW 283971

STLCOPCB4065390

Life Test Data — Paper Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C Voltage Time, hrs	RT 600 0	70° 870 744	70° 900 168	70° 930 168	70° 960 168	70° 1000 168	80° 1000 168	90° 1000 168	100° 1000 188
1X Treated 76.8% MIBP (P.P. dist.) 23.2% TXS (P.P. dist.) +0.3% Unox 221	.00411 1.973 μfd.	.00328 1.891	.00326 1.890	.00326 1.889	.00324 1.888	.00323 1.887	.00337 1.876	.00352 1.864	.00405 1.855 All OK
1X Treated 76.8% MIBP (P.P. dist) 23.2% TXS (P.P. dist. and 2x Na_2CO_3 Treated) +0.3% Unox 221	.00397 1.959 μfd.	.00316 1.875	.00317 1.874	.00316 1.873	.00316 1.872	.00317 1.872	.00332 1.862	.00348 1.853	.00438 1.845 1.5 hrs. 7 OK
1X Treated 76.8% MIBP (P.P. dist, column Treated in lab) 23.2% TXS (P.P. dist) +0.3% Unox 221	.00399 1.967 μfd.	.00320 1.884	.00322 1.883	.00322 1.882	.00322 1.881	.00322 1.880	.00332 1.870	.00353 1.861	.00403 1.858 All OK
2X Treated 53% Dimethyl benzophenone 47% MIBP +0.3% Unox 221	.00378 1.988 μfd	.00309 1.899	.00309 1.899	.00308 1.898	.00308 1.897	.00308 1.896	.00314 1.884	.00321 1.871	.00339 1.860 All ok
1X Column Treated Aroclor 1016 Lot KA720 +0.3% Unox 221	.00312 1.940 μfd	.00308 1.856	.00309 1.855	.00309 1.854	.00809 1.852	.00309 1.852	.00317 1.841	.00332 1.830	.00376 1.822 All OK
1X Column Treated Aroclor 1016 Lot KA720	.00326 1.942 μfd	.00307 1.863	.00300 1.865 111.0 hrs.	.00300 1.864	.00302 1.862	.00304 1.861	.00316 1.848 155.0 hrs.	.00330 1.846 62.0 hrs 67.5 84.5	3.5 hrs. 5.5 39.5
1X Column Treated Aroclor 1016 Lot KA-720 +0.6% α Olefin Epoxide	.00300 1.939 μfd	.00325 1.864	.00326 1.864	.00328 1.863	.00329 1.862	.00331 1.861	.00342 1.850	.00359 1.839	.00408 1.829 All OK
1X Treated MCS 1238 + 0.3% Unox 206	.00367 1.968 μfd.	.00410 1.900	.00403 1.899	.00392 1.897	.00383 1.895	.00374 1.893	.00380 1.881	.00394 1.870	.00442 1.861 All OK
2X Treated 72.6% Mixed Ethers (5% m-butyl (2,4 dichloro diphenyl) Ether, m-butyl o-chlorophenyl) 27.39% TXS +0.3% Unox 221	.00473 2.505 μfd 1 Shorted @ 600V	.00381 2.404	.00380 2.402	.00381 2.401	.00383 2.398	.00392 2.392	.00406 2.382 144.0 hrs.	.00427 2.369 1.5 hrs 2.0 2.5 3.0	2.0 hrs 2.0
3X Treated 66.9% 3,4-dichloro diphenyl Methane 33.1% TXS +0.3% Unox 221	.00427 2498 μfd.	.00377 2.427	.00373 2.425	.00374 2.424	.00374 2.423	.00376 2.422	.00394 2.412	.00440 2.405	2.83 hrs 3.0 hrs. 2.83 3.0 2.83 3.0 2.83 3.0

DSW 283972

STLCOPCB4065391

Life Test Data – Paper Capacitors

Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188
1X Treat R 76.8% MIBP (P.P. dist.) 23.2% TXS (P.P. dist. and 2X Na_2CO_3 Treated) +0.3% Unox 221 (Impregnated 9-28-72) Capacitors												
#1	.00388	.00301	.00298	.00296	.00296	.00297	.00297	.00297	.00302	.00303	.00315	.00350
(μfd)	1.986	1.899	1.897	1.896	1.896	1.895	1.894	1.893	1.892	1.880	1.869	1.858
#2	.00397	.00314	.00311	.00309	.00308	.00308	.00306	.00305	.00304	.00327	.00328	.00367
(μfd)	1.955	1.872	1.870	1.869	1.868	1.867	1.866	1.865	1.865	1.854	1.848	1.833
#3	.00411	.00319	.00319	.00319	.00317	.00317	.00316	.00315	.00317	.00338	.00377	.00684
(μfd)	1.929	1.852	1.851	1.849	1.848	1.848	1.847	1.846	1.845	1.835	1.825	1.812
#4	.00402	.00325	.00324	.00324	.00324	.00325	.00325	.00325	.00325	.00340	.00362	
(μfd)	1.961	1.878	1.876	1.875	1.874	1.873	1.872	1.871	1.870	1.860	1.849	1.5 hrs.
#5	.00396	.00325	.00323	.00317	.00317	.00317	.00318	.00317	.00319	.00336	.00340	.00368
(μfd)	1.948	1.865	1.864	1.863	1.862	1.861	1.860	1.859	1.858	1.848	1.839	1.831
#6	.00393	.00327	.00325	.00326	.00325	.00327	.00327	.00328	.00328	.00342	.00375	.00463
(μfd)	1.953	1.871	1.873	1.873	1.873	1.873	1.872	1.871	1.871	1.863	1.857	1.851
#7	.00400	.00332	.00327	.00323	.00320	.00320	.00319	.00319	.00321	.00336	.00343	.00371
(μfd)	1.980	1.898	1.898	1.899	1.902	1.903	1.902	1.902	1.902	1.894	1.889	1.887
#8	.00390	.00330	.00327	.00323	.00321	.00320	.00320	.00320	.00320	.00337	.00340	.00360
(μfd)	1.956	1.878	1.876	1.875	1.875	1.874	1.873	1.872	1.871	1.862	1.852	1.844
Avg.	.00397	.00322	.00319	.00317	.00316	.00317	.00316	.00316	.00317	.00332	.00348	.00438
(μfd)	1.959	1.877	1.876	1.875	1.875	1.874	1.873	1.872	1.872	1.862	1.853	1.845

DSW 283973

STLCOPCB4065392

Life Test Data – Paper Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188
1X Treated 76.8% MIBP (P.P. dist., Column treated in lab) 23.2% TXS (P.P. dist.) +0.3% Unox 221 (Impregnated 10-4-72) Capacitors												
#1	.00400	.00299	.00300	.00297	.00296	.00297	.00297	.00296	.00298	.00304	.00319	.00361
(μfd)	1.955	1.870	1.896	1.868	1.867	1.866	1.864	1.863	1.863	1.851	1.839	1.829
#2	.00394	.00312	.00309	.00308	.00315	.00320	.00323	.00326	.00327	.00334	.00362	.00449
(μfd)	1.968	1.886	1.887	1.888	1.889	1.889	1.888	1.887	1.886	1.877	1.870	1.865
#3	.00402	.00321	.00322	.00323	.00326	.00329	.00331	.00326	.00325	.00332	.00355	.00452
(μfd)	1.946	1.865	1.863	1.862	1.861	1.860	1.859	1.858	1.857	1.848	1.838	1.827
#4	.00401	.00323	.00324	.00325	.00324	.00332	.00330	.00332	.00333	.00340	.00355	.00393
(μfd)	1.978	1.899	1.897	1.896	1.895	1.894	1.893	1.892	1.892	1.881	1.871	1.864
#5	.00400	.00326	.00319	.00316	.00318	.00315	.00315	.00315	.00315	.00329	.00345	.00360
(μfd)	1.993	1.906	1.904	1.903	1.902	1.901	1.900	1.899	1.898	1.889	1.879	1.870
#6	.00396	.00327	.00322	.00323	.00328	.00328	.00329	.00329	.00332	.00344	.00365	.00429
(μfd)	1.974	1.903	1.902	1.901	1.901	1.900	1.899	1.898	1.898	1.890	1.883	1.881
#7	.00404	.00333	.00326	.00324	.00321	.00325	.00321	.00322	.00322	.00336	.00353	.00371
(μfd)	1.968	1.886	1.884	1.883	1.882	1.882	1.880	1.879	1.879	1.868	1.858	1.889
#8	.00394	.00329	.00327	.00327	.00329	.00330	.00330	.00330	.00328	.00340	.00367	.00405
(μfd)	1.959	1.876	1.874	1.873	1.872	1.871	1.870	1.869	1.868	1.857	1.846	1.836
Avg.	.00399	.00321	.00319	.00318	.00320	.00322	.00322	.00322	.00322	.00332	.00353	.00403
(μfd)	1.967	1.886	1.888	1.884	1.884	1.883	1.882	1.881	1.880	1.870	1.861	1.858

DSW 283974

STLCOPCB4065393

Life Test Data – Paper Capacitors

Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188
2X treated 53% Dimethyl benzophenone 47% MIBP +0.3% Unox221 (Impregnated 9-29-72) Capacitors												
#1	.00382	.00300	.00294	.00293	.00291	.00292	.00291	.00292	.00292	.00301	.00309	.00330
(μfd)	1.999	1.909	1.907	1.906	1.905	1.904	1.903	1.901	1.901	1.887	1.873	1.860
#2	.00374	.00323	.00305	.00302	.00300	.00300	.00299	.00298	.00298	.00305	.00315	.00340
(μfd)	1.970	1.887	1.885	1.884	1.883	1.883	1.882	1.880	1.880	1.868	1.856	1.845
#3	.00384	.00314	.00311	.00309	.00309	.00309	.00308	.00308	.00309	.00314	.00319	.00331
(μfd)	1.968	1.891	1.889	1.888	1.887	1.887	1.885	1.885	1.884	1.872	1.860	1.850
#4	.00381	.00326	.00314	.00312	.00311	.00310	.00310	.00309	.00309	.00315	.00319	.00330
(μfd)	1.971	1.893	1.892	1.890	1.889	1.889	1.888	1.887	1.887	1.875	1.863	1.853
#5	.00376	.00317	.00315	.00313	.00311	.00311	.00311	.00311	.00311	.00316	.00324	.00341
(μfd)	2.002	1.915	1.913	1.912	1.911	1.910	1.909	1.908	1.908	1.896	1.882	1.869
#6	.00371	.00322	.00320	.00317	.00316	.00316	.00314	.00315	.00314	.00320	.00327	.00345
(μfd)	1.996	1.910	1.908	1.907	1.907	1.906	1.906	1.905	1.905	1.894	1.883	1.872
#7	.00383	.00323	.00321	.00317	.00316	.00316	.00315	.00315	.00315	.00321	.00329	.00347
(μfd)	2.010	1.921	1.920	1.918	1.917	1.917	1.916	1.915	1.914	1.902	1.888	1.875
#8	.00372	.00326	.00323	.00320	.00318	.00318	.00317	.00317	.00317	.00323	.00331	.00347
(μfd)	1.985	1.900	1.898	1.897	1.896	1.895	1.894	1.893	1.892	1.881	1.869	1.859
Avg.	.00378	.00319	.00313	.00310	.00309	.00309	.00308	.00308	.00308	.00314	.00321	.00339
(μfd)	1.988	1.903	1.901	1.900	1.899	1.899	1.898	1.897	1.896	1.884	1.871	1.860

DSW 283975

STLCOPCB4065394

Life Test Data – Paper Capacitors

Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
~~Voltage~~	600	870	870	870	870	900	930	960	1000	1000	1000	1000
~~Time, hrs~~	0	168	336	504	744	168	168	168	168	168	168	168
1X Column treated Aroclor 1016 Lot KA720 + 0.3% Unox 221 (Impregnated 7-21-72) Capacitors												
#1	.00319	.00301	.00300	.00298	.00296	.00296	.00294	.00294	.00294	.00302	.00314	.00355
(ufd)	1.953	1.870	1.868	1.867	1.866	1.866	1.864	1.863	1.862	1.852	1.842	1.833
#2	.00322	.00325	.00306	.00304	.00301	.00301	.00300	.00300	.00300	.00307	.00324	.00368
(ufd)	1.957	1.875	1.874	1.873	1.872	1.871	1.869	1.868	1.867	1.857	1.846	1.837
#3	.00308	.00312	.00307	.00306	.00305	.00305	.00304	.00304	.00304	.00314	.00329	.00383
(ufd)	1.932	1.850	1.849	1.847	1.847	1.846	1.844	1.843	1.842	1.831	1.821	1.811
#4	.00321	.00320	.00318	.00315	.00321	.00313	.00313	.00312	.00313	.00321	.00330	.00367
(ufd)	1.962	1.881	1.879	1.878	1.877	1.877	1.875	1.874	1.874	1.863	1.853	1.844
#5	.00307	.00318	.00315	.00314	.00312	.00312	.00312	.00311	.00311	.00318	.00332	.00362
(ufd)	1.920	1.842	1.841	1.840	1.839	1.838	1.837	1.836	1.836	1.825	1.815	1.806
#6	.00308	.00322	.00320	.00319	.00317	.00316	.00316	.00316	.00316	.00325	.00342	.00398
(ufd)	1.932	1.852	1.850	1.849	1.848	1.847	1.846	1.845	1.844	1.834	1.823	1.814
#7	.00306	.00324	.00321	.00319	.00317	.00317	.00316	.00316	.00316	.00325	.00338	.00372
(ufd)	1.916	1.838	1.836	1.835	1.834	1.833	1.832	1.830	1.830	1.819	1.809	1.800
#8	.00308	.00323	.00320	.00318	.00316	.00316	.00316	.00317	.00318	.00326	.00344	.00406
(ufd)	1.948	1.867	1.865	1.864	1.863	1.862	1.861	1.860	1.859	1.848	1.837	1.827
Avg.	.00312	.00318	.00313	.00312	.00308	.00309	.00309	.00309	.00309	.00317	.00332	.00376
(ufd)	1.940	1.859	1.858	1.857	1.856	1.855	1.854	1.852	1.852	1.841	1.830	1.822

DSW 283976

STLCOPCB4065395

Life Test Data – Paper Capacitors

Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188

1 x Column Treated
Aroclor 1016
Lot KA 720
(Impregnated 7-20-72)

Capacitors

#1	.00319	.00309	.00295	.00294	.00292	.00290	.00290	.00291	.00293			
(ufd)	1.950	1.884	1.884	1.884	1.883	1.883	1.882	1.881	1.880	155.0 hrs.		
#2	.00318	.00309	.00298	.00295	.00294	.00291	.00291	.00292	.00294	.00301		
(ufd)	1.935	1.852	1.851	1.850	1.849	1.848	1.847	1.845	1.845	1.835	62.0 hrs.	
#3	.00332	.00322	.00304	.00302	.00300	.00296	.00297	.00298	.00300	.00310		
(ufd)	1.942	1.865	1.864	1.863	1.862	1.861	1.860	1.859	1.858	1.848	67.5 hrs.	
#4	.00322	.00331	.00312	.00312	.00310	.00306	.00306	.00307	.00309	.00321	.00332	
(ufd)	1.945	1.871	1.874	1.875	1.875	1.875	1.874	1.873	1.872	1.864	1.860	5.5 hrs.
#5	.00329	.00340	.00318	.00316	.00314	.00308	.00308	.00310	.00312	.00323	.00330	
(ufd)	1.945	1.866	1.865	1.864	1.863	1.862	1.861	1.859	1.859	1.848	1.839	39.5 hrs.
#6	.00327	.00326	.00323	.00313	.00312	.00305	.00305	.00307	.00309	.00320		
(ufd)	1.947	1.866	1.865	1.864	1.863	1.862	1.861	1.859	1.858	1.847	84.5 hrs.	
#7	.00332	.00332	.00317	.00316	.00314	.00306	.00307	.00308	.00309	.00320	.00329	
(ufd)	1.942	1.865	1.863	1.862	1.861	1.861	1.860	1.859	1.858	1.848	1.838	3.5 hrs.
#8	.00331	.00330	.00321	.00318	.00316							
(ufd)	1.927	1.851	1.849	1.848	1.848	111.0 hrs.						
Avg.	.00326	.00326	.00311	.00308	.00307	.00300	.00300	.00302	.00304	.00316	.00330	
(ufd)	1.942	1.865	1.864	1.863	1.863	1.865	1.864	1.862	1.861	1.848	1.846	

DSW 283977

STLCOPCB4065396

Life Test Data – Paper Capacitors

Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188
1X Column treated Aroclor 1016 lot KA720 +0.6% α Olefin Epoxide (Impregnated 7-25-72) Capacitors												
#1	.00299	.00314	.00317	.00309	.00316	.00310	.00314	.00314	.00318	.00326	.00340	.00381
(ufd)	1.956	1.883	1.863	1.879	1.878	1.878	1.877	1.876	1.875	1.864	1.853	1.844
#2	.00295	.00318	.00317	.00318	.00319	.00320	.00322	.00322	.00324	.00334	.00350	.00409
(ufd)	1.942	1.872	1.870	1.869	1.868	1.867	1.866	1.865	1.864	1.853	1.842	1.832
#3	.00297	.00319	.00317	.00316	.00316	.00318	.00321	.00323	.00326	.00341	.00370	.00438
(ufd)	1.942	1.873	1.871	1.870	1.869	1.868	1.867	1.866	1.866	1.855	1.843	1.834
#4	.00293	.00324	.00326	.00322	.00322	.00324	.00325	.00327	.00329	.00340	.00354	.00391
(ufd)	1.940	1.868	1.866	1.865	1.864	1.863	1.862	1.861	1.860	1.849	1.838	1.828
#5	Leaks											
#6	.00297	.00332	.00329	.00327	.00329	.00330	.00333	.00334	.00337	.00347	.00362	.00398
(ufd)	1.904	1.834	1.833	1.831	1.830	1.829	1.828	1.829	1.827	1.816	1.805	1.795
#7	.00304	.00343	.00334	.00335	.00334	.00336	.00337	.00338	.00339	.00349	.00366	.00424
(ufd)	1.939	1.870	1.868	1.867	1.867	1.866	1.865	1.864	1.864	1.853	1.841	1.830
#8	.00308	.00349	.00340	.00341	.00341	.00342	.00343	.00345	.00345	.00354	.00368	.00414
(ufd)	1.948	1.878	1.877	1.876	1.875	1.874	1.874	1.873	1.872	1.861	1.850	1.838
Avg.	.00300	.00328	.00322	.00324	.00325	.00326	.00328	.00329	.00331	.00342	.00359	.00408
(ufd)	1.939	1.868	1.864	1.865	1.864	1.864	1.863	1.862	1.861	1.850	1.839	1.829

DSW 283978

STLCOPCB4065397

Life Test Data – Paper Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188
MCS 1238 1% Treated + 0.3% Unox 206 (Impregnated 7-28-72) Capacitors												
#1	.00377	.00391	.00403	.00407	.00395	.00386	.00376	.00368	.00359	.00367	.00380	.00425
(ufd)	1.993	1.922	1.922	1.922	1.920	1.919	1.917	1.915	1.913	1.900	1.888	1.877
#2	.00373	.00387	.00406	.00411	.00403	.00392	.00382	.00372	.00362	.00365	.00378	.00412
(ufd)	1.983	1.911	1.912	1.913	1.912	1.910	1.908	1.906	1.904	1.892	1.880	1.870
#3	.00383	.00394	.00415	.00421	.00400	.00400	.00389	.00379	.00369	.00375	.00378	.00424
(ufd)	1.971	1.901	1.903	1.902	1.901	1.899	1.897	1.895	1.893	1.880	1.869	1.860
#4	.00375	.00398	.00414	.00415	.00409	.00401	.00392	.00383	.00375	.00385	.00422	.00512
(ufd)	1.987	1.931	1.933	1.933	1.932	1.931	1.929	1.927	1.925	1.918	1.911	1.909
#5	.00352	.00386	.00407	.00419	.00420	.00412	.00400	.00390	.00379	.00382	.00395	.00429
(ufd)	1.944	1.874	1.873	1.874	1.874	1.872	1.870	1.868	1.867	1.854	1.843	1.833
#6	.00348	.00388	.00415	.00425	.00421	.00411	.00399	.00388	.00378	.00386	.00402	.00466
(ufd)	1.968	1.899	1.899	1.900	1.899	1.898	1.895	1.893	1.892	1.879	1.866	1.855
#7	.00364	.00383	.00401	.00408	.00411	.00404	.00394	.00387	.00378	.00384	.00393	.00420
(ufd)	1.957	1.888	1.888	1.888	1.888	1.886	1.884	1.882	1.881	1.868	1.856	1.845
#8	.00363	.00378	.00401	.00413	.00423	.00416	.00407	.00398	.00388	.00392	.00403	.00445
(ufd)	1.941	1.876	1.875	1.876	1.877	1.876	1.874	1.873	1.871	1.859	1.847	1.837
Avg.	.00367	.00388	.00408	.00415	.00410	.00403	.00392	.00383	.00374	.00380	.00394	.00442
(ufd)	1.968	1.900	1.899	1.901	1.900	1.899	1.897	1.895	1.893	1.881	1.870	1.861

DSW 283979

STLCOPCB406539B

Life Test Data – Paper Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°	
Voltage	600	870	870	870	870	900	930	960	1000	1000	1000	1000	
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	188	

2x treated
72.61% Mixed Ethers
(50/50 m-butyl (2,4-dichlorophenyl) Ether
m-butyl o-chlorophenyl Ether)
27.39% TXS
+0.3% Unox 221
(Impregnated 8-30-72)

Capacitors

#1	.00458	.00373	.00381	.00369	.00362	.00362	.00361	.00362				
(ufd)	2.530	2.436	2.433	2.432	2.431	2.429	2.428	2.426	144.0 hrs.			
#2	.00489	.00379	.00379	.00370	.00366	.00365	.00368	.00369	.00367	.00385	.00431	
(ufd)	2.489	2.399	2.397	2.396	2.391	2.393	2.391	2.389	2.388	2.379	2.370	2.0 hrs.
#3	Shorted @ 600V											
#1	.00487	.00385	.00384	.00377	.00374	.00374	.00375	.00378	.00390	.00412		
(ufd)	2.485	2.392	2.390	2.389	2.388	2.386	2.384	2.382	2.380	2.369	2.5 hrs.	
#5	.00460	.00396	.00404	.00394	.00388	.00386	.00385	.00387	.00388	.00412		
(ufd)	2.494	2.394	2.391	2.390	2.389	2.388	2.386	2.384	2.382	2.371	1.5 hrs.	
#6	.00478	.00398	.00396	.00389	.00385	.00392	.00388	.00391	.00392	.00412		
(ufd)	2.514	2.416	2.414	2.412	2.412	2.410	2.408	2.405	2.404	2.394	2.0 hrs.	
#7	.00479	.00402	.00408	.00394	.00391	.00392	.00393	.00396	.00396	.00417		
(ufd)	2.526	2.425	2.422	2.421	2.421	2.419	2.417	2.414	2.412	2.402	3.0 hrs.	
#8	.00463	.00406	.00418	.00413	.00403	.00401	.00399	.00399	.00396	.00411	.00423	
(ufd)	2.498	2.399	2.396	2.395	2.394	2.392	2.390	2.388	2.386	2.376	2.368	2.0 hrs.
Avg.	.00473	.00391	.00394	.00385	.00381	.00380	.00381	.00383	.00392	.00406	.00427	
(ufd)	2.505	2.409	2.406	2.405	2.404	2.402	2.401	2.398	2.392	2.382	2.369	

DSW 283980

STLCOPCB4065399

Life Test Data – Paper Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-C-72

temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°	90°	100°	
~~Voltage~~	600	870	870	870	870	900	930	960	1000	1000	1000	1000	
Time, hrs	0	168	336	504	744	168	168	168	168	168	168	168	
3x treated 66.9% 3,4-dichloro diphenyl Methane 33.1% TXS + 0.3% Anox 221 (Impregnated 8-18-72) Capacitors													
#1	.00419	.00373	.00372	.00377	.00362	.00358	.00356	.00356	.00356	.00368	.00405		
(ufd)	2.535	2.467	2.464	2.463	2.462	2.460	2.459	2.458	2.457	2.447	2.438		3.0 hrs.
#2	.00430	.00374	.00376	.00366	.00358	.00357	.00357	.00357	.00359	.00378	.00457		
(ufd)	2.464	2.405	2.403	2.401	2.400	2.399	2.398	2.397	2.396	2.386	2.378		2.83 hrs.
#3	.00436	.00383	.00386	.00373	.00366	.00365	.00364	.00365	.00367	.00387	.00439		
(ufd)	2.474	2.411	2.409	2.408	2.406	2.405	2.404	2.402	2.402	2.392	2.385		2.83 hrs.
#4	.00430	.00389	.00399	.00386	.00377	.00375	.00374	.00375	.00376	.00394	.00428		
(ufd)	2.520	2.447	2.445	2.443	2.442	2.441	2.440	2.438	2.438	2.428	2.423		3.0 hrs.
#5	.00423	.00397	.00411	.00394	.00384	.00383	.00383	.00383	.00384	.00403	.00454		
(ufd)	2.472	2.405	2.403	2.402	2.401	2.400	2.398	2.397	2.396	2.386	2.379		2.83 hrs.
#6	.00431	.00407	.00411	.00404	.00392	.00391	.00388	.00388	.00388	.00405	.00436		
(ufd)	2.536	2.465	2.463	2.462	2.461	2.460	2.458	2.457	2.456	2.446	2.441		3.0 hrs.
#7	.00439	.00400	.00402	.00401	.00389	.00368	.00385	.00385	.00386	.00403	.00435		
(ufd)	2.503	2.436	2.433	2.432	2.431	2.430	2.428	2.427	2.426	2.416	2.410		3.0 hrs.
#8	.00409	.00403	.00405	.00398	.00388	.00386	.00385	.00385	.00388	.00410	.00464		
(ufd)	2.477	2.413	2.411	2.410	2.409	2.408	2.407	2.405	2.404	2.395	2.389		2.83 hrs.
Avg.	.00427	.00391	.00390	.00387	.00377	.00373	.00374	.00374	.00376	.00394	.00440		
(ufd)	2.498	2.431	2.429	2.428	2.427	2.425	2.424	2.423	2.422	2.412	2.405		

DSW 283981

STLCOPCB4065400

Life Test Data – 938-280001 (2x.25 MIL P.P. Film Capacitors)
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°
Voltage	500	750	750	750	750	750	750	750	750
Time, hrs	0	168	336	504	744	912	1080	1248	1416
1X Treated MCS 1238 +0.3% Unox 221 (Impregnated 8-15-72) Capacitors									
#1	.00073	.00115	.00103	.00095	.00091	.00088	.00086	.00085	.00086
(ufd)	2.005	1.945	1.942	1.940	1.938	1.937	1.936	1.936	1.936
#2	.00087	.00129	.00119	.00108	.00100	.00096	.00093	.00091	.00091
(ufd)	1.996	1.932	1.929	1.926	1.924	1.923	1.922	1.921	1.921
#3	.00097	.00142	.00123	.00134	.00105	.00102	.00099	.00098	.00098
(ufd)	1.960	1.898	1.895	1.893	1.892	1.891	1.890	1.890	1.890
#4	.00063	.00132	.00123	.00114	.00108	.00102	.00100	.00098	.00098
(ufd)	2.023	1.961	1.958	1.956	1.954	1.953	1.952	1.951	1.951
#5	.00068	.00135	.00121	.00114	.00110	.00107	.00104	.00102	.00101
(ufd)	1.982	1.924	1.921	1.919	1.917	1.917	1.916	1.915	1.915
#6	.00078	.00124	.00115	.00110	.00106	.00104	.00103	.00102	.00102
(ufd)	1.988	1.931	1.928	1.926	1.924	1.923	1.922	1.921	1.921
#7	.00076	.00140	.00129	.00121	.00116	.00113	.00109	.00108	.00108
(ufd)	1.969	1.908	1.905	1.904	1.902	1.901	1.900	1.900	1.899
#8	.00067	.00122	.00115	.00111	.00107	.00106	.00103	.00103	.00103
(ufd)	1.943	1.887	1.884	1.882	1.880	1.879	1.875	1.877	1.877
Avg.	.00076	.00131	.00119	.00113	.00105	.00102	.00100	.00098	.00098
(ufd)	1.984	1.923	1.920	1.918	1.916	1.916	1.915	1.916	1.914

DSW 283982

STLCOPCB4065401

Life Test Data – 938-280003 (1X .5 Mil P.P.) Film Capacitors

Test Conditions, tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°
Voltage	500	750	750	750	750	750	750	750	750
Time, hrs	0	168	336	504	744	912	1080	1248	1416
1X Treated MCS 1238									
+0.3% Unox 221 (Impregnated 8-22-72) Capacitors									
#1	.00066	.00180	.00130	.00109	.00099	.00093	.00090	.00088	.00087
(ufd)	2.050	1.976	1.975	1.975	1.975	1.976	1.976	1.976	1.977
#2	.00061	.00201	.00147	.00125	.00112	.00104	.00100	.00097	.00096
(ufd)	2.069	1.995	1.994	1.993	1.993	1.993	1.993	1.994	1.995
#3	.00071	.00239	.00171	.00143	.00125	.00117	.00111	.00108	.00106
(ufd)	2.115	2.039	2.038	2.038	2.038	2.038	2.038	2.039	2.039
#4	.00066	.00220	.00162	.00140	.00123	.00115	.00111	.00108	.00106
(ufd)	2.101	2.026	2.024	2.023	2.022	2.023	2.022	2.022	2.023
#5	.00091	.00235	.00172	.00154	.00132	.00125	.00121	.00118	.00116
(ufd)	2.078	2.002	2.001	2.001	2.000	2.001	2.001	2.001	2.002
#6	.00090	.00245	.00179	.00157	.00137	.00128	.00124	.00121	.00118
(ufd)	2.081	2.004	2.003	2.003	2.002	2.002	2.002	2.002	2.003
#7	.00061	.00232	.00170	.00146	.00132	.00125	.00120	.00117	.00115
(ufd)	2.066	1.990	1.989	1.989	1.988	1.989	1.989	1.989	1.990
#8	.00063	.00240	.00178	.00148	.00134	.00126	.00122	.00119	.00118
(ufd)	2.108	2.032	2.031	2.031	2.031	2.032	2.032	2.032	2.033
Avg.	.00072	.00224	.00164	.00140	.00124	.00117	.00112	.00110	.00108
(ufd)	2.084	2.008	2.007	2.007	2.006	2.006	2.007	2.007	2.008

DSW 283983

STLCOPCB4065402

Life Test Data – Metallized Capacitors
Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	70°	70°	70°	70°	70°	70°	70°	80°
Voltage	550	550	550	550	550	550	550	550	550	550
Time, hrs	0	168	336	504	744	912	1080	1248	1416	168
1X Column Treated MIBP (Dixie) +0.3% Unox 221 (Impregnated 8-1-72) Capacitors										
#1	.00062	.00059	.00060	.00059	.00059	.00059	.00059	.00058	.00059	.00060
(ufd)	3.461	3.398	3.397	3.397	3.397	3.397	3.397	3.397	3.397	3.383
#2	.00064	.00071	.00070	.00073	.00070	.00069	.00069	.00069	.00069	.00070
(ufd)	3.494	3.427	3.427	3.427	3.427	3.427	3.426	3.426	3.426	3.412
#3	.00046	.00082	.00082	.00082	.00084	.00081	.00080	.00080	.00081	.00083
(ufd)	3.250	3.188	3.188	3.188	3.188	3.189	3.188	3.188	3.188	3.175
#4	.00042	.00088	.00088	.00094	.00087	.00087	.00086	.00086	.00086	.00089
(ufd)	3.264	3.202	3.202	3.202	3.202	3.203	3.202	3.202	3.202	3.189
#5	.00042	.00093	.00093	.00093	.00092	.00093	.00093	.00093	.00092	.00094
(ufd)	3.484	3.419	3.418	3.419	3.419	3.419	3.418	3.418	3.418	3.405
#6	.00063	.00101	.00101	.00102	.00098	.00098	.00099	.00098	.00099	.00102
(ufd)	3.508	3.443	3.443	3.443	3.443	3.444	3.443	3.443	3.443	3.429
#7	.00029	.00106	.00103	.00104	.00104	.00100	.00099	.00100	.00099	.00105
(ufd)	3.439	3.375	3.374	3.375	3.375	3.375	3.374	3.374	3.374	3.360
#8	.00057	.00105	.00104	.00104	.00103	.00103	.00103	.00103	.00103	.00105
(ufd)	3.403	3.343	3.343	3.343	3.343	3.343	3.343	3.343	3.343	3.329
Avg.	.00051	.00091	.00088	.00089	.00087	.00086	.00086	.00086	.00086	.00089
(ufd)	3.413	3.349	3.349	3.349	3.349	3.350	3.349	3.349	3.349	3.335

STLCOPCB4065403

Life Test Data - 938-280002 (1X.25 MIL P.P.) Film Capacitor

Test Conditions, tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°	
Voltage	500	550	
Time, hrs.	0	168	
MCS 1238	.00049		
+ 0.3% Unox 221	1.909		
		0.91 hrs.	86.91
		0.91	94.41
		2.0	
		6.91	

DSW 283985

STLCOPCB4065404

Life Test Data – 938-280002(P.P.) Film Capacitors

Test Conditions, Tan δ, Capacitance, Failure Times

Test Started 10-6-72

Temp, °C	RT	70°
Voltage	500	550
Time, hrs	0	168

MCS 1238
+ Unox 221
(Impregnated 8-17-72)
Capacitors

#1	.00043	
(ufd)	1.934	94.41 hrs
#2	Shorted @ 300V	
#3	Shorted before applying Voltage	
#4	.00046	
(ufd)	1.948	0.91 hrs.
#5	.00042	
(ufd)	1.848	86.91 hrs.
#6	.00077	
(ufd)	1.925	6.91 hrs.
#7	.00043	
(ufd)	1.861	0.91 hrs.
#8	.00043	
(ufd)	1.935	2.0 hrs.
Avg.	.00049	
(ufd)	1.909	

DSW 283986

STLCOPCB4065405