

Appendix 4 Table II: Laboratory Data from FAA Small Transport Wire Test Program

Sample I.D.	Wire Location in Cable Bundle	Sample Length in Inches	Wire Specification Type	Wire Specification Criteria Used	AWG	Conductor Diameter (in)	Finished Wire Diameter			Conductor Resistance (at Room Temperature)			Insulation Resistance (IR) (500 VDC)			Dielectric Withstand (DWV)		DWV after 2500 Vrms	IR after DWV	Cut Through at Room Temp (lbs)	Insulation Tensile & Elongation		Mandrel Bend/DWV **		Mandrel bend/DWV after Lifecycle **	Chemical Analysis Results	Comments		
							Outer Insulation O.D. (in)	Minimum Finished Wire O.D. (in) *	Maximum Finished Wire O.D. (in) *	Max Resistance (ohms/1000 ft)	Actual Resistance (ohms/1000 ft) @ 20°C	Pass/Fail	Minimum Resistance (Megohms/1000 ft)	Measured Resistance (Megohms/1000 ft)	Pass/Fail	Test Voltage rms	DWV (P/F)				Tensile Strength (lbs/in ²)	Elongation at Break (%)	Visual Cracks? (y/n)	DWV (P/F)?				Visual Cracks? (y/n)	DWV (P/F)?
A-01-1	Inner	46	unknown	5086/2-22	22	0.030	0.076	0.070	0.080	16.2	14.28	Pass	4.00E+07	4.15E+08	Pass	2000	PASS		138			N	P	N	P				
A-01-2	Outer	46	unknown	5086/2-20	20	0.039	0.084	0.080	0.090	9.88	8.92	Pass	5.00E+07	7.77E+08	Pass	2000	PASS		148	4505	370	N	P	Y*	P				
A-01-3	Outer	46	unknown	5086/1-22	22	0.030	0.059	0.064	0.072	16.2	13.47	Pass	5.00E+08	1.84E+09	Pass	2000	PASS	PASS	2.222E+09	117	4177	145	N	P	N	P			
A-01-4	Inner	46	unknown	5086/1-22	22	0.031	0.059	0.064	0.072	16.2	13.51	Pass	5.00E+08	1.46E+09	Pass	2000	PASS	PASS	1.26E+09	107	3321	135	N	P	N	P			
A-01-5	Outer	46	unknown	5086/1-22	22	0.030	0.059	0.064	0.072	16.2	13.44	Pass	5.00E+08	7.21E+08	Pass	2000	FAIL												
A-05-1	Outer	34	unknown	5086/1-20	20		0.074	0.082	9.88	9.00	Pass	5.00E+08	3.50E+09	Pass	2000	PASS	PASS	2.95E+09	287	3252	235	N	P	N	P				
A-05-2	Outer	34	unknown	5086/1-22	22	0.027	0.052	0.064	0.072	16.2	14.99	Pass	5.00E+08	1.63E+09	Pass	2000	PASS			3800	335	N	P	N	P				
A-05-3	Inner	34	unknown	5086/1-22	22	0.027	0.052	0.064	0.072	16.2	15.07	Pass	5.00E+08	1.77E+09	Pass	2000	PASS					N	P	N	P				
A-05-4	Inner	34	unknown	5086/1-22	22	0.025	0.052	0.064	0.072	16.2	15.09	Pass	5.00E+08	1.17E+09	Pass	2000	PASS			3170	300	N	P	N	P				
A-05-5	Inner	34	unknown	5086/1-22	22		0.064	0.072	16.2	15.09	Pass	5.00E+08	2.29E+08	Fail	2000	PASS	PASS	1.17E+09	41.2	3531	285	N	P	N	P				
A-15-1	Outer	32	unknown	5086/1-20	20		0.074	0.082	9.88	9.11	Pass	5.00E+08	3.81E+09	Pass	2000	PASS	PASS	1.56E+01				Y	F						
A-15-2	Outer	32	unknown	5086/1-22	22		0.064	0.072	16.2	14.90	Pass	5.00E+08	3.58E+09	Pass	2000	PASS	FAIL					N	P	N	P				
A-15-3	Inner	32	unknown	5086/1-22	22		0.058	0.064	0.072	16.2	14.96	Pass	5.00E+08	4.00E+09	Pass	2000	PASS			2349 *	31 *	N	P	N	P		Pinhole near middle of specimen (passed DWV).		
A-15-4	Inner	32	unknown	5086/1-22	22		0.064	0.072	16.2	14.95	Pass	5.00E+08	2.01E+09	Pass	2000	PASS	PASS	2.34E+09	70	3051	125	N	P	N	P				
A-15-5	Inner	32	unknown	5086/1-22	22	0.024	0.058	0.064	0.072	16.2	14.90	Pass	5.00E+08	2.49E+09	Pass	2000	PASS			54	2314 *	32 *	N	P	N	P			
A-16-1	Outer	33	unknown	5086/1-22	22		0.064	0.072	16.2	15.15	Pass	5.00E+08	2.44E+07	Fail	2000	PASS													
A-16-2	Outer	33	unknown	5086/1-22	22		0.064	0.072	16.2	13.52	Pass	5.00E+08	2.39E+07	Fail	2000	PASS	PASS	9.46E+08				N	P						
A-16-3	Inner	33	unknown	5086/1-22	22	0.024	0.058	0.064	0.072	16.2	15.02	Pass	5.00E+08	2.01E+08	Fail	2000	PASS	PASS	2.149E+09	89.2	2674	120	N	P	N	P			
A-16-4	Inner	33	unknown	5086/1-22	22	0.024	0.059	0.064	0.072	16.2	15.13	Pass	5.00E+08	2.21E+06	Fail	2000	PASS						N	P	N	P			
A-16-5	Inner	33	unknown	5086/1-22	22	0.026	0.059	0.064	0.072	16.2	15.01	Pass	5.00E+08	2.82E+07	Fail	2000	PASS			70.9	2417 *	37 *	N	P	N	P			
A-17-6	Indeterminate	40	unknown	5086/1-22	22										2000	PASS											Pink discoloration, Stearates present.	Cracked jacket at discolored areas	
B01	Single Wire	255	unknown	5086/2-10	10		0.182	0.196	1.26	0.98	Pass	4.00E+07	3.26E+07	Fail	2000	PASS	PASS	5.59E+02	2445	3026	285	N	P	N	P				
B02	Single Wire	80	unknown	5086/2-10	10		0.155	0.182	0.196	1.26	0.68	Pass	4.00E+07	1.14E+07	Fail	2000	PASS					3490	335	N	P	N	P		
B03	Single Wire	215	unknown	5086/2-10	10		0.157	0.182	0.196	1.26	1.02	Pass	4.00E+07	3.97E+07	Fail	2000	PASS					3095	340	N	P	N	P	ester based hydrocarbon	Conductor heavily corroded
B04	Single Wire	80	unknown	5086/2-10	10		0.182	0.196	1.26	0.98	Pass	4.00E+07	1.14E+07	Fail	2000	PASS													
B05	Single Wire	76	unknown	5086/2-10	10		0.157	0.182	0.196	1.26	0.52	Pass	4.00E+07	3.89E+04	Fail	2000	PASS					3270	380	N	P	N	P		
C-09-1	Outer	105	M22759/16	22759/16	20		0.060	0.058	0.062	9.88	9.19	Pass	5.00E+09	1.625E+11	Pass	2200	PASS	PASS	7.56E+10	84	7854	405	N	P	N	P			
C-09-2	Outer	110	M22759/16	22759/16	20	0.038	0.060	0.058	0.062	9.88	9.18	Pass	5.00E+09	2.538E+11	Pass	2200	PASS			75.6	7190	670	N	P	Y*	P			
C-09-3	Inner	118	M22759/16	22759/16	20	0.038	0.061	0.058	0.062	9.88	9.07	Pass	5.00E+09	2.373E+11	Pass	2200	PASS			74.5	6670	340	N	P	Y*	P			
C-09-4	Inner	110	M22759/16	22759/16	20		0.058	0.062	9.88	9.05	Pass	5.00E+09	1.776E+11	Pass	2200	PASS	PASS	7.8E+10	129	6907	280	N	P	N	P				
C-09-5	Indeterminate		M22759/16	22759/16	20		0.058	0.062	9.88	-		5.00E+09	-		2200	PASS *											ester based hydrocarbon	Wire scraped, conductor exposed (not tested IR, DWV). Pinched area passed DWV.	
C-09-6	Indeterminate	60	M22759/16	22759/16	20		0.060	0.058	0.062	9.88	9.23	Pass	5.00E+09	1.275E+10	Pass	2200	PASS *										ester based hydrocarbon	Wire scraped, conductor exposed (not tested IR, DWV). Pinched area passed DWV.	
C-20-1	Indeterminate	435	unknown	81381	22	0.025	0.042	0.043	16.2	4.97	Pass	2.50E+09	4.28E+10	Pass	2500	PASS			>104*				N	P	N	P			
C-20-2	Indeterminate	165	unknown	81381	22	0.025	0.043	0.043	16.2	10.93	Pass	2.50E+09	1.196E+10	Pass	2500	PASS							N	P	N	P			
C-20-3	Indeterminate	395	unknown	81381	22	0.023	0.041	0.041	16.2	5.50	Pass	2.50E+09	2.57E+10	Pass	2500	PASS			>102*				N	P	N	P			
C-20-4	Indeterminate	165	unknown	81381	22	0.025	0.042	0.042	16.2	10.62	Pass	2.50E+09	1.585E+10	Pass	2500	PASS							N	P	N	P			
C-29-1	Inner	98	M22759/16	22759/16	16	0.054	0.078	0.077	0.081	4.81	4.56	Pass	5.00E+09	1.48E+05	Fail	2200	FAIL			7150	730	N	P	Y*	P				
C-29-2	Inner	62	M22759/16	22759/16	12		0.111	0.117	2.02	1.93	Pass	5.00E+09	1.10E+11	Pass	2200	PASS	PASS	3.39E+10	93	5632	270	N	P	N	P				
C-29-3	Inner	60	M22759/16	22759/16	12	0.084	0.129	0.111	2.02	1.91	Pass	5.00E+09	8.79E+10	Pass	2200	PASS					5720	535	N	P	N	P			
C-29-4	Outer	95	M22759/16	22759/16	22		0.05	0.054	16.2	14.61	Pass	5.00E+09	1.07E+11	Pass	2200	PASS	PASS	4.86E+10	116	6351	275	N	P	N	P				
C-29-5	Outer	49	M22759/16	22759/16	20	0.038	0.058	0.062	9.88	9.42	Pass	5.00E+09	4.15E+10	Pass	2200	PASS					8630	740	N	P	Y*	P			
C-30-1	Undocumented	160	M22759/16	22759/16	20		0.058	0.062	9.88	8.89	Pass	5.00E+09	2.03E+11	Pass	2200	PASS													
C-30-2	Undocumented	160	M22759/16	22759/16	22		0.05	0.054	16.2	10.58	Pass	5.00E+09	29.23	Fail	2200	FAIL													
C-30-3	Undocumented	245	M22759/16	22759/16	22		0.05	0.054	16.2	7.75	Pass	5.00E+09	5.963E+11	Pass	2200	PASS													
C-30-4	Undocumented	128	M22759/16	22759/16	22		0.05	0.054	16.2	15.38	Pass	5.00E+09	17.89	Fail	2200	FAIL													
C-30-5	Undocumented	305	M22759/16	22759/16	22		0.05	0.054	16.2	6.64	Pass	5.00E+09	4.218E+11	Pass	2200	PASS													
C-30-6	Undocumented	305	M22759/16	22759/16	22		0.05	0.054	16.2	6.65	Pass	5.00E+09	1.7354	Fail	2200	FAIL													
C-31-1	Undocumented	120	M22759/16	22759/16	22		0.05																						