**COMPATIBILITY OF REFRIGERANTS
AND LUBRICANTS
WITH MOTOR MATERIALS
UNDER RETROFIT CONDITIONS**

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Final Report

Volume II

DATA TABLES, HIGH PRESSURE REFRIGERANTS

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October 1996

Prepared for
**The Air-Conditioning and Refrigeration
Technology Institute**
Under
ARTI MCLR Project Number 655-50400

This research project is supported, in whole or in part, by U.S. Department of Energy grant DE-FG02-91CE23810: Materials Compatibility and Lubricants Research (MCLR) on CFC-Refrigerant Substitutes. Federal funding supporting this project constitutes 93.57% of allowable costs. Funding from non-government sources supporting this project consists of direct cost sharing of 6.43% of allowable costs; and in-kind contributions from the air-conditioning and refrigeration industry.

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FORMAT FOR THE FINAL REPORT

Because of the large scope of this project and the large amount of data recorded, the final report is divided into four volumes.

Volume I (148 pages) contains the abstract, introduction, significant results, conclusions, material identification, experimental procedures and summary data tables. This volume provides the results of the study and other information of interest to most readers. The other volumes are necessary only if the reader is interested in the individual data measurements rather than summaries or averages of the data sets.

Volume II (250 pages) contains the measurements from tests on the three high pressure refrigerant-lubricant combinations and their alternatives.

Original Refrigerant	Alternative Refrigerant	Exposure Temperature
R-12/Mineral Oil	R-134a/Polyol Ester	127°C (260°F)
R-22/Mineral Oil	R-407C/Polyol Ester	127°C (260°F)
R-502/Mineral Oil	R-404A/Polyol Ester	127°C (260°F)

Volume III (155 pages) contains the measurements from tests on the three low pressure refrigerant-lubricant combinations and their alternatives.

Original Refrigerant	Alternative Refrigerant	Exposure Temperature
R-11/Mineral Oil	R-123/Mineral Oil	100°C (212°F)
R-11/Mineral Oil	R-245ca/Polyol Ester	100°C (212°F)
R-123/Mineral Oil	R-245ca/Polyol Ester	100°C (212°F)

Volume IV (44 pages) contains the photographs of the motor materials after exposure to the six refrigerant-lubricant combinations and their alternatives.

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COMPATIBILITY OF REFRIGERANTS AND LUBRICANTS WITH MOTOR MATERIALS UNDER RETROFIT CONDITIONS

Robert G. Doerr and Todd D. Waite
The Trane Company.

ABSTRACT

Compatibility tests were conducted on motor materials to determine if exposure to the original refrigerant/mineral oil would affect compatibility of the motor materials after retrofit to the alternative refrigerant/lubricant. The motor materials were exposed at elevated temperature to the original refrigerant and mineral oil for 500 hours, followed by exposure to the alternative refrigerant and lubricant for 500 hours. Measurements were also taken after 168 and 336 hours. As a control, some samples were exposed to the original refrigerant/mineral oil for a total of 1000 hours. The original refrigerants and the alternatives tested for retrofit were as follows:

Original Refrigerant	Alternative Refrigerant	Exposure Temperature
R-12/Mineral Oil	R-134a/Polyol Ester	127°C (260°F)
R-22/Mineral Oil	R-407C/Polyol Ester	127°C (260°F)
R-502/Mineral Oil	R-404A/Polyol Ester	127°C (260°F)
R-11/Mineral Oil	R-123/Mineral Oil	100°C (212°F)
R-11/Mineral Oil	R-245ca/Polyol Ester	100°C (212°F)
R-123/Mineral Oil	R-245ca/Polyol Ester	100°C (212°F)

Most motor materials exposed to the alternative refrigerant and lubricant (after an initial exposure to the original refrigerant and mineral oil) were compatible with the alternative refrigerant and lubricant. The only concern was delamination and blistering of the sheet insulation containing Nomex, especially after removal of absorbed refrigerant. This was attributed to solution of the adhesive and not to the Nomex itself. Embrittlement of the polyethylene terephthalate (PET) found in Mylar and Melinex sheet and sleeving insulations was initially observed, but subsequent tests under dry conditions showed that embrittlement of the PET materials was caused by moisture present during the exposure.

Compatibility tests of elastomers with R-245ca, retrofitted from R-11 and R-123, showed that the nitrile was compatible with both R-11 and R-245ca, but not with R-123. The neoprene was unsatisfactory because of shrinkage in the R-245ca.

Data Tables

Part 1

**R-12/Mineral Oil to
R-134a/Polyolester**

Varnished Disks

500 HRS IN R-12/MINERAL OIL @ 260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.7365	0.2407	0.7035	0.2440
2	0.6154	0.2012	0.5891	0.2033
3	0.6259	0.2049	0.5998	0.2075

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.6343	0.5878	-4.48%	-7.32%
2	0.5299	0.4935	-4.27%	-6.86%
3	0.5386	0.5019	-4.17%	-6.82%
		AVERAGE	-4.31%	-7.00%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.9572	0.3183	0.9692	0.3338
2	0.8450	0.2814	0.8564	0.2958
3	0.5789	0.1933	0.5903	0.2049

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.8173	0.8128	1.25%	-0.55%
2	0.7210	0.7172	1.35%	-0.53%
3	0.4933	0.4930	1.97%	-0.05%
		AVERAGE	1.52%	-0.38%

Varnished Disks

1000 HRS IN R-12/MINERAL OIL @ 260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.7365	0.2407	0.7109	0.2469
2	0.6154	0.2012	0.5969	0.2068
3	0.6259	0.2049	0.6067	0.2105

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.6343	0.5936	-3.48%	-6.41%
2	0.5299	0.4990	-3.01%	-5.82%
3	0.5386	0.5068	-3.07%	-5.89%
		AVERAGE	-3.18%	-6.04%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.9572	0.3183	0.9703	0.3346
2	0.8450	0.2814	0.8585	0.2965
3	0.5789	0.1933	0.5907	0.2048

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.8173	0.8132	1.37%	-0.50%
2	0.7210	0.7189	1.60%	-0.28%
3	0.4933	0.4937	2.04%	0.08%
		AVERAGE	1.67%	-0.24%

Varnished Disks

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.8992	0.2926	0.8340	0.2868
2	0.7703	0.2515	0.7242	0.2488
3	0.5135	0.1685	0.4930	0.1698

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.7760	0.7000	-7.25%	-9.79%
2	0.6637	0.6082	-5.98%	-8.37%
3	0.4413	0.4135	-3.99%	-6.32%
		AVERAGE	-5.74%	-8.16%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5510	0.1836	0.5615	0.1940
2	0.8744	0.2905	0.8875	0.3059
3	0.9584	0.3189	0.9715	0.3347

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.4700	0.4701	1.91%	0.03%
2	0.7470	0.7440	1.50%	-0.39%
3	0.8181	0.8146	1.37%	-0.42%
		AVERAGE	1.59%	-0.26%

Varnished Disks

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.8992	0.2926	0.8324	0.2855
2	0.7703	0.2515	0.7235	0.2470
3	0.5135	0.1685	0.4926	0.1696

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.7760	0.6996	-7.43%	-9.84%
2	0.6637	0.6096	-6.08%	-8.15%
3	0.4413	0.4132	-4.07%	-6.38%
		AVERAGE	-5.86%	-8.12%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5510	0.1836	0.5610	0.1939
2	0.8744	0.2905	0.8868	0.3062
3	0.9584	0.3189	0.9702	0.3347

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.4700	0.4696	1.81%	-0.08%
2	0.7470	0.7427	1.42%	-0.57%
3	0.8181	0.8130	1.23%	-0.63%
		AVERAGE	1.49%	-0.42%

Varnished Disks

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.8992	0.2926	0.8313	0.2855
2	0.7703	0.2515	0.7193	0.2473
3	0.5135	0.1685	0.4908	0.1690

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.7760	0.6982	-7.55%	-10.02%
2	0.6637	0.6038	-6.62%	-9.02%
3	0.4413	0.4117	-4.42%	-6.72%
		AVERAGE	-6.20%	-8.59%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5510	0.1836	0.5605	0.1936
2	0.8744	0.2905	0.8854	0.3051
3	0.9584	0.3189	0.9696	0.3342

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	% Change in Weight	% Change in Volume
1	0.4700	0.4694	1.72%	-0.14%
2	0.7470	0.7424	1.26%	-0.62%
3	0.8181	0.8128	1.17%	-0.64%
		AVERAGE	1.38%	-0.46%

500 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	50.95	-5.78%
	51.25	49.50	
	52.50	58.65	
	64.45	50.60	
	60.35	60.25	
Average	57.30	53.99	
Wire Type A coated with 923	95.90	29.05	-58.18%
	59.60	29.95	
	52.95	27.10	
	56.35	26.45	
	68.40	26.80	
Average	66.64	27.87	
Wire Type B coated with Iso-800	58.25	48.20	-4.82%
	53.35	48.55	
	52.30	58.90	
	54.25	55.15	
	56.95	51.05	
Average	55.02	52.37	
Wire Type B coated with 923	72.40	52.85	-29.36%
	69.20	38.95	
	71.65	43.70	
	75.80	57.10	
	63.50	56.45	
Average	70.51	49.81	

Wire Type A is Polyester base with amide imide overcoat
Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	61.45	4.22%
	51.25	63.45	
	52.50	58.40	
	64.45	55.15	
	60.35	60.15	
	Average 57.30	59.72	
Wire Type A coated with 923	95.90	33.20	-51.13%
	59.60	31.25	
	52.95	37.75	
	56.35	30.00	
	68.40	30.65	
	Average 66.64	32.57	
Wire Type B coated with Iso-800	58.25	48.35	-4.67%
	53.35	43.95	
	52.30	56.80	
	54.25	54.45	
	56.95	58.70	
	Average 55.02	52.45	
Wire Type B coated with 923	72.40	67.05	-7.13%
	69.20	69.70	
	71.65	66.10	
	75.80	54.65	
	63.50	69.90	
	Average 70.51	65.48	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	62.35	10.38%
	51.25	67.60	
	52.50	65.90	
	64.45	61.75	
	60.35	58.65	
	Average 57.30	63.25	
Wire Type A coated with 923	95.90	25.70	-57.59%
	59.60	37.95	
	52.95	25.60	
	56.35	27.15	
	68.40	24.90	
	Average 66.64	28.26	
Wire Type B coated with Iso-800	58.25	56.95	-4.03%
	53.35	48.70	
	52.30	53.40	
	54.25	52.05	
	56.95	52.90	
	Average 55.02	52.80	
Wire Type B coated with 923	72.40	27.40	-56.70%
	69.20	30.20	
	71.65	29.25	
	75.80	36.25	
	63.50	29.55	
	Average 70.51	30.53	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-12/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	67.15	8.87%
	51.25	64.05	
	52.50	54.55	
	64.45	64.75	
	60.35	61.40	
	Average 57.30	62.38	
Wire Type A coated with 923	95.90	50.65	-28.39%
	59.60	37.20	
	52.95	51.55	
	56.35	48.75	
	68.40	50.45	
	Average 66.64	47.72	
Wire Type B coated with Iso-800	58.25	59.15	31.26%
	53.35	67.30	
	52.30	72.35	
	54.25	68.20	
	56.95	94.10	
	Average 55.02	72.22	
Wire Type B coated with 923	72.40	72.45	1.52%
	69.20	74.70	
	71.65	61.45	
	75.80	71.20	
	63.50	78.10	
	Average 70.51	71.58	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F**168 HRS IN R-134a/POLYOLESTER @ 260 F**

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	46.80	-4.01%
	51.25	57.60	
	52.50	51.50	
	64.45	63.60	
	60.35	55.50	
Average	57.30	55.00	
Wire Type A coated with 923	95.90	28.35	-56.23%
	59.60	28.40	
	52.95	28.05	
	56.35	29.55	
	68.40	31.50	
Average	66.64	29.17	
Wire Type B coated with Iso-800	58.25	51.40	-4.53%
	53.35	57.80	
	52.30	48.45	
	54.25	45.10	
	56.95	59.90	
Average	55.02	52.53	
Wire Type B coated with 923	72.40	40.75	-23.03%
	69.20	56.75	
	71.65	60.35	
	75.80	68.05	
	63.50	45.45	
Average	70.51	54.27	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F
24 HR BAKE @ 302 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	70.20	30.33%
	51.25	60.25	
	52.50	96.90	
	64.45	74.95	
	60.35	71.10	
Average	57.30	74.68	
Wire Type A coated with 923	95.90	47.45	-34.33%
	59.60	35.40	
	52.95	49.00	
	56.35	48.45	
	68.40	38.50	
Average	66.64	43.76	
Wire Type B coated with Iso-800	58.25	57.50	6.32%
	53.35	56.95	
	52.30	59.65	
	54.25	61.10	
	56.95	57.30	
Average	55.02	58.50	
Wire Type B coated with 923	72.40	70.35	0.94%
	69.20	67.55	
	71.65	61.35	
	75.80	74.61	
	63.50	82.00	
Average	70.51	71.17	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	73.00	19.28%
	51.25	67.20	
	52.50	58.25	
	64.45	75.60	
	60.35	67.70	
Average	57.30	68.35	
Wire Type A coated with 923	95.90	29.25	-53.77%
	59.60	37.80	
	52.95	38.15	
	56.35	35.55	
	68.40	13.30	
Average	66.64	30.81	
Wire Type B coated with Iso-800	58.25	63.65	19.28%
	53.35	91.90	
	52.30	65.55	
	54.25	56.00	
	56.95	51.05	
Average	55.02	65.63	
Wire Type B coated with 923	72.40	53.70	-16.99%
	69.20	55.40	
	71.65	67.85	
	75.80	67.40	
	63.50	48.30	
Average	70.51	58.53	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

Helical Coils

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	49.85	<div>-13.56%</div>
	51.25	60.90	
	52.50	62.95	
	64.45	37.70	
	60.35	36.25	
Average	57.30	49.53	
Wire Type A coated with 923	95.90	32.55	<div>-57.35%</div>
	59.60	28.05	
	52.95	30.95	
	56.35	28.40	
	68.40	22.15	
Average	66.64	28.42	
Wire Type B coated with Iso-800	58.25	46.60	<div>-32.33%</div>
	53.35	32.30	
	52.30	29.20	
	54.25	46.85	
	56.95	31.20	
Average	55.02	37.23	
Wire Type B coated with 923	72.40	63.05	<div>-21.19%</div>
	69.20	74.50	
	71.65	43.95	
	75.80	40.90	
	63.50	55.45	
Average	70.51	55.57	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	54.45	3.49%
	51.25	58.65	
	52.50	68.40	
	64.45	58.60	
	60.35	56.40	
Average	57.30	59.30	
Wire Type A coated with 923	95.90	36.20	-50.45%
	59.60	36.40	
	52.95	29.65	
	56.35	30.70	
	68.40	32.15	
Average	66.64	33.02	
Wire Type B coated with Iso-800	58.25	49.75	-11.87%
	53.35	49.60	
	52.30	53.25	
	54.25	43.75	
	56.95	46.10	
Average	55.02	48.49	
Wire Type B coated with 923	72.40	36.50	-48.67%
	69.20	23.95	
	71.65	32.25	
	75.80	57.35	
	63.50	30.90	
Average	70.51	36.19	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	51.65	2.93%
	51.25	50.10	
	52.50	54.25	
	64.45	73.55	
	60.35	65.35	
Average	57.30	58.98	
Wire Type A coated with 923	95.90	44.05	-44.66%
	59.60	33.25	
	52.95	33.50	
	56.35	30.85	
	68.40	42.75	
Average	66.64	36.88	
Wire Type B coated with Iso-800	58.25	52.50	0.75%
	53.35	63.35	
	52.30	51.20	
	54.25	57.20	
	56.95	52.90	
Average	55.02	55.43	
Wire Type B coated with 923	72.40	63.10	-3.46%
	69.20	53.70	
	71.65	76.40	
	75.80	67.00	
	63.50	80.15	
Average	70.51	68.07	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type /Varnish	Unexposed Bond Strengths (Pounds(lbs.))	Experimental Bond Strengths (Pounds(lbs.))	% Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	51.65	2.93%
	51.25	50.10	
	52.50	54.25	
	64.45	73.55	
	60.35	65.35	
Average	57.30	58.98	
Wire Type A coated with 923	95.90	44.05	-44.66%
	59.60	33.25	
	52.95	33.50	
	56.35	30.85	
	68.40	42.75	
Average	66.64	36.88	
Wire Type B coated with Iso-800	58.25	52.50	0.75%
	53.35	63.35	
	52.30	51.20	
	54.25	57.20	
	56.95	52.90	
Average	55.02	55.43	
Wire Type B coated with 923	72.40	63.10	-3.46%
	69.20	53.70	
	71.65	76.40	
	75.80	67.00	
	63.50	80.15	
Average	70.51	68.07	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

Unvarnished Magnet Wire

500 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A	16.40	16.80	10.19%	518	320	-51.89%
	15.10	16.89		577	242	
	14.37	15.74		569	335	
	15.70	17.51		555	221	
	14.66	17.06		556	217	
Average	15.25	16.80		555	267	
Wire Type B	15.24	17.40	29.69%	576	209	-65.71%
	14.63	17.55		580	203	
	14.06	17.69		595	181	
	12.60	17.10		592	235	
	10.60	17.32		576	173	
Average	13.43	17.41		584	200	

1000 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type A	16.40	16.72	7.31%	518	358	-44.97%
	15.10	17.08		577	309	
	14.37	15.97		569	427	
	15.70	16.52		555	330	
	14.66	15.51		556	103	
Average	15.25	16.36		555	305	
Wire Type B	15.24	17.00	29.76%	576	278	-59.23%
	14.63	17.33		580	235	
	14.06	16.74		595	214	
	12.60	17.84		592	259	
	10.60	18.20		576	204	
Average	13.43	17.42		584	238	

500 HRS IN R-12/MINERAL OIL @ 260 F

168 HRS IN R-134a/POLYOLESTER @ 260 F

Wire Type A	16.40	15.85	2.68%	518	452	-28.94%
	15.10	16.88		577	442	
	14.37	15.04		569	287	
	15.70	15.22		555	428	
	14.66	15.28		556	363	
Average	15.25	15.65		555	394	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Unvarnished Magnet Wire

500 HRS IN R-12/MINERAL OIL @ 260 F

168 HRS IN R-134a/POLYOLESTER @ 260 F

Wire Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric % Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout % Change
Wire Type B	15.24	17.33	24.79%	576	355	-36.42%
	14.63	15.99		580	439	
	14.06	16.81		595	444	
	12.60	16.23		592	373	
	10.60	17.41		576	245	
Average	13.43	16.75		584	371	

500 HRS IN R-12/MINERAL OIL @ 260 F

336 HRS IN R-134a/POLYOLESTER @260 F

Wire Type A	16.40	15.92	9.56%	518	557	-11.60%
	15.10	17.40		577	428	
	14.37	16.95		569	517	
	15.70	16.70		555	496	
	14.66	16.55		556	455	
Average	15.25	16.70		555	491	
Wire Type B	15.24	16.60	21.06%	576	384	-22.23%
	14.63	16.86		580	476	
	14.06	15.66		595	475	
	12.60	15.40		592	462	
	10.60	16.75		576	473	
Average	13.43	16.25		584	454	

500 HRS IN R-12/MINERAL OIL @ 260 F

500 HRS IN R-134a/POLYOLESTER @260 F

Wire Type A	16.40	11.74	-2.61%	518	502	-10.02%
	15.10	15.62		577	439	
	14.37	15.91		569	550	
	15.70	13.93		555	556	
	14.66	17.04		556	450	
Average	15.25	14.85		555	499	
Wire Type B	15.24	16.26	26.23%	576	522	-16.68%
	14.63	16.72		580	554	
	14.06	17.08		595	449	
	12.60	17.18		592	542	
	10.60	17.50		576	365	
Average	13.43	16.95		584	486	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.78		569	305	
	18.18	16.55		586	390	
	17.00	18.70	16.11%	487	237	-40.12%
	18.27	19.37		483	386	
	11.90	18.35		557	288	
Average	15.98	18.55		536	321	
Wire Type A coated with 923	19.93	19.77		652	278	
	16.91	19.65		653	320	
	16.82	19.63	14.85%	642	260	-51.05%
	14.36	19.96		547	336	
	17.01	18.65		564	303	
Average	17.01	19.53		612	299	
Wire Type B coated with Iso-800	18.19	19.89		590	250	
	19.70	18.60		494	210	
	18.41	18.33	-0.03%	457	199	-56.58%
	19.73	19.99		594	298	
	18.35	17.54		578	221	
Average	18.88	18.87		543	236	
Wire Type B coated with 923	19.76	19.99		631	253	
	19.71	19.99		423	248	
	19.85	19.99	-0.14%	688	254	-55.47%
	19.71	18.83		395	245	
	19.90	19.99		643	238	
Average	19.79	19.76		556	248	

Wire Type A is Polyester base with amide imide overcoat
Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

1000 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	17.33		569	478	
	18.18	19.75		586	455	
	17.00	15.18	15.21%	487	455	-15.18%
	18.27	19.93		483	458	
	11.90	19.84		557	429	
Average	15.98	18.41		536	455	
Wire Type A coated with 923	19.93	19.99		652	328	
	16.91	19.76		653	341	
	16.82	19.99	17.09%	642	332	-43.07%
	14.36	19.91		547	336	
	17.01	bad sample		564	404	
Average	17.01	19.91		612	348	
Wire Type B coated with Iso-800	18.19	19.48		590	268	
	19.70	19.69		494	289	
	18.41	19.84	3.00%	457	240	-50.83%
	19.73	18.21		594	255	
	18.35	19.99		578	282	
Average	18.88	19.44		543	267	
Wire Type B coated with 923	19.76	19.98		631	346	
	19.71	19.83		423	273	
	19.85	18.09	-1.22%	688	305	-45.11%
	19.71	19.83		395	300	
	19.90	19.99		643	302	
Average	19.79	19.54		556	305	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-12/MINERAL OIL @ 260 F

168 HRS IN R-134a/POLYOLESTER @ 260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	17.54		569	489	
	18.18	19.90		586	347	
	17.00	16.17	12.59%	487	399	-18.42%
	18.27	16.87		483	498	
	11.90	19.46		557	455	
Average	15.98	17.99		536	438	
Wire Type A coated with 923	19.93	18.59		652	324	
	16.91	19.99		653	400	
	16.82	19.99	15.57%	642	583	-30.09%
	14.36	19.88		547	412	
	17.01	19.82		564	419	
Average	17.01	19.65		612	428	
Wire Type B coated with Iso-800	18.19	19.99		590	503	
	19.70	19.95		494	478	
	18.41	19.92	5.65%	457	376	-5.31%
	19.73	19.99		594	605	
	18.35	19.86		578	607	
Average	18.88	19.94		543	514	
Wire Type B coated with 923	19.76	19.99		631	233	
	19.71	19.99		423	311	
	19.85	19.99	1.03%	688	260	-52.01%
	19.71	19.99		395	286	
	19.90	19.99		643	244	
Average	19.79	19.99		556	267	

Wire Type A is Polyester base with amide imide overcoat
Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-12/MINERAL OIL @ 260 F

336 HRS IN R-134a/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.99		569	564	
	18.18	16.45		586	550	
	17.00	14.85	14.23%	487	545	2.76%
	18.27	19.99		483	600	
	11.90	19.97		557	497	
Average	15.98	18.25		536	551	
Wire Type A coated with 923	19.93	16.30		652	482	
	16.91	19.93		653	468	
	16.82	19.82	11.77%	642	471	-17.96%
	14.36	19.98		547	586	
	17.01			564		
Average	17.01	19.01		612	502	
Wire Type B coated with Iso-800	18.19	19.99		590	409	
	19.70	17.02		494	331	
	18.41	17.05	-2.20%	457	313	-38.70%
	19.73	18.99		594	309	
	18.35	19.25		578	301	
Average	18.88	18.46		543	333	
Wire Type B coated with 923	19.76	19.82		631	559	
	19.71	19.83		423	533	
	19.85	19.77	-0.64%	688	549	-0.36%
	19.71	19.99		395	572	
	19.90	18.89		643	557	
Average	19.79	19.66		556	554	

Wire Type A is Polyester base with amide imide overcoat
Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-12/MINERAL OIL @ 260 F

500 HRS IN R-134a/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.74		569	558	
	18.18	18.90		586	579	
	17.00	19.72	13.86%	487	554	5.93%
	18.27	16.49		483	578	
	11.90	16.10		557	572	
Average	15.98	18.19		536	568	
Wire Type A coated with 923	19.93	19.91		652	573	
	16.91	19.99		653	574	
	16.82	17.59	13.77%	642	592	-4.38%
	14.36	19.90		547	592	
	17.01			564	593	
Average	17.01	19.35		612	585	
Wire Type B coated with Iso-800	18.19	19.93		590	578	
	19.70	19.99		494	562	
	18.41	16.23	-6.40%	457	564	5.05%
	19.73	19.10		594	568	
	18.35	13.09		578	578	
Average	18.88	17.67		543	570	
Wire Type B coated with 923	19.76	19.99		631	618	
	19.71	19.93		423	673	
	19.85	19.96	-2.96%	688	599	7.48%
	19.71	16.14		395	516	
	19.90	19.98		643	582	
Average	19.79	19.20		556	598	

Wire Type A is Polyester base with amide imide overcoat
Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F

Lead Wire Insulation Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric % Change
Polyester Composite	10.87	7.59	
Dacron-Mylar-Dacron	10.82	8.77	-13.82%
	7.62	8.90	
Average	9.77	8.42	
Polyester, Fluoropolymer Composite	10.78	11.00	
	9.24	11.59	10.76%
Dacron-Teflon-Dacron	10.46	11.17	
Average	10.16	11.25	

1000 HRS IN R-12/MINERAL OIL @ 260 F

Polyester Composite	10.87	1.79	
Dacron-Mylar-Dacron	10.82	1.82	-81.85%
	7.62	1.71	
Average	9.77	1.77	
Polyester, Fluoropolymer Composite	10.78	13.22	
	9.24	14.04	25.89%
Dacron-Teflon-Dacron	10.46	11.11	
Average	10.16	12.79	

Lead Wire

500 HRS IN R-12/MINERAL OIL @ 260 F 168 HRS IN R-134a/POLYOLESTER @ 260 F

Lead Wire Insulation Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric % Change
Polyester Composite	10.87	8.50	
Dacron-Mylar-Dacron	10.82	7.91	-14.88%
	7.62	8.54	
Average	9.77	8.32	
Polyester, Fluoropolymer Composite	10.78	19.20	
	9.24	15.17	69.85%
Dacron-Teflon-Dacron	10.46	17.40	
Average	10.16	17.26	

500 HRS IN R-12/MINERAL OIL @ 260 F 336 HRS IN R-134a/POLYOLESTER @260 F

Polyester Composite	10.87	3.21	
Dacron-Mylar-Dacron	10.82	2.44	-67.55%
	7.62	3.86	
Average	9.77	3.17	
Polyester, Fluoropolymer Composite	10.78	13.12	
	9.24	11.17	24.74%
Dacron-Teflon-Dacron	10.46	13.73	
Average	10.16	12.67	

500 HRS IN R-12/MINERAL OIL @ 260 F 500 HRS IN R-134a/POLYOLESTER @260 F

Polyester Composite	10.87	8.08	
Dacron-Mylar-Dacron	10.82	7.83	-31.22%
	7.62	4.25	
Average	9.77	6.72	
Polyester, Fluoropolymer Composite	10.78	11.76	
	9.24	12.52	24.97%
Dacron-Teflon-Dacron	10.46	13.81	
Average	10.16	12.70	

500 HRS IN R-12/MINERAL OIL @ 260 F

<u>Sleeving Type</u>	<u>Unexposed Dielectric Strengths (Kilovolts)</u>	<u>Experimental Dielectric Strengths (Kilovolts)</u>	<u>Dielectric Change</u>
Polyester Film	>19.14		
	>17.05	brittle	
	>16.60		
Average	>17.60		

Aramid Fiber Mat	>11.83	6.27	
Polyester Film	>12.33	5.12	-53.75%
	>12.40	5.52	
Average	>12.19	5.64	

1000 HRS IN R-12/MINERAL OIL @ 260 F

Polyester Film	>19.14		
	>17.05	brittle	
	>16.60		
Average	>17.60		

Aramid Fiber Mat	>11.83	4.46	
Polyester Film	>12.33	4.45	-65.07%
	>12.40	3.86	
Average	>12.19	4.26	

Sleeving

500 HRS IN R-12/MINERAL OIL @ 260 F 168 HRS IN R-134a/POLYOLESTER @ 260 F

Sleeving Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
Polyester Film	>19.14		
	>17.05	brittle	
	>16.60		
Average	>17.60		

Aramid Fiber Mat	>11.83	> 9.47	
Polyester Film	>12.33	> 9.94	-20.57%
	>12.40	> 9.63	
Average	>12.19	> 9.68	

500 HRS IN R-12/MINERAL OIL @ 260 F 336 HRS IN R-134a/POLYOLESTER @260 F

Polyester Film	>19.14		
	>17.05	brittle	
	>16.60		
Average	>17.60		

Aramid Fiber Mat	>11.83	4.60	
Polyester Film	>12.33	9.28	-34.68%
	>12.40	10.00	
Average	>12.19	7.96	

Sleeving

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F

<u>Sleeving Type</u>	<u>Unexposed Dielectric Strengths (Kilovolts)</u>	<u>Experimental Dielectric Strengths (Kilovolts)</u>	<u>Dielectric Change</u>
Polyester Film	>19.14		
	>17.05	brittle	
	>16.60		
Average	>17.60		
<hr/>			
Aramid Fiber Mat	>11.83	6.01	
Polyester Film	>12.33	6.15	
	>12.40	6.90	-47.87%
Average	>12.19	6.35	

500 HRS IN R-12/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.483	86.3	17.87	22.48	-21.53%
2	0.010	0.514	90.0	17.51		
3	0.010	0.492	86.3	17.54		
Average				17.64		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.67	133.50%	134.83%	-10.63%	>14.10	> 14.72	0.12%
2	2.20	110.00%				> 13.61	
3	2.36	118.00%				> 14.02	
Average		120.50%				>14.12	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.450	71.2	15.81	19.06	-14.87%
2	0.010	0.505	83.6	16.54		
3	0.010	0.496	81.0	16.32		
Average				16.23		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.60	80.00%	142.83%	-26.60%	>14.60	>15.34	0.98%
2	2.62	131.00%				>14.39	
3	2.07	103.50%				>14.50	
Average		104.83%				>14.74	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.482	135.1	13.35	13.40	-1.92%
2	0.021	0.458	136.0	14.14		
3	0.021	0.483	121.1	11.94		
Average				13.14		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.51	25.60%	29.33%	-15.22%	>18.56	>18.07	-7.70%
2	0.49	24.50%					
3	0.49	24.50%					
Average		24.87%				>17.13	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.504	94.4	18.73	18.09	-6.99%
2	0.010	0.468	79.3	16.93		
3	0.010	0.503	74.5	14.81		
Average				16.83		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.66	16.50%	16.25%	-20.51%	10.29	13.95	34.34%
2	0.58	14.50%					
3	0.31	7.75%					
Average		12.92%				13.82	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.497	26.6	5.94	7.07	-19.78%
2	0.009	0.510	24.4	5.32		
3	0.009	0.483	25.1	5.76		
Average				5.67		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.10	2.50%	1.92%	30.21%	11.39	13.22	11.65%
2	0.11	2.75%				13.26	
3	0.09	2.25%				11.67	
Average		2.50%				12.72	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.526	165.9	15.02	17.05	-5.21%
2	0.021	0.450	156.1	16.52		
3	0.021	0.460	163.7	16.95		
Average				16.16		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.54	13.50%	25.50%	-22.22%	>17.76	> 18.17	4.47%
2	0.87	21.75%				> 18.96	
3	0.97	24.25%				> 18.53	
Average		19.83%				>18.55	

500 HRS IN R-12/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>13.86	0.40%
2	BRITTLE	BRITTLE				>13.98	
3	BRITTLE	BRITTLE				>14.63	
Average		BRITTLE				>14.16	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.22	-3.93%
2	BRITTLE	BRITTLE				>13.50	
3	BRITTLE	BRITTLE				>14.36	
Average		BRITTLE				>14.03	

Sheet Insulation

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.481	17.2	1.70	13.40	-86.87%
2	0.021	0.456	17.5	1.83		
3	0.021	0.492	18.0	1.74		
Average				1.76		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.03	1.50%	29.33%	-95.45%	>18.56	>19.00	-5.15%
2	0.02	1.00%				>19.82	
3	0.03	1.50%				>13.99	
Average		1.33%				>17.60	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.585	116.0	19.83	18.09	7.67%
2	0.010	0.516	101.8	19.73		
3	0.010	0.422	79.7	18.87		
Average				19.48		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.39	9.75%	16.25%	-41.03%	10.29	11.30	11.63%
2	0.42	10.50%				10.77	
3	0.34	8.50%				12.39	
Average		9.58%				11.49	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.506	34.5	7.58	7.07	2.80%
2	0.009	0.499	30.7	6.82		
3	0.009	0.511	34.1	7.40		
Average				7.27		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.02	0.50%	1.92%	-65.28%	11.39	11.39	-2.17%
2	0.03	0.75%				10.73	
3	0.03	0.75%				11.31	
Average		0.67%				11.14	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.525	101.9	9.24	17.05	-54.20%
2	0.021	0.498	51.0	4.87		
3	0.021	0.508	99.3	9.31		
Average				7.81		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.25	6.25%	25.50%	-76.47%	>17.76	>19.07	-6.89%
2	0.23	5.75%				11.14	
3	0.24	6.00%				>19.40	
Average		6.00%				>16.54	

1000 HRS IN R-12/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	14.10	> 14.50	1.89%
2	BRITTLE	BRITTLE				> 14.45	
3	BRITTLE	BRITTLE				> 14.15	
Average		BRITTLE				>14.37	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	> 14.28	-1.85%
2	BRITTLE	BRITTLE				> 14.04	
3	BRITTLE	BRITTLE				> 14.67	
Average		BRITTLE				>14.33	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	> 19.32	4.85%
2	BRITTLE	BRITTLE				> 19.38	
3	BRITTLE	BRITTLE				> 19.68	
Average		BRITTLE				>19.46	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.508	91.6	18.03	18.09	-7.86%
2	0.010	0.565	84.7	14.98		
3	0.010	0.510	86.7	16.99		
Average				16.67		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.65	16.25%	16.25%	-29.23%	10.29	13.40	29.58%
2	0.34	8.50%				13.29	
3	0.39	9.75%				13.31	
Average		11.50%				13.33	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.504	25.9	5.70	7.07	-20.73%
2	0.009	0.512	25.4	5.50		
3	0.009	0.488	24.7	5.61		
Average				5.60		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.11	2.75%	1.92%	30.21%	11.39	12.04	11.47%
2	0.09	2.25%				13.03	
3	0.10	2.50%				13.02	
Average		2.50%				12.70	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.505	87.2	8.22	17.05	-51.36%
2	0.021	0.489	86.3	8.40		
3	0.021	0.514	89.2	8.26		
Average				8.29		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	25.50%	-72.22%	>17.76	> 16.34	-0.99%
2	0.27	6.75%				> 18.01	
3	0.31	7.75%				> 18.40	
Average		7.08%				>17.58	

1000 HRS IN R-12/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>15.52	3.85%
2	BRITTLE	BRITTLE				>14.09	
3	BRITTLE	BRITTLE				>14.32	
Average		BRITTLE				>14.64	

Insulation Type: Polyester Film,Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.00	-4.61%
2	BRITTLE	BRITTLE				>13.88	
3	BRITTLE	BRITTLE				>13.90	
Average		BRITTLE				>13.93	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>15.63	-21.25%
2	BRITTLE	BRITTLE				>17.00	
3	BRITTLE	BRITTLE				11.22	
Average		BRITTLE				>14.62	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.515	96.3	18.70	18.09	6.39%
2	0.010	0.502	101.1	20.14		
3	0.010	0.496	93.8	18.90		
Average				19.25		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.44	11.00%	16.25%	-23.08%	10.29	9.34	-4.76%
2	0.56	14.00%				10.43	
3	0.50	12.50%				9.63	
Average		12.50%				9.80	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.497	32.0	7.15	7.07	3.54%
2	0.009	0.515	34.1	7.35		
3	0.009	0.488	32.8	7.46		
Average				7.32		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-17.53%	11.39	11.52	2.90%
2	0.07	1.75%				11.47	
3	0.07	1.75%				12.17	
Average		1.58%				11.72	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>17.76	>18.55	-10.98%
2	BRITTLE	BRITTLE				>15.25	
3	BRITTLE	BRITTLE				13.63	
Average		BRITTLE				>15.81	

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.585	96.9	16.56	22.48	-25.35%
2	0.010	0.462	77.7	16.81		
3	0.010	0.505	85.7	16.97		
Average				16.78		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.79	89.50%	134.83%	-25.46%	>14.10	> 12.94	-1.89%
2	1.97	98.50%				> 14.59	
3	2.27	113.50%				> 13.97	
Average		100.50%				>13.83	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.568	91.1	16.04	19.06	-16.86%
2	0.010	0.499	78.5	15.72		
3	0.010	0.503	79.4	15.78		
Average				15.85		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.69	134.50%	142.83%	-25.32%	>14.60	>14.34	-0.96%
2	1.74	87.00%				>14.34	
3	1.97	98.50%				>14.70	
Average		106.67%				>14.46	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.492	128.4	12.43	13.40	-10.38%
2	0.021	0.441	116.3	12.56		
3	0.021	0.571	132.4	11.04		
Average				12.01		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.55	27.50%	29.33%	13.08%	>18.56	> 17.01	-4.97%
2	0.86	43.00%				> 18.90	
3	0.58	29.00%				> 17.00	
Average		33.17%				>17.64	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.515	95.9	18.62	18.09	2.80%
2	0.010	0.480	89.8	18.71		
3	0.010	0.494	91.2	18.46		
Average				18.60		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.58	14.50%	16.25%	-7.18%	10.29	13.50	33.98%
2	0.65	16.25%				13.73	
3	0.58	14.50%				14.13	
Average		15.08%				13.79	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.497	27.0	6.04	7.07	-15.26%
2	0.009	0.485	27.1	6.20		
3	0.009	0.512	26.5	5.74		
Average				5.99		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.12	3.00%	1.92%	64.93%	11.39	12.88	8.78%
2	0.14	3.50%				12.26	
3	0.12	3.00%				12.03	
Average		3.17%				12.39	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.513	184.5	17.13	17.05	3.22%
2	0.021	0.490	182.4	17.73		
3	0.021	0.530	199.7	17.94		
Average				17.60		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.46	11.50%	25.50%	-54.58%	>17.76	> 18.49	4.79%
2	0.44	11.00%				> 18.66	
3	0.49	12.25%				> 18.68	
Average		11.58%				>18.61	

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	> 14.05	3.76%
2	BRITTLE	BRITTLE				> 14.46	
3	BRITTLE	BRITTLE				> 15.38	
Average		BRITTLE				>14.63	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	> 15.32	4.25%
2	BRITTLE	BRITTLE				> 15.20	
3	BRITTLE	BRITTLE				> 15.14	
Average		BRITTLE				>15.22	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	> 15.85	-25.27%
2	BRITTLE	BRITTLE				12.97	
3	BRITTLE	BRITTLE				12.79	
Average		BRITTLE				>13.87	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.435	87.9	20.20	18.09	5.90%
2	0.010	0.501	91.5	18.26		
3	0.010	0.547	104.0	19.01		
Average				19.16		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.52	13.00%	16.25%	-38.97%	10.29	10.64	9.33%
2	0.33	8.25%				12.20	
3	0.34	8.50%				10.91	
Average		9.92%				11.25	

Sheet Insulation

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.498	37.0	8.26	7.07	-3.64%
2	0.009	0.492	19.9	4.49		
3	0.009	0.401	27.8	7.69		
Average				6.81		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-47.92%	11.39	12.53	11.68%
2	0.03	0.75%				12.71	
3	0.04	1.00%				12.92	
Average		1.00%				12.72	

Insulation Type: Aramid Mat, Polyester Film Composite- Nomex-Mylar-Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.481	62.1	6.14	17.05	-62.57%
2	0.021	0.515	72.0	6.65	6.38	
3	0.021	0.510	68.0	6.35		
Average				6.38		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	3.25%	25.50%	-84.97%	>17.76	>19.25	9.68%
2	0.19	4.75%				>19.50	
3	0.14	3.50%				>19.69	
Average		3.83%				>19.48	

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.488	76.8	15.73	22.48	-30.40%
2	0.010	0.508	79.3	15.60		
3	0.010	0.452	70.6	15.61		
Average				15.65		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.65	32.50%	134.83%	-75.65%	>14.10	>14.25	2.25%
2	0.67	33.50%				>14.73	
3	0.65	32.50%				>14.27	
Average		32.83%				>14.42	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.512	82.7	16.14	19.06	-15.10%
2	0.010	0.488	79.0	16.18		
3	0.010	0.462	75.0	16.22		
Average				16.18		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	142.83%	-94.75%	>14.60	>14.71	0.50%
2	0.14	7.00%				>14.99	
3	0.18	9.00%				>14.32	
Average		7.50%				>14.67	

Sheet Insulation

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.451	103.8	10.96	13.40	-12.72%
2	0.021	0.555	138.7	11.90		
3	0.021	0.393	100.9	12.23		
Average				11.70		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.43	21.50%	29.33%	-20.45%	>18.56	> 17.33	-5.87%
2	0.48	24.00%				> 17.85	
3	0.49	24.50%				> 17.23	
Average		23.33%				>17.47	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.609	109.1	17.91	18.09	-0.04%
2	0.010	0.511	97.1	18.99		
3	0.010	0.451	78.2	17.34		
Average				18.08		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.35	8.75%	16.25%	-52.82%	10.29	13.93	35.70%
2	0.33	8.25%				14.12	
3	0.24	6.00%				13.84	
Average		7.67%				13.96	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.497	30.6	6.85	7.07	-3.25%
2	0.009	0.502	30.2	6.68		
3	0.009	0.505	31.8	7.00		
Average				6.84		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.12	3.00%	1.92%	56.25%	11.39	12.25	5.82%
2	0.12	3.00%				12.02	
3	0.12	3.00%				11.89	
Average		3.00%				12.05	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.414	147.7	16.99	17.05	2.47%
2	0.021	0.501	186.7	17.75		
3	0.021	0.508	188.6	17.68		
Average				17.47		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.35	8.75%	25.50%	-61.11%	>17.76	>18.02	7.32%
2	0.42	10.50%				>19.84	
3	0.42	10.50%				>19.32	
Average		9.92%				>19.06	

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>13.23	-7.91%
2	BRITTLE	BRITTLE				>12.74	
3	BRITTLE	BRITTLE					
Average		BRITTLE				>12.99	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.66	-0.09%
2	BRITTLE	BRITTLE				>14.70	
3	BRITTLE	BRITTLE				>14.40	
Average		BRITTLE				>14.59	

Sheet Insulation

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>19.74	-17.40%
2	BRITTLE	BRITTLE				11.56	
3	BRITTLE	BRITTLE				14.69	
Average		BRITTLE				15.33	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.448	88.0	19.63	18.09	3.88%
2	0.010	0.497	90.7	18.25		
3	0.010	0.519	96.0	18.50		
Average				18.79		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.55	13.75%	16.25%	-20.51%	10.29	11.41	5.30%
2	0.50	12.50%				10.26	
3	0.50	12.50%					
Average		12.92%				10.84	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.490	30.3	6.86	7.07	4.63%
2	0.009	0.496	31.8	7.11		
3	0.009	0.497	36.8	8.22		
Average				7.40		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-30.56%	11.39	12.20	-0.82%
2	0.05	1.25%				9.62	
3	0.07	1.75%				12.07	
Average		1.33%				11.30	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>17.05	>17.95	1.74%
2	BRITTLE	BRITTLE				>16.34	
3	BRITTLE	BRITTLE				>17.75	
Average		BRITTLE				>17.35	

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.688	90.7	13.18	22.48	-35.16%
2	0.010	0.497	76.0	15.29		
3	0.010	0.520	79.4	15.26		
Average				14.58		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.55	27.50%	134.83%	-81.83%	>14.10	>14.61	0.31%
2	0.47	23.50%				>13.54	
3	0.45	22.50%				>14.28	
Average		24.50%				>14.14	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.436	70.7	16.20	19.06	-16.00%
2	0.010	0.514	81.1	15.78		
3	0.010	0.471	75.6	16.05		
Average				16.01		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-93.82%	>14.60	>14.47	-2.24%
2	0.27	13.50%				>14.65	
3	0.12	6.00%				>13.70	
Average		8.83%				>14.27	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.497	125.4	12.01	13.40	-15.14%
2	0.021	0.428	92.6	10.30		
3	0.021	0.504	124.9	11.80		
Average				11.37		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.83	41.50%	29.33%	14.79%	>18.56	>19.67	5.62%
2	0.35	17.50%				>19.94	
3	0.84	42.00%				>19.20	
Average		33.67%				>19.60	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.448	84.9	18.94	18.09	-6.01%
2	0.010	0.464	77.0	16.58		
3	0.010	0.498	77.1	15.48		
Average				17.00		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	12.50%	16.25%	-25.64%	10.29	12.91	29.02%
2	0.44	11.00%				13.38	
3	0.51	12.75%				13.54	
Average		12.08%				13.28	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.503	25.3	5.58	7.07	-20.11%
2	0.009	0.490	24.6	5.57		
3	0.009	0.500	26.1	5.80		
Average				5.65		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	3.25%	1.92%	51.91%	11.39	11.73	1.87%
2	0.10	2.50%				11.55	
3	0.12	3.00%				11.53	
Average		2.92%				11.60	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.504	164.7	15.56	17.05	-6.69%
2	0.021	0.520	177.0	16.21		
3	0.021	0.509	170.6	15.96		
Average				15.91		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.29	7.25%	25.50%	-68.63%	>17.76	>19.85	11.11%
2	0.35	8.75%				>19.70	
3	0.32	8.00%				>19.65	
Average		8.00%				>19.73	

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>14.86	2.58%
2	BRITTLE	BRITTLE				>14.40	
3	BRITTLE	BRITTLE				>14.13	
Average		BRITTLE				>14.46	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>15.02	1.80%
2	BRITTLE	BRITTLE				>14.57	
3	BRITTLE	BRITTLE				>15.00	
Average		BRITTLE				>14.86	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>15.68	-13.02%
2	BRITTLE	BRITTLE				>16.30	
3	BRITTLE	BRITTLE				>16.45	
Average		BRITTLE				>16.14	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.570	98.6	17.30	18.09	-3.23%
2	0.010	0.504	94.5	18.74		
3	0.010	0.521	85.9	16.48		
Average				17.51		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.34	8.50%	16.25%	-43.59%	10.29	10.93	0.52%
2	0.41	10.25%				10.09	
3	0.35	8.75%				10.01	
Average		9.17%				10.34	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.495	29.1	6.53	7.07	-0.70%
2	0.009	0.498	32.8	7.32		
3	0.009	0.493	32.0	7.21		
Average				7.02		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-21.88%	11.39	12.23	4.39%
2	0.06	1.50%				11.83	
3	0.06	1.50%				11.61	
Average		1.50%				11.89	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>17.76	>18.65	7.13%
2	BRITTLE	BRITTLE				>19.73	
3	BRITTLE	BRITTLE				>18.70	
Average		BRITTLE				>19.03	

Tapes and Tie Cords

500 HRS IN R-12/MINERAL OIL @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	35.30	
	2	37.20	32.60	-18.14%
	3	29.70	36.60	
	Average	42.55	34.83	

Tape B	1	441.60	485.00	
	2	424.20	457.00	0.85%
	3	490.70	426.00	
	Average	452.17	456.00	

Cord C	1	28.05	19.92	
	2	34.85	23.17	-36.52%
	3	40.50	22.55	
	Average	34.47	21.88	

Tape		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.29	14.50%	
	2	0.23	11.50%	0.24	12.00%	-38.58%
	3	0.40	20.00%	0.25	12.50%	
	Average	0.42	21.17%	0.26	13.00%	

Tape B	1	0.11	5.50%	0.11	5.50%	
	2	0.11	5.50%	0.18	9.00%	38.24%
	3	0.12	6.00%	0.18	9.00%	
	Average	0.11	5.67%	0.16	7.83%	

Cord C	1	0.62	31.00%	0.35	17.50%	
	2	0.18	9.00%	0.40	20.00%	12.00%
	3	0.20	10.00%	0.37	18.50%	
	Average	0.33	16.67%	0.37	18.67%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester,

Cord C is polyester tie cord

Tapes and Tie Cords

1000 HRS IN R-12/MINERAL OIL @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	<10	
	2	37.20	14.38	<-88.73%
	3	29.70	<10	
	Average	42.55	<4.79	
Tape B	1	441.60	433.20	
	2	424.20	359.20	-13.39%
	3	490.70	382.50	
	Average	452.17	391.63	
Cord C	1	28.05	10.07	
	2	34.85	9.60	-72.66%
	3	40.50	8.60	
	Average	34.47	9.42	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%			
	2	0.23	11.50%	0.09	4.50%	-78.74%
	3	0.40	20.00%			
	Average	0.42	21.17%	0.09	4.50%	
Tape B	1	0.11	5.50%	0.09	4.50%	
	2	0.11	5.50%	0.14	7.00%	-2.94%
	3	0.12	6.00%	0.10	5.00%	
	Average	0.11	5.67%	0.11	5.50%	
Cord C	1	0.62	31.00%	0.11	5.50%	
	2	0.18	9.00%	0.11	5.50%	-69.00%
	3	0.20	10.00%	0.09	4.50%	
	Average	0.33	16.67%	0.10	5.17%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester.

Cord C is polyester tie cord

Tapes and Tie Cords

500 HRS IN R-12/MINERAL OIL @ 260 F 168 HRS IN R-134a/POLYOLESTER @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	32.30	
	2	37.20	35.25	-19.86%
	3	29.70	34.75	
	Average	42.55	34.10	

Tape B	1	441.60	455.00	
	2	424.20	429.50	-16.39%
	3	490.70	249.70	
	Average	452.17	378.07	

Cord C	1	28.05	19.47	
	2	34.85	18.77	-41.79%
	3	40.50	21.95	
	Average	34.47	20.06	

Tape		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.24	12.00%	
	2	0.23	11.50%	0.31	15.50%	-31.50%
	3	0.40	20.00%	0.32	16.00%	
	Average	0.42	21.17%	0.29	14.50%	

Tape B	1	0.11	5.50%	0.11	5.50%	
	2	0.11	5.50%	0.11	5.50%	-17.65%
	3	0.12	6.00%	0.06	3.00%	
	Average	0.11	5.67%	0.09	4.67%	

Cord C	1	0.62	31.00%	0.32	16.00%	
	2	0.18	9.00%	0.32	16.00%	1.00%
	3	0.20	10.00%	0.37	18.50%	
	Average	0.33	16.67%	0.34	16.83%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester.
Cord C is polyester tie cord

Tapes and Tie Cords

500 HRS IN R-12/MINERAL OIL @ 260 F 336 HRS IN R-134a/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	33.57	
	2	37.20	33.17	-20.77%
	3	29.70	34.40	
	Average	42.55	33.71	

Tape B	1	441.60	384.50	
	2	424.20	378.00	-12.61%
	3	490.70	423.00	
	Average	452.17	395.17	

Cord C	1	28.05	15.50	
	2	34.85	18.12	-49.53%
	3	40.50	18.57	
	Average	34.47	17.40	

Tape		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.21	10.50%	
	2	0.23	11.50%	0.19	9.50%	-49.61%
	3	0.40	20.00%	0.24	12.00%	
	Average	0.42	21.17%	0.21	10.67%	

Tape B	1	0.11	5.50%	0.10	5.00%	
	2	0.11	5.50%	0.09	4.50%	-11.76%
	3	0.12	6.00%	0.11	5.50%	
	Average	0.11	5.67%	0.10	5.00%	

Cord C	1	0.62	31.00%	0.23	11.50%	
	2	0.18	9.00%	0.27	13.50%	-21.00%
	3	0.20	10.00%	0.29	14.50%	
	Average	0.33	16.67%	0.26	13.17%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester.

Cord C is polyester tie cord

Tapes and Tie Cords

500 HRS IN R-12/MINERAL OIL @ 260 F 500 HRS IN R-134a/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	28.10	
	2	37.20	31.20	-29.14%
	3	29.70	31.15	
	Average	42.55	30.15	

Tape B	1	441.60	426.70	
	2	424.20	430.20	-8.43%
	3	490.70	385.20	
	Average	452.17	414.03	

Cord C	1	28.05		
	2	34.85	15.00	-55.75%
	3	40.50	15.50	
	Average	34.47	15.25	

Tape		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.17	8.50%	
	2	0.23	11.50%	0.19	9.50%	-56.69%
	3	0.40	20.00%	0.19	9.50%	
	Average	0.42	21.17%	0.18	9.17%	

Tape B	1	0.11	5.50%	0.11	5.50%	
	2	0.11	5.50%	0.11	5.50%	-5.88%
	3	0.12	6.00%	0.10	5.00%	
	Average	0.11	5.67%	0.11	5.33%	

Cord C	1	0.62	31.00%			
	2	0.18	9.00%	0.27	13.50%	-17.50%
	3	0.20	10.00%	0.28	14.00%	
	Average	0.33	16.67%	0.28	13.75%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester.
Cord C is polyester tie cord

500 HRS IN R-12/MINERAL OIL @ 260 F

<u>Magnet Wire Type</u>	<u>Unexposed Voltage Withstand</u>	<u>Experimental Voltage Withstand</u>
Wire Type A	Pass	Pass
Wire Type B	Pass	Pass

1000 HRS IN R-12/MINERAL OIL @ 260 F

Wire Type A	Pass	Pass
Wire Type B	Pass	Pass

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F

Wire Type A	Pass	Pass
Wire Type B	Pass	Pass

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F

Wire Type A	Pass	Pass
Wire Type B	Pass	Pass

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F

Wire Type A	Pass	Pass
Wire Type B	Pass	Pass

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-12/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	88.0	17.60	22.48	-24.42%
2	0.010	0.474	83.0	17.51		
3	0.010	0.498	79.0	15.86		
Average				16.99		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	134.83%	-95.30%	>14.10	> 14.06	2.55%
2	0.15	7.50%				> 14.76	
3	0.09	4.50%				> 14.56	
Average		6.33%				>14.46	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.495	91.8	18.55	19.06	-3.03%
2	0.010	0.488	90.8	18.61		
3	0.010	0.475	86.9	18.29		
Average				18.48		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	142.83%	-95.10%	>14.60	>14.06	-0.96%
2	0.14	7.00%				>14.76	
3	0.15	7.50%				>14.56	
Average		7.00%				>14.46	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.510	151.7	14.16	13.40	3.50%
2	0.021	0.511	154.1	14.36		
3	0.021	0.475	130.5	13.08		
Average				13.87		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.52	26.00%	29.33%	-15.33%	>18.56	>17.07	-7.02%
2	0.52	26.00%				>17.18	
3	0.45	22.50%				>17.52	
Average		24.83%				>17.26	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	79.3	15.86	18.09	-6.28%
2	0.010	0.510	86.0	16.86		
3	0.010	0.510	92.5	18.14		
Average				16.95		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.20	5.00%	16.25%	-61.54%	10.29	> 13.34	33.88%
2	0.25	6.25%				> 13.85	
3	0.30	7.50%				> 14.14	
Average		6.25%				> 13.78	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.495	28.3	6.35	7.07	-2.56%
2	0.009	0.510	33.2	7.23		
3	0.009	0.510	32.5	7.08		
Average				6.89		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-34.90%	11.39	> 13.98	24.50%
2	0.05	1.25%				> 14.18	
3	0.05	1.25%				> 14.38	
Average		1.25%				> 14.18	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.506	184.6	17.37	17.05	2.95%
2	0.021	0.475	175.5	17.59		
3	0.021	0.495	183.9	17.69		
Average				17.55		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.46	11.50%	25.50%	-48.69%	>17.76	> 18.70	6.29%
2	0.49	12.25%				> 18.91	
3	0.62	15.50%				> 19.02	
Average		13.08%				>18.88	

500 HRS IN R-12/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.492	83.8	17.03	22.48	-24.97%
2	0.010	0.510	86.1	16.88		
3	0.010	0.507	84.6	16.69		
Average				16.87		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	7.50%	142.83%	-94.52%	>14.10	>14.91	3.95%
2	0.17	8.50%				>14.40	
3	0.15	7.50%				>14.66	
Average		7.83%				>14.66	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.509	94.9	18.64	19.06	-4.61%
2	0.010	0.505	87.9	17.41		
3	0.010	0.485	89.7	18.49		
Average				18.18		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.68	34.00%	142.83%	-80.40%	>14.60	>13.68	-3.95%
2	0.16	8.00%				>13.99	
3	0.84	42.00%				>14.40	
Average		28.00%				>14.02	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.485	139.9	13.74	13.40	3.14%
2	0.021	0.500	155.3	14.79		
3	0.021	0.525	142.6	12.93		
Average				13.82		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	25.00%	29.33%	-17.04%	>18.56	>17.00	-8.35%
2	0.53	26.50%				>16.14	
3	0.43	21.50%				>17.89	
Average		24.33%				>17.01	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.475	86.3	18.16	18.09	-4.04%
2	0.010	0.498	92.2	18.50		
3	0.010	0.500	77.1	15.42		
Average				17.36		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.28	7.00%	16.25%	-57.95%	10.29	10.89	1.68%
2	0.30	7.50%				9.07	
3	0.24	6.00%				11.43	
Average		6.83%				10.46	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.498	28.1	6.27	7.07	-15.37%
2	0.009	0.500	25.9	5.76		
3	0.009	0.495	26.4	5.93		
Average				5.98		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-39.24%	11.39	10.44	-5.91%
2	0.04	1.00%				10.86	
3	0.06	1.50%				10.85	
Average		1.17%				10.72	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.518	190.7	17.53	17.05	2.66%
2	0.021	0.510	191.3	17.86		
3	0.021	0.518	186.2	17.12		
Average				17.50		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.48	12.00%	25.50%	-51.96%	>17.76	>17.06	-1.84%
2	0.55	13.75%				17.23	
3	0.44	11.00%				>18.01	
Average		12.25%				>17.43	

1000 HRS IN R-12/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.487	73.4	15.07	22.48	-26.52%
2	0.010	0.487	84.0	17.25		
3	0.010	0.492	84.8	17.24		
Average				16.52		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	142.83%	-95.45%	>14.10	>13.58	0.07%
2	0.13	6.50%				>14.75	
3	0.13	6.50%				>14.00	
Average		6.50%				>14.11	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.528	88.6	16.78	19.06	-14.97%
2	0.010	0.475	76.5	16.11		
3	0.010	0.478	75.2	15.73		
Average				16.21		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.64	32.00%	142.83%	-89.50%	>14.60	>14.54	1.42%
2	0.13	6.50%				>14.93	
3	0.13	6.50%				>14.95	
Average		15.00%				>14.81	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.491	197.3	19.13	13.40	47.37%
2	0.021	0.451	181.5	19.16		
3	0.021	0.407	179.0	20.94		
Average				19.75		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.44	22.00%	29.33%	-26.70%	>18.56	>16.46	-7.54%
2	0.34	17.00%				>17.75	
3	0.51	25.50%				>17.27	
Average		21.50%				>17.16	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.491	89.1	18.16	18.09	2.03%
2	0.010	0.537	93.5	18.50		
3	0.010	0.497	93.0	18.71		
Average				18.46		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.29	7.25%	16.25%	-55.90%	10.29	> 13.79	36.05%
2	0.28	7.00%				> 13.44	
3	0.29	7.25%				> 14.77	
Average		7.17%				> 14.00	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.429	26.5	6.86	7.07	-25.03%
2	0.009	0.544	22.9	4.68		
3	0.009	0.535	21.0	4.36		
Average				5.30		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.03	0.75%	1.92%	-43.58%	11.39	> 13.48	13.23%
2	0.05	1.25%				> 12.08	
3	0.05	1.25%				> 13.13	
Average		1.08%				> 12.90	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.478	182.2	18.15	17.05	-1.34%
2	0.021	0.494	171.7	16.55		
3	0.021	0.525	173.8	15.76		
Average				16.82		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.36	9.00%	25.50%	-58.50%	>17.76	>18.93	6.89%
2	0.51	12.75%				> 19.30	
3	0.40	10.00%				>18.72	
Average		10.58%				>18.98	

1000 HRS IN R-12/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.491	82.9	16.88	22.48	-24.88%
2	0.010	0.483	81.1	16.79		
3	0.010	0.491	83.4	16.99		
Average				16.89		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	134.83%	-95.06%	>14.10	>13.64	-2.53%
2	0.14	7.00%				>13.52	
3	0.13	6.50%				>14.07	
Average		6.67%				>13.74	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.492	90.1	18.31	19.06	-7.36%
2	0.010	0.492	85.2	17.32		
3	0.010	0.481	83.4	17.34		
Average				17.66		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.51	25.50%	142.83%	-90.43%	>14.60	>15.03	0.39%
2	0.16	8.00%				>14.42	
3	0.15	7.50%				>14.52	
Average		13.67%				>14.66	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.523	147.2	13.40	13.40	-2.46%
2	0.021	0.465	128.4	13.15		
3	0.021	0.498	132.4	12.66		
Average				13.07		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.44	22.00%	29.33%	-27.83%	>18.56	>16.57	-7.36%
2	0.46	23.00%				>17.87	
3	0.37	18.50%				>17.14	
Average		21.17%				>17.19	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.490	76.4	15.59	18.09	-8.92%
2	0.010	0.486	79.1	16.28		
3	0.010	0.483	84.8	17.56		
Average				16.48		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	16.25%	-45.13%	10.29	9.20	7.77%
2	0.38	9.50%				12.67	
3	0.42	10.50%				11.40	
Average		8.92%				11.09	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.515	25.9	5.59	7.07	-19.27%
2	0.009	0.486	23.5	5.37		
3	0.009	0.494	27.4	6.16		
Average				5.71		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-39.24%	11.39	10.40	-14.11%
2	0.04	1.00%				10.50	
3	0.06	1.50%				8.45	
Average		1.17%				9.78	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.505	175.1	16.51	17.05	-4.21%
2	0.021	0.519	181.3	16.63		
3	0.021	0.514	171.1	15.85		
Average				16.33		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.73	18.25%	25.50%	-37.25%	>17.76	>17.61	1.01%
2	0.57	14.25%				> 18.00	
3	0.62	15.50%				>18.21	
Average		16.00%				>17.94	

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.490	81.9	16.70	22.48	-25.98%
2	0.010	0.492	83.3	16.92		
3	0.010	0.472	77.0	16.30		
Average				16.64		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	134.83%	-94.68%	>14.10	>14.53	1.77%
2	0.15	7.50%				>14.10	
3	0.14	7.00%				>14.42	
Average		7.17%				>14.35	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.487	83.4	17.13	19.06	-9.36%
2	0.010	0.500	85.0	17.00		
3	0.010	0.488	86.4	17.70		
Average				17.28		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-95.57%	>14.60	>15.68	3.26%
2	0.12	6.00%				>14.70	
3	0.12	6.00%				>14.85	
Average		6.33%				>15.08	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.519	152.5	13.99	13.40	4.88%
2	0.021	0.522	154.4	14.09		
3	0.021	0.452	133.7	14.09		
Average				14.05		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	25.00%	29.33%	-11.92%	>18.56	>15.38	-14.35%
2	0.50	25.00%				>17.17	
3	0.55	27.50%				>15.14	
Average		25.83%				>15.90	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.510	83.8	16.43	18.09	-10.71%
2	0.010	0.490	71.7	14.63		
3	0.010	0.493	85.8	17.40		
Average				16.15		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	16.25%	-55.38%	10.29	> 13.42	29.02%
2	0.30	7.50%				> 13.25	
3	0.30	7.50%				> 13.16	
Average		7.25%				> 13.28	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.512	30.0	6.51	7.07	-7.04%
2	0.009	0.494	29.5	6.64		
3	0.009	0.509	30.1	6.57		
Average				6.57		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-39.24%	11.39	12.59	14.90%
2	0.05	1.25%				13.65	
3	0.04	1.00%				13.02	
Average		1.17%				13.09	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.512	165.1	15.36	17.05	-3.76%
2	0.021	0.498	178.6	17.08		
3	0.021	0.488	172.1	16.79		
Average				16.41		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.42	10.50%	25.50%	-51.96%	>17.76	>18.16	1.58%
2	0.53	13.25%				18.08	
3	0.52	13.00%				>17.88	
Average		12.25%				>18.04	

500 HRS IN R-12/MINERAL OIL @ 260 F
168 HRS IN R-134a/POLYOLESTER @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.481	83.4	17.34	22.48	-23.46%
2	0.010	0.425	72.3	17.01		
3	0.010	0.487	84.1	17.27		
Average				17.21		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	7.50%	134.83%	-94.31%	>14.10	>13.74	-1.37%
2	0.16	8.00%				>14.17	
3	0.15	7.50%				>13.81	
Average		7.67%				>13.91	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.501	89.9	17.94	19.06	-6.21%
2	0.010	0.503	90.8	18.05		
3	0.010	0.486	85.7	17.63		
Average				17.88		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	142.83%	-94.52%	>14.60	>14.57	-0.80%
2	0.16	8.00%				>14.20	
3	0.15	7.50%				>14.68	
Average		7.83%				>14.48	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.513	150.6	13.98	13.40	5.36%
2	0.021	0.440	131.4	14.22		
3	0.021	0.509	151.3	14.15		
Average				14.12		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	25.00%	29.33%	-17.60%	>18.56	>15.83	-14.51%
2	0.47	23.50%				>15.75	
3	0.48	24.00%				>16.02	
Average		24.17%				>15.87	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.488	0.475	81.3	16.65	18.09	-1.10%
2	0.520	0.498	101.5	19.52		
3	0.525	0.500	92.0	17.51		
Average				17.89		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.19	4.75%	16.25%	-58.46%	10.29	11.25	11.11%
2	0.35	8.75%				11.14	
3	0.27	6.75%				11.91	
Average		6.75%				11.43	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.502	25.3	5.60	7.07	-13.99%
2	0.009	0.520	25.8	5.51		
3	0.009	0.480	30.8	7.13		
Average				6.08		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-34.90%	11.39	12.54	8.11%
2	0.05	1.25%				12.49	
3	0.04	1.00%				11.91	
Average		1.25%				12.31	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.500	173.5	16.52	17.05	-0.30%
2	0.021	0.481	177.1	17.53		
3	0.021	0.493	175.4	16.94		
Average				17.00		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.30	7.50%	25.50%	-65.69%	>17.76	>17.40	-0.90%
2	0.45	11.25%				17.63	
3	0.30	7.50%				>17.77	
Average		8.75%				>17.60	

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.498	82.2	16.51	22.48	-26.60%
2	0.010	0.478	78.5	16.42		
3	0.010	0.476	78.9	16.58		
Average				16.50		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.18	9.00%	134.83%	-93.70%	>14.10	>14.50	4.52%
2	0.15	7.50%				>15.21	
3	0.18	9.00%				>14.50	
Average		8.50%				>14.74	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.502	85.0	16.93	19.06	-8.38%
2	0.010	0.507	95.1	18.76		
3	0.010	0.515	86.0	16.70		
Average				17.46		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.17	8.50%	142.83%	-86.70%	>14.60	>15.45	3.31%
2	0.80	40.00%				>14.86	
3	0.17	8.50%				>14.94	
Average		19.00%				>15.08	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.489	138.5	13.49	13.40	3.55%
2	0.021	0.489	145.1	14.13		
3	0.021	0.520	153.0	14.01		
Average				13.88		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.45	22.50%	29.33%	-13.06%	>18.56	>15.90	-10.49%
2	0.55	27.50%				>16.93	
3	0.53	26.50%				>17.01	
Average		25.50%				>16.61	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.535	93.9	17.54	18.09	-10.48%
2	0.010	0.481	73.9	15.35		
3	0.010	0.497	78.0	15.69		
Average				16.19		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.37	9.25%	16.25%	-59.49%	10.29	13.70	29.48%
2	0.21	5.25%				12.98	
3	0.21	5.25%				13.29	
Average		6.58%				13.32	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.493	28.6	5.80	7.07	-19.56%
2	0.010	0.505	27.1	5.37		
3	0.010	0.487	28.7	5.89		
Average				5.69		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-39.24%	11.39	> 12.93	15.42%
2	0.05	1.25%				13.20	
3	0.05	1.25%				> 13.31	
Average		1.17%				> 13.15	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.480	166.2	16.49	17.05	-3.62%
2	0.021	0.512	176.8	16.44		
3	0.021	0.496	170.5	16.37		
Average				16.43		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.55	13.75%	25.50%	-50.00%	>17.76	>19.40	6.38%
2	0.56	14.00%				> 18.18	
3	0.42	10.50%				>19.10	
Average		12.75%				>18.89	

500 HRS IN R-12/MINERAL OIL @ 260 F
336 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.499	85.1	17.05	22.48	-24.08%
2	0.010	0.482	80.7	16.74		
3	0.010	0.512	89.1	17.40		
Average				17.07		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	134.83%	-94.31%	>14.10	>14.80	5.96%
2	0.16	8.00%				>15.01	
3	0.14	7.00%				>15.01	
Average		7.67%				>14.94	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.492	87.6	17.80	19.06	-7.09%
2	0.010	0.509	90.3	17.74		
3	0.010	0.496	87.2	17.58		
Average				17.71		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-94.87%	>14.60	>15.14	3.36%
2	0.16	8.00%				>15.10	
3	0.14	7.00%				>15.03	
Average		7.33%				>15.09	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.509	146.8	13.73	13.40	3.53%
2	0.021	0.531	155.4	13.94		
3	0.021	0.481	140.9	13.95		
Average				13.87		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.57	28.50%	29.33%	-5.67%	>18.56	>16.11	-12.55%
2	0.52	26.00%				>16.37	
3	0.57	28.50%				>16.21	
Average		27.67%				>16.23	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.498	93.4	18.76	18.09	0.43%
2	0.010	0.508	93.8	18.46		
3	0.010	0.512	88.5	17.29		
Average				18.17		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.29	7.25%	16.25%	-56.92%	10.29	11.90	12.44%
2	0.29	7.25%				11.57	
3	0.26	6.50%				11.24	
Average		7.00%				11.57	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.498	28.3	6.31	7.07	-14.43%
2	0.009	0.509	26.3	5.74		
3	0.009	0.474	26.0	6.09		
Average				6.05		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-43.58%	11.39	13.50	16.77%
2	0.04	1.00%				13.56	
3	0.04	1.00%				12.84	
Average		1.08%				13.30	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.463	166.6	17.13	17.05	0.59%
2	0.021	0.512	188.4	17.52		
3	0.021	0.507	178.8	16.79		
Average				17.15		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.43	10.75%	25.50%	-52.94%	>17.76	>19.21	7.70%
2	0.56	14.00%				>19.19	
3	0.45	11.25%				>18.98	
Average		12.00%				>19.13	

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	80.8	16.16	22.48	-27.87%
2	0.010	0.473	78.3	16.55		
3	0.010	0.472	75.2	15.93		
Average				16.21		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	134.83%	-90.98%	>14.10	>14.01	-1.63%
2	0.41	20.50%				>13.74	
3	0.16	8.00%				>13.86	
Average		12.17%				>13.87	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	85.9	17.17	19.06	-10.13%
2	0.010	0.485	82.8	17.07		
3	0.010	0.501	85.9	17.15		
Average				17.13		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	142.83%	-95.45%	>14.60	>14.46	1.23%
2	0.13	6.50%				>14.86	
3	0.13	6.50%				>15.02	
Average		6.50%				>14.78	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.445	128.8	13.78	13.40	2.26%
2	0.021	0.432	121.1	13.35		
3	0.021	0.510	149.7	13.98		
Average				13.70		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.49	24.50%	29.33%	-18.17%	>18.56	>15.90	-10.49%
2	0.46	23.00%				>16.93	
3	0.49	24.50%				>17.01	
Average		24.00%				>16.61	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.489	84.2	17.22	18.09	-6.39%
2	0.010	0.491	81.8	16.66		
3	0.010	0.510	86.3	16.92		
Average				16.93		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.31	7.75%	16.25%	-54.87%	10.29	> 13.49	33.72%
2	0.26	6.50%				> 13.49	
3	0.31	7.75%				> 14.30	
Average		7.33%				> 13.76	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.500	26.6	5.91	7.07	-11.41%
2	0.009	0.504	28.3	6.24		
3	0.009	0.502	30.0	6.64		
Average				6.26		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-43.58%	11.39	13.35	14.78%
2	0.04	1.00%				13.02	
3	0.05	1.25%				12.85	
Average		1.08%				13.07	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.495	177.5	17.08	17.05	-0.89%
2	0.021	0.501	174.7	16.60		
3	0.021	0.485	173.3	17.02		
Average				16.90		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.47	11.75%	25.50%	-48.37%	>17.76	>18.86	4.07%
2	0.56	14.00%				18.24	
3	0.55	13.75%				>18.35	
Average		13.17%				>18.48	

500 HRS IN R-12/MINERAL OIL @ 260 F
500 HRS IN R-134a/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.424	71.0	16.75	22.48	-26.08%
2	0.010	0.484	80.2	16.57		
3	0.010	0.502	83.0	16.53		
Average				16.62		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	134.83%	-94.31%	>14.10	>14.10	-0.90%
2	0.15	7.50%				>13.96	
3	0.15	7.50%				>13.86	
Average		7.67%				>13.97	

Insulation Type: Polyester Film, Low Oligomer

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.487	84.9	17.43	19.06	-7.67%
2	0.010	0.512	87.4	17.07		
3	0.010	0.520	95.1	18.29		
Average				17.60		

Sample	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	7.50%	142.83%	-89.50%	>14.60	>14.87	0.30%
2	0.14	7.00%				>14.51	
3	0.61	30.50%				>14.55	
Average		15.00%				>14.64	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.497	142.5	13.65	13.40	0.66%
2	0.021	0.485	138.7	13.62		
3	0.021	0.479	132.7	13.19		
Average				13.49		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.54	27.00%	29.33%	-21.58%	>18.56	>18.83	-3.16%
2	0.47	23.50%				>17.20	
3	0.37	18.50%				>17.89	
Average		23.00%				>17.97	

Insulation Type: Aramid Fiber Mat- Nomex

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	78.8	15.76	18.09	-12.24%
2	0.010	0.486	78.6	16.17		
3	0.010	0.497	78.0	15.69		
Average				15.88		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.37	9.25%	16.25%	-54.36%	10.29	11.72	6.06%
2	0.31	7.75%				9.36	
3	0.21	5.25%				11.66	
Average		7.42%				10.91	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.500	25.8	5.73	7.07	-17.95%
2	0.009	0.500	25.2	5.60		
3	0.009	0.465	25.4	6.07		
Average				5.80		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-26.22%	11.39	11.56	-2.55%
2	0.05	1.25%				9.84	
3	0.06	1.50%				11.90	
Average		1.42%				11.10	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.486	174.1	17.06	17.05	-3.53%
2	0.021	0.506	175.3	16.50		
3	0.021	0.530	175.7	15.79		
Average				16.45		

	Stretch (Inches)	Experimental Elongation	Average Elongations (unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.79	19.75%	25.50%	-29.08%	>17.76	>19.22	6.79%
2	0.78	19.50%				> 19.25	
3	0.60	15.00%				>18.43	
Average		18.08%				>18.97	

Data Tables

Part 2

**R-22/Mineral Oil to
R-407C/Polyolester**

500 HRS IN R-22/MINERAL OIL @ 260 F**Varnish Type Iso-800**

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.9436	0.3143	0.9797	0.3408
2	0.7540	0.2217	0.7887	0.2536
3	0.7993	0.2633	0.8431	0.3016

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.8050	0.8173	3.83%	1.53%
2	0.6810	0.6845	4.60%	0.53%
3	0.6857	0.6927	5.48%	1.03%
		AVERAGE	4.64%	1.03%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.4447	0.1509	0.4713	0.1673
2	0.3596	0.1216	0.3804	0.1339
3	0.6986	0.2350	0.7303	0.2573

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.3758	0.3889	5.98%	3.47%
2	0.3045	0.3153	5.78%	3.57%
3	0.5931	0.6051	4.54%	2.03%
		AVERAGE	5.43%	3.02%

1000 HRS IN R-22/MINERAL OIL @ 260 F**Varnish Type Iso-800**

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.7216	0.2378	0.7821	0.2800
2	0.9462	0.3111	0.9820	0.3496
3	0.8294	0.2699	0.8730	0.3120

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.6189	0.6423	8.38%	3.78%
2	0.8125	0.8090	3.78%	-0.43%
3	0.7157	0.7177	5.26%	0.27%
	AVERAGE		5.81%	1.21%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.7681	0.2583	0.8120	0.2862
2	0.5386	0.1823	0.5793	0.2043
3	0.6634	0.2240	0.7026	0.2467

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.6522	0.6726	5.72%	3.14%
2	0.4558	0.4797	7.56%	5.25%
3	0.5621	0.5832	5.91%	3.76%
	AVERAGE		6.39%	4.05%

Varnished Disks

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.9436	0.3143	0.9262	0.3179
2	0.7540	0.2217	0.7512	0.2321
3	0.7993	0.2633	0.7987	0.2752

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.8050	0.7782	-1.84%	-3.34%
2	0.6810	0.6641	-0.37%	-2.48%
3	0.6857	0.6697	-0.08%	-2.33%
		AVERAGE	-0.76%	-2.72%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.4447	0.1509	0.4551	0.1572
2	0.3596	0.1216	0.3668	0.1254
3	0.6986	0.2350	0.7046	0.2418

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.3758	0.3811	2.34%	1.40%
2	0.3045	0.3088	2.00%	1.43%
3	0.5931	0.5920	0.86%	-0.17%
		AVERAGE	1.73%	0.88%

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.9436	0.3143	0.9204	0.3124
2	0.7540	0.2217	0.7438	0.2302
3	0.7993	0.2633	0.7965	0.2712

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.8050	0.7778	-2.46%	-3.38%
2	0.6810	0.6570	-1.35%	-3.51%
3	0.6857	0.6720	-0.35%	-2.00%
		AVERAGE	-1.39%	-2.96%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.4447	0.1509	0.4531	0.1558
2	0.3596	0.1216	0.3640	0.1240
3	0.6986	0.2350	0.7012	0.2402

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.3758	0.3803	1.89%	1.19%
2	0.3045	0.3070	1.22%	0.84%
3	0.5931	0.5897	0.37%	-0.56%
		AVERAGE	1.16%	0.49%

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.9436	0.3143	0.9172	0.3150
2	0.7540	0.2217	0.7393	0.2286
3	0.7993	0.2633	0.7873	0.2711

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.8050	0.7704	-2.80%	-4.31%
2	0.6810	0.6533	-1.95%	-4.06%
3	0.6857	0.6604	-1.50%	-3.69%
	AVERAGE		-2.08%	-4.02%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.4447	0.1509	0.4518	0.1548
2	0.3596	0.1216	0.3637	0.1242
3	0.6986	0.2350	0.6996	0.2388

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.3758	0.3799	1.60%	1.09%
2	0.3045	0.3064	1.14%	0.63%
3	0.5931	0.5895	0.14%	-0.60%
	AVERAGE		0.96%	0.37%

500 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	61.90	-8.43%
	51.25	63.80	
	52.50	40.60	
	64.45	37.40	
	60.35	58.65	
Average	57.30	52.47	
Wire Type A coated with 923	65.90	28.95	-57.49%
	59.60	24.50	
	52.95	25.30	
	56.35	27.30	
	68.40	22.85	
Average	60.64	25.78	
Wire Type B coated with Iso-800	58.25	65.30	-5.58%
	53.35	50.55	
	52.30	48.25	
	54.25	51.50	
	56.95	44.15	
Average	55.02	51.95	
Wire Type B coated with 923	72.40	51.30	-24.07%
	69.20	63.70	
	71.65	43.85	
	75.80	53.10	
	63.50	55.75	
Average	70.51	53.54	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	58.95	2.04%
	51.25	60.55	
	52.50	57.00	
	64.45	53.50	
	60.35	62.35	
	Average 57.30	58.47	
Wire Type A coated with 923	65.90	35.95	-50.87%
	59.60	36.65	
	52.95	21.10	
	56.35	26.05	
	68.40	29.20	
	Average 60.64	29.79	
Wire Type B coated with Iso-800	58.25	49.10	-15.16%
	53.35	44.45	
	52.30	37.10	
	54.25	48.40	
	56.95	54.35	
	Average 55.02	46.68	
Wire Type B coated with 923	72.40	71.80	-13.09%
	69.20	42.20	
	71.65	63.80	
	75.80	66.90	
	63.50	61.70	
	Average 70.51	61.28	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	55.35	3.37%
	51.25	61.80	
	52.50	64.90	
	64.45	49.40	
	60.35	64.70	
Average	57.30	59.23	
Wire Type A coated with 923	65.90	27.10	-58.10%
	59.60	24.00	
	52.95	27.15	
	56.35	26.30	
	68.40	22.50	
Average	60.64	25.41	
Wire Type B coated with Iso-800	58.25	60.65	-1.67%
	53.35	51.35	
	52.30	44.10	
	54.25	62.45	
	56.95	51.95	
Average	55.02	54.10	
Wire Type B coated with 923	72.40	47.95	-39.67%
	69.20	29.10	
	71.65	46.90	
	75.80	28.25	
	63.50	60.50	
Average	70.51	42.54	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-22/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	87.10	19.83%
	51.25	63.80	
	52.50	73.45	
	64.45	57.15	
	60.35	61.80	
	Average	57.30	68.66
Wire Type A coated with 923	65.90	38.65	-40.80%
	59.60	28.95	
	52.95	38.90	
	56.35	31.90	
	68.40	41.10	
	Average	60.64	35.90
Wire Type B coated with Iso-800	58.25	69.65	20.92%
	53.35	61.30	
	52.30	68.30	
	54.25	64.30	
	56.95	69.10	
	Average	55.02	66.53
Wire Type B coated with 923	72.40	63.10	-12.91%
	69.20	61.00	
	71.65	59.00	
	75.80	68.25	
	63.50	55.70	
	Average	70.51	61.41

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	75.65	15.50%
	51.25	66.15	
	52.50	66.45	
	64.45	64.95	
	60.35	57.70	
	Average	57.30	66.18
Wire Type A coated with 923	65.90	26.55	-55.26%
	59.60	25.70	
	52.95	27.35	
	56.35	26.20	
	68.40	29.85	
	Average	60.64	27.13
Wire Type B coated with Iso-800	58.25	75.90	23.97%
	53.35	70.10	
	52.30	60.60	
	54.25	66.95	
	56.95	67.50	
	Average	55.02	68.21
Wire Type B coated with 923	72.40	63.60	-12.11%
	69.20	64.20	
	71.65	62.10	
	75.80	53.00	
	63.50	66.95	
	Average	70.51	61.97

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	52.40	-8.64%
	51.25	47.25	
	52.50	64.90	
	64.45	50.50	
	60.35	46.70	
	Average 57.30	52.35	
Wire Type A coated with 923	65.90	37.65	-45.83%
	59.60	36.75	
	52.95	31.65	
	56.35	29.00	
	68.40	29.20	
	Average 60.64	32.85	
Wire Type B coated with Iso-800	58.25	51.20	-0.98%
	53.35	60.70	
	52.30	61.50	
	54.25	48.50	
	56.95	50.50	
	Average 55.02	54.48	
Wire Type B coated with 923	72.40	61.05	-10.52%
	69.20	65.45	
	71.65	63.00	
	75.80	65.70	
	63.50	60.25	
	Average 70.51	63.09	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	62.10	3.54%
	51.25	63.90	
	52.50	51.40	
	64.45	51.20	
	60.35	68.05	
	Average 57.30	59.33	
Wire Type A coated with 923	65.90	30.95	-54.14%
	59.60	25.40	
	52.95	24.25	
	56.35	30.20	
	68.40	28.25	
	Average 60.64	27.81	
Wire Type B coated with Iso-800	58.25	46.85	3.27%
	53.35	55.05	
	52.30	66.95	
	54.25	53.75	
	56.95	61.50	
	Average 55.02	56.82	
Wire Type B coated with 923	72.40	47.30	-26.78%
	69.20	36.95	
	71.65	59.70	
	75.80	61.25	
	63.50	52.95	
	Average 70.51	51.63	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	55.90	26.27%
	51.25	84.35	
	52.50	65.70	
	64.45	83.90	
	60.35	71.90	
Average	57.30	72.35	
Wire Type A coated with 923	65.90	58.60	-13.69%
	59.60	50.30	
	52.95	46.30	
	56.35	64.30	
	68.40	42.20	
Average	60.64	52.34	
Wire Type B coated with Iso-800	58.25	67.00	16.43%
	53.35	61.00	
	52.30	53.55	
	54.25	79.25	
	56.95	59.50	
Average	55.02	64.06	
Wire Type B coated with 923	72.40	67.05	0.95%
	69.20	74.35	
	71.65	62.00	
	75.80	80.20	
	63.50	72.30	
Average	70.51	71.18	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	63.90	0.17%
	51.25	61.05	
	52.50	56.25	
	64.45	54.40	
	60.35	51.40	
	Average 57.30	57.40	
Wire Type A coated with 923	65.90	29.35	-51.10%
	59.60	28.05	
	52.95	29.80	
	56.35	27.65	
	68.40	33.40	
	Average 60.64	29.65	
Wire Type B coated with Iso-800	58.25	57.95	9.29%
	53.35	67.75	
	52.30	56.85	
	54.25	64.25	
	56.95	53.85	
	Average 55.02	60.13	
Wire Type B coated with 923	72.40	69.55	-14.95%
	69.20	63.90	
	71.65	69.85	
	75.80	50.65	
	63.50	45.90	
	Average 70.51	59.97	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths (Pounds)	Experimental Bond Strengths (Pounds)	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	63.50	-11.68%
	51.25	55.35	
	52.50	53.40	
	64.45	30.65	
	60.35	50.15	
	Average 57.30	50.61	
Wire Type A coated with 923	65.90	29.65	-43.19%
	59.60	29.25	
	52.95	30.85	
	56.35	43.50	
	68.40	39.00	
	Average 60.64	34.45	
Wire Type B coated with Iso-800	58.25	46.20	-9.18%
	53.35	50.70	
	52.30	38.75	
	54.25	69.85	
	56.95	44.35	
	Average 55.02	49.97	
Wire Type B coated with 923	72.40	54.80	-8.49%
	69.20	56.20	
	71.65	66.46	
	75.80	64.30	
	63.50	80.85	
	Average 70.51	64.52	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.80	20.79%	569	418	-26.17%
	18.18	19.71		586	400	
	17.00	19.74		487	386	
	18.27	18.83		403	411	
	11.90	18.41		557	306	
Average	15.98	19.30		520	384	
Wire Type A coated with 923	19.93	17.84	10.80%	652	515	-22.92%
	16.91	19.55		653	562	
	16.82	19.99		642	386	
	14.36	18.13		547	384	
	17.01	18.70		564	510	
Average	17.01	18.84		612	471	
Wire Type B coated with Iso-800	18.19	19.70	-0.82%	590	406	-32.18%
	19.70	17.16		494	284	
	18.41	19.77		457	329	
	19.73	16.99		594	400	
	18.35	19.99		578	421	
Average	18.88	18.72		543	368	
Wire Type B coated with 923	19.76	19.93	-2.49%	621	288	-34.80%
	19.71	19.99		423	293	
	19.85	19.78		688	378	
	19.71	19.67		395	297	
	19.90	17.10		643	550	
Average	19.79	19.29		554	361	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.99	14.12%	569	375	-25.94%
	18.18	16.55		586	393	
	17.00	18.71		487	375	
	18.27	16.37		403	396	
	11.90	19.54		557	388	
Average	15.98	18.23		520	385	
Wire Type A coated with 923	19.93	19.10	14.36%	652	393	-34.07%
	16.91	18.20		653	350	
	16.82	19.96		642	393	
	14.36	19.99		547	484	
	17.01	19.99		564	396	
Average	17.01	19.45		612	403	
Wire Type B coated with Iso-800	18.19	13.02	-13.30%	590	281	-46.59%
	19.70	14.40		494	265	
	18.41	19.98		457	347	
	19.73	19.96		594	259	
	18.35	14.47		578	297	
Average	18.88	16.37		543	290	
Wire Type B coated with 923	19.76	19.99	-0.36%	621	315	-45.81%
	19.71	18.64		423	305	
	19.85	19.99		688	307	
	19.71	19.99		395	285	
	19.90	19.96		643	289	
Average	19.79	19.71		554	300	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-22/MINERAL OIL @ 260 F 168 HRS IN R-407C/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.12		569	374	
	18.18	19.10		586	409	
	17.00	19.71	21.23%	487	382	-25.48%
	18.27	19.60		403	389	
	11.90	19.31		557	385	
Average	15.98	19.37		520	388	
Wire Type A coated with 923	19.93	19.99		652	391	
	16.91	17.80		653	367	
	16.82	19.95	11.68%	642	549	-28.48%
	14.36	18.20		547	393	
	17.01	19.02		564	487	
Average	17.01	18.99		612	437	
Wire Type B coated with Iso-800	18.19	15.36		590	316	
	19.70	19.86		494	322	
	18.41	19.56	-2.73%	457	317	-37.49%
	19.73	19.83		594	365	
	18.35	17.19		578	376	
Average	18.88	18.36		543	339	
Wire Type B coated with 923	19.76	19.98		621	476	
	19.71	18.44		423	401	
	19.85	19.88	-0.66%	688	406	-25.34%
	19.71	19.99		395	392	
	19.90	19.99		643	393	
Average	19.79	19.66		554	414	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F**336 HRS IN R-407C/POLYOLESTER @260 F**

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.96	20.38%	569	329	-34.78%
	18.18	16.41		586	380	
	17.00	19.96		487	302	
	18.27	19.96		403	306	
	11.90	19.87		557	380	
Average	15.98	19.23		520	339	
Wire Type A coated with 923	19.93	17.69	8.94%	652	393	-29.01%
	16.91	19.99		653	542	
	16.82	19.99		642	388	
	14.36	19.99		547	493	
	17.01	14.97		564	355	
Average	17.01	18.53		612	434	
Wire Type B coated with Iso-800	18.19	17.05	-3.10%	590	337	-44.38%
	19.70	19.99		494	288	
	18.41	16.79		457	245	
	19.73	17.70		594	296	
	18.35	19.92		578	343	
Average	18.88	18.29		543	302	
Wire Type B coated with 923	19.76	19.87	-4.30%	621	414	-23.75%
	19.71	19.91		423	420	
	19.85	19.99		688	529	
	19.71	17.14		395	360	
	19.90	17.77		643	389	
Average	19.79	18.94		554	422	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-22/MINERAL OIL @ 260 F

500 HRS IN R-407C/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.24	13.12%	569	404	-27.40%
	18.18	18.98		586	460	
	17.00	18.72		487	362	
	18.27	17.98		403	330	
	11.90	15.44		557	333	
Average	15.98	18.07		520	378	
Wire Type A coated with 923	19.93	16.08	10.28%	652	421	-28.68%
	16.91	19.96		653	404	
	16.82	19.99		642	538	
	14.36	18.99		547	407	
	17.01	No Data		564	411	
Average	17.01	18.76		612	436	
Wire Type B coated with Iso-800	18.19	19.49	4.21%	590	335	-39.44%
	19.70	19.44		494	321	
	18.41	19.83		457	308	
	19.73	19.93		594	297	
	18.35	19.66		578	382	
Average	18.88	19.67		543	329	
Wire Type B coated with 923	19.76	19.73	-5.00%	621	359	-29.13%
	19.71	19.84		423	463	
	19.85	19.71		688	393	
	19.71	14.85		395	365	
	19.90	19.85		643	383	
Average	19.79	18.80		554	393	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Unvarnished Magnet Wire

500 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A	16.40	15.96	0.96%	518	287	-41.37%
	15.10	12.97		577	410	
	14.37	12.04		569	308	
	13.70	16.46		555	303	
	14.66	17.51		556	319	
Average	14.85	14.99		555	325	
Wire Type B	15.24	16.94	27.16%	576	373	-45.73%
	14.63	17.48		580	287	
	14.06	17.57		595	239	
	12.60	16.53		592	295	
	10.60	16.84		576	390	
Average	13.43	17.07		584	317	

1000 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type A	16.40	16.53	15.47%	518	384	-33.73%
	15.10	16.70		577	390	
	14.37	17.14		569	309	
	13.70	17.72		555	379	
	14.66	17.62		556	377	
Average	14.85	17.14		555	368	
Wire Type B	15.24	16.83	26.90%	576	233	-59.06%
	14.63	17.02		580	236	
	14.06	17.21		595	234	
	12.60	16.81		592	239	
	10.60	17.32		576	253	
Average	13.43	17.04		584	239	

500 HRS IN R-22/MINERAL OIL @ 260 F

168 HRS IN R-407C/POLYOLESTER @260 F

Wire Type A	1.00	17.45	38.42%	518	433	-25.51%
	15.10	17.07		577	397	
	14.37	16.96		569	465	
	13.70	13.73		555	383	
	14.66	16.22		556	389	
Average	11.77	16.29		555	413	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Unvarnished Magnet Wire

500 HRS IN R-22/MINERAL OIL @ 260 F

168 HRS IN R-407C/POLYOLESTER @260 F

Wire Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type B	15.24	15.40	19.45%	576	404	-40.73%
	14.63	16.41		580	306	
	14.06	16.67		595	303	
	12.60	16.36		592	376	
	10.60	15.35		576	341	
Average	13.43	16.04		584	346	

500 HRS IN R-22/MINERAL OIL @ 260 F

336 HRS IN R-407C/POLYOLESTER @260 F

Wire Type A	16.40	15.36	7.36%	518	532	-10.92%
	15.10	16.55		577	515	
	14.37	17.05		569	509	
	13.70	14.24		555	467	
	14.66	16.49		556	449	
Average	14.85	15.94		555	494	
Wire Type B	15.24	14.02	6.47%	576	309	-53.51%
	14.63	13.59		580	240	
	14.06	17.17		595	238	
	12.60	16.36		592	314	
	10.60	10.33		576	256	
Average	13.43	14.29		584	271	

500 HRS IN R-22/MINERAL OIL @ 260 F

500 HRS IN R-407C/POLYOLESTER @260 F

Wire Type A	16.40	16.21	0.61%	518	530	-15.93%
	15.10	15.88		577	453	
	14.37	17.34		569	411	
	13.70	8.86		555	528	
	14.66	16.39		556	411	
Average	14.85	14.94		555	467	
Wire Type B	15.24	17.00	25.26%	576	530	-20.08%
	14.63	16.41		580	453	
	14.06	17.20		595	411	
	12.60	17.44		592	528	
	10.60	16.04		576	411	
Average	13.43	16.82		584	467	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Lead Wire

500 HRS IN R-22/MINERAL OIL @ 260 F

Lead Wire Insulation Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
Polyester Composite	10.87	9.36	
Dacron-Mylar-Dacron	10.82	9.29	-6.35%
	7.62	8.80	
Average	9.77	9.15	
Polyester, Fluoropolymer Composite	10.78	13.00	
	9.24	13.53	35.96%
Dacron-Teflon-Dacron	10.46	14.91	
Average	10.16	13.81	

1000 HRS IN R-22/MINERAL OIL @ 260 F

Polyester Composite	10.87	7.75	
Dacron-Mylar-Dacron	10.82	2.26	-38.18%
	7.62	8.11	
Average	9.77	6.04	
Polyester, Fluoropolymer Composite	10.78	10.70	
	9.24	11.97	17.91%
Dacron-Teflon-Dacron	10.46	13.27	
Average	10.16	11.98	

Lead Wire

500 HRS IN R-22/MINERAL OIL @ 260 F

168 HRS IN R-407C/POLYOLESTER @260 F

Lead Wire Insulation Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
Polyester Composite	10.87	8.70	
Dacron-Mylar-Dacron	10.82	9.21	-7.20%
	7.62	9.29	
Average	9.77	9.07	
Polyester, Fluoropolymer Composite	10.78	12.96	
	9.24	14.12	39.21%
Dacron-Teflon-Dacron	10.46	15.35	
Average	10.16	14.14	

500 HRS IN R-22/MINERAL OIL @ 260 F

336 HRS IN R-407C/POLYOLESTER @260 F

Polyester Composite	10.87	17.30	
Dacron-Mylar-Dacron	10.82	14.46	62.06%
	7.62	15.74	
Average	9.77	15.83	
Polyester, Fluoropolymer Composite	10.78	18.14	
	9.24	19.46	88.91%
Dacron-Teflon-Dacron	10.46	19.98	
Average	10.16	19.19	

500 HRS IN R-22/MINERAL OIL @ 260 F

500 HRS IN R-407C/POLYOLESTER @260 F

Polyester Composite	10.87	9.32	
Dacron-Mylar-Dacron	10.82	8.47	-10.06%
	7.62	8.57	
Average	9.77	8.79	
Polyester, Fluoropolymer Composite	10.78	13.57	
	9.24	12.85	36.98%
Dacron-Teflon-Dacron	10.46	15.33	
	10.16	13.92	

Sleeving

500 HRS IN R-22/MINERAL OIL @ 260 F

Sleeving Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
Polyester Film	>19.14	>16.47	-7.22%
	>17.05	>14.97	
	>16.60	>17.54	
Average	>17.60	>16.33	

Aramid Fiber Mat	>11.83	>16.17	38.16%
Polyester Film	>12.33	>17.48	
	>12.40	>16.86	
Average	>12.19	>16.84	

1000 HRS IN R-22/MINERAL OIL @ 260 F

Polyester Film	>19.14		
	>17.05	brittle	
	>16.60		
Average	>17.60		

Aramid Fiber Mat	>11.83	9.41	-32.88%
Polyester Film	>12.33	9.03	
	>12.40	6.10	
Average	>12.19	8.18	

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F

<u>Sleeving Type</u>	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	
Polyester Film	>19.14	>19.99	
	>17.05	>19.99	13.60%
	>16.60	>19.99	
Average	>17.60	>19.99	

Aramid Fiber Mat	>11.83	>15.63	
Polyester Film	>12.33	>15.40	24.07%
	>12.40	>14.33	
Average	>12.19	>15.12	

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F

Polyester Film	>17.05		
	>16.60	brittle	
	>17.60		
Average	>17.08		

Aramid Fiber Mat	>11.83	>15.65	
Polyester Film	>12.33	>16.37	29.92%
	>12.40	>15.48	
Average	>12.19	>15.83	

Sleeving

500 HRS IN R-22/MINERAL OIL @ 260 F

500 HRS IN R-407C/POLYOLESTER @260 F

<u>Sleeving Type</u>	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	
Polyester Film	>19.14	>14.53	
	>17.05	>13.58	-16.94%
	>16.60	>15.74	
Average	>17.60	>14.62	
Aramid Fiber Mat	>11.83	>10.73	
Polyester Film	>12.33	>14.08	-2.52%
	>12.40	>10.83	
Average	>12.19	>11.88	

500 HRS IN R-22/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.516	92.8	17.98	22.48	-25.23%
2	0.010	0.528	84.8	16.06		
3	0.010	0.478	78.3	16.38		
Average				16.81		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	3.33	166.50%	134.83%	0.99%	>14.10	> 13.86	2.20%
2	2.52	126.00%				> 14.93	
3	2.32	116.00%				> 14.44	
Average		136.17%				> 14.41	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	82.5	16.50	19.06	-13.17%
2	0.010	0.470	74.3	15.81		
3	0.010	0.500	86.7	17.34		
Average				16.55		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.00	100.00%	142.83%	-25.20%	>14.60	> 14.97	1.64%
2	1.87	93.50%				> 14.99	
3	2.54	127.00%				> 14.56	
Average		106.83%				> 14.84	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.485	123.0	12.08	13.40	-8.74%
2	0.021	0.511	131.9	12.29		
3	0.021	0.465	120.3	12.32		
Average				12.23		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	25.00%	29.33%	-14.76%	>18.56	> 16.26	-11.33%
2	0.54	27.00%				> 17.25	
3	0.46	23.00%				> 15.86	
Average		25.00%				> 16.46	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.430	69.4	16.14	18.09	-8.20%
2	0.010	0.550	91.6	16.65		
3	0.010	0.528	89.9	17.03		
Average				16.61		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.48	12.00%	16.25%	-18.97%	10.24	14.16	33.76%
2	0.54	13.50%				13.06	
3	0.56	14.00%				13.87	
Average		13.17%				13.70	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.511	27.1	5.89	7.07	-17.97%
2	0.009	0.509	26.2	5.72		
3	0.009	0.503	26.2	5.79		
Average				5.80		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.08	2.00%	1.92%	4.17%	11.39	> 13.53	21.16%
2	0.08	2.00%				> 13.90	
3	0.08	2.00%				> 13.97	
Average		2.00%				> 13.80	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.507	153.5	14.42	17.05	-14.97%
2	0.021	0.488	152.7	14.90		
3	0.021	0.507	150.9	14.17		
Average				14.50		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.52	13.00%	25.50%	-40.20%	>17.76	> 19.99	10.66%
2	0.71	17.75%				> 19.24	
3	0.60	15.00%				> 19.73	
Average		15.25%				> 19.65	

500 HRS IN R-22/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>13.90	-6.50%
2	BRITTLE	BRITTLE				>13.56	
3	BRITTLE	BRITTLE				>12.09	
Average		BRITTLE				>13.18	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.47	-1.00%
2	BRITTLE	BRITTLE				>14.58	
3	BRITTLE	BRITTLE				>14.31	
Average		BRITTLE				> 14.45	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1			BRITTLE	BRITTLE		BRITTLE	DELAM
2			BRITTLE	BRITTLE			BRITTLE
3			BRITTLE	BRITTLE			
Average				BRITTLE			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>18.03	-20.55%
2	BRITTLE	BRITTLE				>11.46	
3	BRITTLE	BRITTLE				-	
Average		BRITTLE				> 14.75	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	0.010	0.507	98.2	19.37	18.09	6.25%	
2	0.010	0.500	102.3	20.46			
3	0.010	0.568	101.3	17.83			
Average				19.22			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	3.75%	16.25%	-76.92%	10.24	9.29	-2.67%
2	0.15	3.75%				10.66	
3	0.15	3.75%				9.95	
Average		3.75%				9.97	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.468	26.9	6.37	7.07	-1.08%
2	0.009	0.485	31.9	7.31		
3	0.009	0.421	27.7	7.30		
Average				6.99		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.02	0.50%	1.92%	-65.28%	11.39	9.21	-8.78%
2	0.03	0.75%				10.38	
3	0.03	0.75%				11.58	
Average		0.67%				10.39	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.549	102.4	8.88	17.05	-49.31%
2	0.021	0.475	84.1	8.43		
3	0.021	0.498	90.2	8.62		
Average				8.64		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	3.25%	25.50%	-86.93%	>17.76	>14.25	-20.95%
2	0.13	3.25%				>13.30	
3	0.14	3.50%				>14.57	
Average		3.33%				> 14.04	

1000 HRS IN R-22/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	> 14.25	-0.43%
2	BRITTLE	BRITTLE				> 13.30	
3	BRITTLE	BRITTLE				> 14.57	
Average		BRITTLE				> 14.04	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	> 14.67	1.48%
2	BRITTLE	BRITTLE				> 14.51	
3	BRITTLE	BRITTLE				> 15.27	
Average		BRITTLE				> 14.82	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.530	30.4	2.73	13.40	-80.40%
2	0.021	0.516	25.1	2.31		
3	0.021	0.573	34.2	2.84		
Average				2.63		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	2.00%	29.33%	-93.75%	>18.56	>19.69	1.08%
2	0.03	1.50%				>18.05	
3	0.04	2.00%				>18.54	
Average		1.83%				> 18.76	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.530	70.6	13.32	18.09	-13.61%
2	0.010	0.516	99.2	19.22		
3	0.010	0.573	82.2	14.35		
Average				15.63		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.31	7.75%	16.25%	-47.69%	10.24	13.47	34.73%
2	0.35	8.75%				13.93	
3	0.36	9.00%				13.99	
Average		8.50%				13.80	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.441	23.0	5.78	7.07	-15.29%
2	0.009	0.491	28.2	6.37		
3	0.009	0.472	24.7	5.81		
Average				5.99		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-17.53%	11.39	13.58	16.24%
2	0.06	1.50%				13.17	
3	0.07	1.75%				12.97	
Average		1.58%				13.24	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.451	83.3	8.79	17.05	-53.29%
2	0.021	0.444	71.6	7.68		
3	0.021	0.482	75.1	7.42		
Average				7.96		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.09	2.25%	25.50%	-92.16%	>17.76	> 19.67	-3.34%
2	0.07	1.75%				> 19.40	
3	0.08	2.00%				12.43	
Average		2.00%				> 17.17	

1000 HRS IN R-22/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation (Inches)	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE		BRITTLE	BRITTLE
2	BRITTLE	BRITTLE				BRITTLE	
3	BRITTLE	BRITTLE				BRITTLE	
Average		BRITTLE					

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation (Inches)	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE		BRITTLE	BRITTLE
2	BRITTLE	BRITTLE				BRITTLE	
3	BRITTLE	BRITTLE				BRITTLE	
Average		BRITTLE					

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1			BRITTLE	BRITTLE		BRITTLE	WHITENING DELAMIN
2			BRITTLE	BRITTLE			
3			BRITTLE	BRITTLE			
Average				BRITTLE			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	2.90	-74.39%
2	BRITTLE	BRITTLE				2.20	
3	BRITTLE	BRITTLE				9.16	
Average		BRITTLE				4.75	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	0.010	0.450	69.7	15.49	18.09	-13.74%	
2	0.010	0.503	79.7	15.84			
3	0.010	0.503	77.9	15.48			
Average				15.60			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.21	5.25%	16.25%	-69.74%	10.24	9.96	5.60%
2	0.19	4.75%				10.84	
3	0.19	4.75%				11.64	
Average		4.92%				10.81	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.503	26.9	5.94	7.07	-15.16%
2	0.009	0.516	27.3	5.88		
3	0.009	0.577	32.1	6.18		
Average				6.00		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.03	0.75%	1.92%	-56.60%	11.39	9.16	-27.22%
2	0.03	0.75%				9.46	
3	0.04	1.00%				6.25	
Average		0.83%				8.29	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

total delamination

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE		BRITTLE	BRITTLE
2	BRITTLE	BRITTLE				BRITTLE	
3	BRITTLE	BRITTLE				BRITTLE	
Average		BRITTLE					

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.449	70.6	15.71	22.48	-28.21%
2	0.010	0.499	81.8	16.39		
3	0.010	0.431	70.3	16.31		
Average				16.14		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.05	52.50%	134.83%	-38.19%	>14.10	> 13.97	1.87%
2	2.16	108.00%				> 14.85	
3	1.79	89.50%				> 14.27	
Average		83.33%				> 14.36	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.509	83.8	16.46	19.06	-13.83%
2	0.010	0.485	78.7	16.23		
3	0.010	0.525	87.1	16.58		
Average				16.42		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.74	137.00%	142.83%	-1.16%	>14.60	> 14.40	-0.62%
2	2.82	141.00%				> 14.90	
3	2.91	145.50%				> 14.23	
Average		141.17%				> 14.51	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.500	127.4	12.13	13.40	-11.16%
2	0.021	0.552	138.2	11.92		
3	0.021	0.555	135.9	11.66		
Average				11.91		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.89	44.50%	29.33%	50.59%	>18.56	> 19.53	-4.49%
2	0.94	47.00%				> 16.56	
3	0.82	41.00%				> 17.09	
Average		44.17%				> 17.73	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.512	90.9	17.75	18.09	-3.03%
2	0.010	0.559	97.8	17.49		
3	0.010	0.480	83.5	17.39		
Average				17.54		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.32	8.00%	16.25%	-54.36%	10.24	12.66	44.92%
2	0.29	7.25%				14.26	
3	0.28	7.00%				17.60	
Average		7.42%				14.84	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.569	33.1	6.45	7.07	-9.28%
2	0.009	0.495	28.9	6.48		
3	0.009	0.485	27.6	6.31		
Average				6.41		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	1.92%	-17.53%	11.39	12.04	9.45%
2	0.06	1.50%				12.51	
3	0.06	1.50%				12.85	
Average		1.58%				12.47	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.440	117.3	12.69	17.05	-25.83%
2	0.021	0.430	121.0	13.40		
3	0.021	0.548	136.3	11.84		
Average				12.65		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.24	6.00%	25.50%	-74.84%	>17.76	> 19.69	9.98%
2	0.29	7.25%				> 19.94	
3	0.24	6.00%				> 18.97	
Average		6.42%				> 19.53	

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>14.36	3.50%
2	BRITTLE	BRITTLE				>14.61	
3	BRITTLE	BRITTLE				>14.81	
Average		BRITTLE				> 14.59	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>15.10	4.41%
2	BRITTLE	BRITTLE				>15.09	
3	BRITTLE	BRITTLE				>15.54	
Average		BRITTLE				> 15.24	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>16.21	-11.73%
2	BRITTLE	BRITTLE				>16.30	
3	BRITTLE	BRITTLE				>16.64	
Average		BRITTLE				> 16.38	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.426	81.9	19.21	18.09	-1.42%
2	0.010	0.555	93.0	16.76		
3	0.010	0.494	86.6	17.53		
Average				17.83		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	16.25%	-66.15%	10.24	12.03	18.03%
2	0.19	4.75%				12.07	
3	0.20	5.00%				12.16	
Average		5.50%				12.09	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.415	26.5	7.09	7.07	-1.03%
2	0.009	0.475	29.5	6.89		
3	0.009	0.397	25.1	7.01		
Average				7.00		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-56.60%	11.39	13.30	15.77%
2	0.03	0.75%				12.86	
3	0.03	0.75%				13.40	
Average		0.83%				13.19	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.482	82.5	8.15	17.05	-53.09%
2	0.021	0.497	80.8	7.74		
3	0.021	0.552	94.0	8.10		
Average				8.00		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.31	7.75%	25.50%	-69.61%	>17.76	>19.77	11.79%
2	0.25	6.25%				>19.82	
3	0.37	9.25%				>19.97	
Average		7.75%				> 19.85	

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	76.1	15.22	22.48	-31.29%
2	0.010	0.435	68.0	15.63		
3	0.010	0.461	71.4	15.49		
Average				15.45		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.91	45.50%	134.83%	-71.94%	>14.10	> 14.51	0.83%
2	0.69	34.50%				> 14.33	
3	0.67	33.50%				> 13.81	
Average		37.83%				> 14.22	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.464	71.7	15.45	19.06	-18.31%
2	0.010	0.445	72.3	16.24		
3	0.010	0.492	73.9	15.02		
Average				15.57		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.32	66.00%	142.83%	-56.94%	>14.60	> 14.66	-0.09%
2	1.13	56.50%				> 14.70	
3	1.24	62.00%				> 14.40	
Average		61.50%				> 14.59	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.481	104.6	10.36	13.40	-14.07%
2	0.021	0.490	124.6	12.11		
3	0.021	0.505	128.1	12.08		
Average				11.51		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.45	22.50%	29.33%	15.35%	>18.56	> 19.99	7.70%
2	0.73	36.50%				> 19.99	
3	0.85	42.50%				> 19.99	
Average		33.83%				> 19.99	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.436	70.4	16.15	18.09	-9.77%
2	0.010	0.488	81.9	16.77		
3	0.010	0.511	82.0	16.05		
Average				16.32		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.45	11.25%	16.25%	-21.54%	10.24	13.18	27.96%
2	0.23	5.75%				12.86	
3	0.85	21.25%				13.27	
Average		12.75%				13.10	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.501	25.4	5.62	7.07	-20.55%
2	0.009	0.481	23.8	5.50		
3	0.009	0.506	26.1	5.73		
Average				5.62		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.08	2.00%	1.92%	8.51%	11.39	12.57	11.41%
2	0.08	2.00%				12.80	
3	0.09	2.25%				12.70	
Average		2.08%				12.69	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.445	79.4	8.49	17.05	-54.14%
2	0.021	0.514	83.3	7.71		
3	0.021	0.499	76.0	7.25		
Average				7.82		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	25.50%	-94.12%	>17.76	> 19.87	12.31%
2	0.07	1.75%				> 19.98	
3	0.04	1.00%				> 19.99	
Average		1.50%				> 19.95	

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>13.85	-6.08%
2	BRITTLE	BRITTLE				>12.74	
3	BRITTLE	BRITTLE				>13.14	
Average		BRITTLE				> 13.24	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.59	-1.71%
2	BRITTLE	BRITTLE				>14.66	
3	BRITTLE	BRITTLE				>13.80	
Average		BRITTLE				> 14.35	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>19.16	-9.66%
2	BRITTLE	BRITTLE				>15.89	
3	BRITTLE	BRITTLE				>15.25	
Average		BRITTLE				>16.77	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.575	102.3	17.79	18.09	-2.30%
2	0.010	0.524	93.2	17.78		
3	0.010	0.568	99.2	17.46		
Average				17.67		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.39	9.75%	16.25%	-41.54%	10.24	11.22	1.63%
2	0.38	9.50%				11.31	
3	0.37	9.25%				8.69	
Average		9.50%				10.41	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.497	33.8	7.55	7.07	-0.08%
2	0.009	0.483	29.2	6.71		
3	0.009	0.493	30.8	6.94		
Average				7.06		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-47.92%	11.39	12.51	9.34%
2	0.04	1.00%				11.69	
3	0.04	1.00%				13.16	
Average		1.00%				12.45	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.435	87.8	9.61	17.05	-49.57%
2	0.021	0.553	87.5	7.53		
3	0.021	0.475	86.3	8.65		
Average				8.60		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.37	9.25%	25.50%	-67.97%	>17.76	11.71	-7.79%
2	0.29	7.25%				>18.49	
3	0.32	8.00%				>18.93	
Average		8.17%				> 16.38	

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.494	75.0	15.18	22.48	-32.53%
2	0.010	0.504	77.4	15.35		
3	0.010	0.500	74.9	14.97		
Average				15.17		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.49	24.50%	134.83%	-84.30%	>14.10	> 14.57	2.27%
2	0.39	19.50%				> 13.61	
3	0.39	19.50%				> 15.08	
Average		21.17%				> 14.42	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.485	75.8	15.63	19.06	-18.13%
2	0.010	0.453	70.5	15.55		
3	0.010	0.553	86.5	15.63		
Average				15.60		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-95.10%	>14.60	> 15.13	3.74%
2	0.14	7.00%				> 15.05	
3	0.14	7.00%				> 15.26	
Average		7.00%				> 15.15	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.464	94.8	9.72	13.40	-30.89%
2	0.021	0.544	107.1	9.38		
3	0.021	0.510	93.0	8.68		
Average				9.26		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.10	5.00%	29.33%	-85.79%	>18.56	> 18.64	4.94%
2	0.08	4.00%				> 19.87	
3	0.07	3.50%				> 19.92	
Average		4.17%				> 19.48	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.451	72.9	16.16	18.09	-8.07%
2	0.010	0.510	89.4	17.52		
3	0.010	0.427	69.2	16.21		
Average				16.63		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.24	6.00%	16.25%	-58.97%	10.24	13.43	23.24%
2	0.28	7.00%				12.76	
3	0.28	7.00%				11.67	
Average		6.67%				12.62	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.508	27.3	5.96	7.07	-18.61%
2	0.009	0.500	25.8	5.73		
3	0.009	0.509	25.5	5.57		
Average				5.75		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-26.22%	11.39	11.40	4.42%
2	0.05	1.25%				12.36	
3	0.06	1.50%				11.92	
Average		1.42%				11.89	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.504	83.4	7.88	17.05	-60.05%
2	0.021	0.510	88.8	8.29		
3	0.021	0.547	49.0	4.26		
Average				6.81		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.22	5.50%	25.50%	-79.41%	>17.76	> 19.16	9.85%
2	0.34	8.50%				> 19.66	
3	0.07	1.75%				> 19.71	
Average		5.25%				> 19.51	

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>12.69	-11.13%
2	BRITTLE	BRITTLE				>12.41	
3	BRITTLE	BRITTLE				>12.49	
Average		BRITTLE				> 12.53	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE	powdery
2			BRITTLE	BRITTLE			
3			BRITTLE	BRITTLE			
Average				BRITTLE			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>13.32	-6.78%
2	BRITTLE	BRITTLE				>13.95	
3	BRITTLE	BRITTLE				>13.56	
Average		BRITTLE				> 13.61	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE	DELAMIN
2			BRITTLE	BRITTLE			
3			BRITTLE	BRITTLE			
Average				BRITTLE			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>17.23	-7.45%
2	BRITTLE	BRITTLE				>14.41	
3	BRITTLE	BRITTLE				>19.89	
Average		BRITTLE				> 17.18	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	0.010	0.559	90.8	16.25	18.09	-9.15%	BLISTERING
2	0.010	0.441	69.6	15.77			
3	0.010	0.495	85.6	17.29			
Average				16.43			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.31	7.75%	16.25%	-56.41%	10.24	12.32	11.72%
2	0.22	5.50%				11.62	
3	0.32	8.00%				10.38	
Average		7.08%				11.44	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	0.009	0.495	29.7	6.67	7.07	-6.89%	BLISTERING
2	0.009	0.492	29.0	6.55			
3	0.009	0.488	28.7	6.53			
Average				6.58			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-47.92%	11.39	12.36	7.14%
2	0.04	1.00%				11.79	
3	0.04	1.00%				12.46	
Average		1.00%				12.20	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	BRITTLE		BRITTLE	BRITTLE		BRITTLE	DELAM
2			BRITTLE	BRITTLE			
3			BRITTLE	BRITTLE			
Average				BRITTLE			

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>19.55	-11.96%
2	BRITTLE	BRITTLE				14.21	
3	BRITTLE	BRITTLE				>15.26	
Average		BRITTLE				> 16.34	

500 HRS IN R-22/MINERAL OIL @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	52.00	
	2	37.20	52.25	24.17%
	3	29.70	54.25	
Average		42.55	52.83	

Tape B	1	441.60	325.00	
	2	424.20	343.60	-28.08%
	3	490.70	307.00	
Average		452.17	325.20	

Cord C	1	28.05	32.00	
	2	34.85	35.52	-2.52%
	3	40.50	33.27	
Average		34.47	33.60	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.74	37.00%	
	2	0.23	11.50%	0.44	22.00%	29.13%
	3	0.40	20.00%	0.46	23.00%	
Average		0.42	21.17%	0.55	27.33%	

Tape B	1	0.11	5.50%	0.08	4.00%	
	2	0.11	5.50%	0.07	3.50%	-35.29%
	3	0.12	6.00%	0.07	3.50%	
Average		0.11	5.67%	0.07	3.67%	

Cord C	1	0.62	31.00%	0.39	19.50%	
	2	0.18	9.00%	0.38	19.00%	18.00%
	3	0.20	10.00%	0.41	20.50%	
Average		0.33	16.67%	0.39	19.67%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester, acrylic binder

Cord C is polyester tie cord

1000 HRS IN R-22/MINERAL OIL @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	33.40	
	2	37.20	37.45	-18.61%
	3	29.70	33.05	
	Average	42.55	34.63	

Tape B	1	441.60	446.00	
	2	424.20	448.20	-0.50%
	3	490.70	455.50	
	Average	452.17	449.90	

Cord C	1	28.05	24.52	
	2	34.85	25.60	-31.27%
	3	40.50	20.95	
	Average	34.47	23.69	

Tape Tie Cords	Sample #	Unexposed		Experimental		Change from Unexposed Elongation
		Stretch (Inches)	Unexposed Elongation	Stretch (Inches)	Experimental Elongation	
Tape A	1	0.64	32.00%	0.23	11.50%	
	2	0.23	11.50%	0.32	16.00%	-39.37%
	3	0.40	20.00%	0.22	11.00%	
	Average	0.42	21.17%	0.26	12.83%	

Tape B	1	0.11	5.50%	0.10	5.00%	
	2	0.11	5.50%	0.10	5.00%	-11.76%
	3	0.12	6.00%	0.10	5.00%	
	Average	0.11	5.67%	0.10	5.00%	

Cord C	1	0.62	31.00%	0.43	21.50%	
	2	0.18	9.00%	0.39	19.50%	13.00%
	3	0.20	10.00%	0.31	15.50%	
	Average	0.33	16.67%	0.38	18.83%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester, acrylic binder
Cord C is polyester tie cord

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	49.50	
	2	37.20	49.65	5.52%
	3	29.70	35.55	
Average		42.55	44.90	

Tape B	1	441.60	454.00	
	2	424.20	389.00	-2.91%
	3	490.70	474.00	
Average		452.17	439.00	

Cord C	1	28.05	29.60	
	2	34.85	28.40	-9.53%
	3	40.50	35.55	
Average		34.47	31.18	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.47	23.50%	
	2	0.23	11.50%	0.57	28.50%	3.15%
	3	0.40	20.00%	0.27	13.50%	
Average		0.42	21.17%	0.44	21.83%	

Tape B	1	0.11	5.50%	0.10	5.00%	
	2	0.11	5.50%	0.10	5.00%	-11.76%
	3	0.12	6.00%	0.10	5.00%	
Average		0.11	5.67%	0.10	5.00%	

Cord C	1	0.62	31.00%	0.44	22.00%	
	2	0.18	9.00%	0.56	28.00%	57.00%
	3	0.20	10.00%	0.57	28.50%	
Average		0.33	16.67%	0.52	26.17%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester, acrylic binder
Cord C is polyester tie cord

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	40.50	
	2	37.20	41.40	-4.94%
	3	29.70	39.45	
	Average	42.55	40.45	

Tape B	1	441.60	338.00	
	2	424.20	427.00	-15.30%
	3	490.70	384.00	
	Average	452.17	383.00	

Cord C	1	28.05	33.55	
	2	34.85	33.12	-3.41%
	3	40.50	33.20	
	Average	34.47	33.29	

Tape Tie Cords	Sample #	Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from Unexposed Elongation
Tape A	1	0.64	32.00%	0.38	19.00%	
	2	0.23	11.50%	0.37	18.50%	-12.60%
	3	0.40	20.00%	0.36	18.00%	
	Average	0.42	21.17%	0.37	18.50%	

Tape B	1	0.11	5.50%	0.09	4.50%	
	2	0.11	5.50%	0.08	4.00%	-23.53%
	3	0.12	6.00%	0.09	4.50%	
	Average	0.11	5.67%	0.09	4.33%	

Cord C	1	0.62	31.00%	0.85	42.50%	
	2	0.18	9.00%	0.87	43.50%	159.00%
	3	0.20	10.00%	0.87	43.50%	
	Average	0.33	16.67%	0.86	43.17%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester, acrylic binder
Cord C is polyester tie cord

500 HRS IN R-22/MINERAL OIL @ 260 F**500 HRS IN R-407C/POLYOLESTER @260 F**

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	42.95	
	2	37.20	43.30	-1.61%
	3	29.70	39.35	
Average		42.55	41.87	

Tape B	1	441.60	408.00	
	2	424.20	377.20	-32.27%
	3	490.70	133.50	
Average		452.17	306.23	

Cord C	1	28.05	27.65	
	2	34.85	25.57	-14.56%
	3	40.50	35.12	
Average		34.47	29.45	

Tape Tie Cords	Sample #	Unexposed		Experimental		Change from Unexposed
		Stretch (Inches)	Unexposed Elongation	Stretch (Inches)	Experimental Elongation	
Tape A	1	0.64	32.00%	0.20	10.00%	
	2	0.23	11.50%	0.38	19.00%	-29.13%
	3	0.40	20.00%	0.32	16.00%	
Average		0.42	21.17%	0.30	15.00%	

Tape B	1	0.11	5.50%	0.09	4.50%	
	2	0.11	5.50%	0.08	4.00%	-41.18%
	3	0.12	6.00%	0.03	1.50%	
Average		0.11	5.67%	0.07	3.33%	

Cord C	1	0.62	31.00%	0.53	26.50%	
	2	0.18	9.00%	0.51	25.50%	52.00%
	3	0.20	10.00%	0.48	24.00%	
Average		0.33	16.67%	0.51	25.33%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester, acrylic binder

Cord C is polyester tie cord

500 HRS IN R-22/MINERAL OIL @ 260 F

Magnet Wire Type	Unexposed	Experimental	Appearance Change
	Voltage Withstand	Voltage Withstand	
Wire Type A	Pass	Pass	
Wire Type B	Pass	Pass	

1000 HRS IN R-22/MINERAL OIL @ 260 F

Wire Type A	Pass	Pass	
Wire Type B	Pass	Pass	

500 HRS IN R-22/MINERAL OIL @ 260 F**168 HRS IN R-407C/POLYOLESTER @260 F**

Wire Type A	Pass	Pass	
Wire Type B	Pass		

500 HRS IN R-22/MINERAL OIL @ 260 F**336 HRS IN R-407C/POLYOLESTER @260 F**

Wire Type A	Pass	Pass	
Wire Type B	Pass	Pass	

500 HRS IN R-22/MINERAL OIL @ 260 F**500 HRS IN R-407C/POLYOLESTER @260 F**

Wire Type A	Pass	Pass	
Wire Type B	Pass	Pass	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-22/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.515	80.6	15.65	22.48	-31.05%
2	0.010	0.496	76.4	15.39		
3	0.010	0.484	74.8	15.45		
Average				15.50		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	25.00%	134.83%	-80.96%	>14.10	> 13.83	-1.11%
2	0.52	26.00%				> 13.54	
3	0.52	26.00%				> 14.46	
Average		25.67%				> 13.94	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.495	79.2	15.99	19.06	-17.60%
2	0.010	0.479	76.0	15.87		
3	0.010	0.502	76.6	15.26		
Average				15.71		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.22	111.00%	142.83%	-55.19%	>14.60	> 14.01	-4.52%
2	1.11	55.50%				> 13.81	
3	0.51	25.50%				> 14.00	
Average		64.00%				> 13.94	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.504	142.6	13.47	13.40	-1.64%
2	0.021	0.482	132.6	13.10		
3	0.021	0.506	137.8	12.97		
Average				13.18		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.52	26.00%	29.33%	-15.90%	>18.56	> 16.42	-14.33%
2	0.49	24.50%				> 16.42	
3	0.47	23.50%				> 14.86	
Average		24.67%				> 15.90	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.488	46.6	9.55	18.09	-46.89%
2	0.010	0.510	50.2	9.84		
3	0.010	0.500	47.2	9.43		
Average				9.61		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.20	5.00%	16.25%	-66.67%	10.24	12.86	27.77%
2	0.23	5.75%				12.59	
3	0.22	5.50%				13.80	
Average		5.42%				13.08	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.571	27.7	5.39	7.07	-29.78%
2	0.009	0.545	21.7	4.43		
3	0.009	0.504	23.0	5.07		
Average				4.96		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-34.90%	11.39	> 13.95	23.41%
2	0.04	1.00%				> 13.99	
3	0.05	1.25%				> 14.23	
Average		1.25%				> 14.06	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed	
1	0.021	0.504	161.8	15.29	17.05	-14.01%	Delamination
2	0.021	0.498	149.2	14.27			
3	0.021	0.503	152.4	14.43			
Average				14.66			

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.42	10.50%	25.50%	-58.17%	>17.76	> 18.65	7.73%
2	0.39	9.75%				> 19.22	
3	0.47	11.75%				> 19.53	
Average		10.67%				> 19.13	

500 HRS IN R-22/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.494	90.9	18.40	22.48	-21.62%
2	0.010	0.500	86.7	17.33		
3	0.010	0.517	88.6	17.13		
Average				17.62		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.47	23.50%	134.83%	-90.61%	>14.10	> 13.59	-4.00%
2	0.14	7.00%				> 13.22	
3	0.15	7.50%				> 13.80	
Average		12.67%				> 13.54	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.494	86.9	17.58	19.06	-7.31%
2	0.010	0.505	89.1	17.64		
3	0.010	0.500	88.9	17.78		
Average				17.67		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-94.98%	>14.60	> 14.40	-2.05%
2	0.15	7.50%				> 14.34	
3	0.14	7.00%				> 14.16	
Average		7.17%				> 14.30	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.480	141.5	14.04	13.40	4.11%
2	0.021	0.448	130.5	13.87		
3	0.021	0.444	130.0	13.94		
Average				13.95		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.52	26.00%	29.33%	-14.76%	>18.56	> 17.14	0.90%
2	0.48	24.00%				> 19.61	
3	0.50	25.00%				> 19.43	
Average		25.00%				> 18.73	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.590	92.2	15.62	18.09	-32.26%
2	0.010	0.495	51.0	10.30		
3	0.010	0.500	54.2	10.84		
Average				12.25		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.32	8.00%	16.25%	-61.03%	10.24	9.40	-2.18%
2	0.22	5.50%				10.52	
3	0.22	5.50%				10.13	
Average		6.33%				10.02	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.523	21.8	4.64	7.07	-24.47%
2	0.009	0.492	22.4	5.05		
3	0.009	0.490	28.0	6.34		
Average				5.34		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-39.24%	11.39	10.38	-8.49%
2	0.05	1.25%				10.70	
3	0.05	1.25%				10.19	
Average		1.17%				10.42	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.530	204.7	18.39	17.05	3.70%
2	0.021	0.529	194.1	17.47		
3	0.021	0.499	180.0	17.18		
Average				17.68		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	25.50%	-55.56%	>17.76	> 17.54	-0.15%
2	0.50	12.50%				> 17.90	
3	0.59	14.75%				> 17.76	
Average		11.33%				> 17.73	

1000 HRS IN R-22/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.497	73.4	14.77	22.48	-34.57%
2	0.010	0.435	63.5	14.59		
3	0.010	0.508	75.1	14.77		
Average				14.71		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	134.83%	-93.08%	>14.10	> 14.48	4.14%
2	0.13	6.50%				> 14.66	
3	0.30	15.00%				> 14.91	
Average		9.33%				> 14.68	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.490	82.8	16.90	19.06	-18.04%
2	0.010	0.475	71.0	14.94		
3	0.010	0.495	74.4	15.03		
Average				15.62		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.55	27.50%	142.83%	-86.46%	>14.60	> 15.74	8.86%
2	0.27	13.50%				> 16.04	
3	0.34	17.00%				> 15.90	
Average		19.33%				> 15.89	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.530	131.6	11.82	13.40	-10.90%
2	0.021	0.505	128.9	12.15		
3	0.021	0.500	124.3	11.84		
Average				11.94		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.44	22.00%	29.33%	-35.79%	>18.56	> 16.40	-12.21%
2	0.37	18.50%				> 16.04	
3	0.32	16.00%				> 16.44	
Average		18.83%				> 16.29	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.495	81.4	16.43	18.09	-32.35%
2	0.010	0.495	49.7	10.03		
3	0.010	0.518	53.1	10.25		
Average				12.24		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	16.25%	-60.00%	10.24	13.64	36.00%
2	0.24	6.00%				14.50	
3	0.27	6.75%				13.64	
Average		6.50%				13.93	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.493	28.5	6.41	7.07	-15.17%
2	0.009	0.476	26.1	6.08		
3	0.009	0.425	21.0	5.50		
Average				6.00		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-39.24%	11.39	> 14.30	24.38%
2	0.05	1.25%				> 14.10	
3	0.04	1.00%				> 14.10	
Average		1.17%				> 14.17	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.497	166.9	15.99	17.05	-7.52%
2	0.021	0.503	164.9	15.61		
3	0.021	0.468	154.3	15.70		
Average				15.77		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.64	16.00%	25.50%	-36.93%	>17.76	> 19.81	11.75%
2	0.61	15.25%				> 19.97	
3	0.68	17.00%				> 19.76	
Average		16.08%				> 19.85	

1000 HRS IN R-22/MINERAL OIL @ 260 F

24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.491	74.7	15.21	22.48	-30.25%
2	0.010	0.438	66.9	15.27		
3	0.010	0.467	77.3	16.55		
Average				15.68		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	134.83%	-94.93%	>14.10	> 13.51	1.75%
2	0.05	2.50%				> 15.00	
3	0.20	10.00%				> 14.53	
Average		6.83%				> 14.35	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.480	63.8	13.29	19.06	-24.26%
2	0.010	0.505	62.3	12.33		
3	0.010	0.474	83.9	17.69		
Average				14.44		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.11	5.50%	142.83%	-94.63%	>14.60	> 13.95	-4.18%
2	0.07	3.50%				> 14.37	
3	0.28	14.00%				> 13.65	
Average		7.67%				> 13.99	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.487	116.5	11.39	13.40	-16.93%
2	0.021	0.492	113.0	10.94		
3	0.021	0.525	122.0	11.07		
Average				11.13		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.19	9.50%	29.33%	-66.47%	>18.56	> 16.82	-6.84%
2	0.17	8.50%				> 17.35	
3	0.23	11.50%				> 17.70	
Average		9.83%				> 17.29	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	52.9	10.57	18.09	-43.05%
2	0.010	0.508	51.9	10.22		
3	0.010	0.506	51.2	10.12		
Average				10.30		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.22	5.50%	16.25%	-66.67%	10.24	9.90	-4.95%
2	0.24	6.00%				10.10	
3	0.19	4.75%				9.20	
Average		5.42%				9.73	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.478	25.8	5.99	7.07	-14.62%
2	0.009	0.478	27.2	6.31		
3	0.009	0.496	26.0	5.81		
Average				6.04		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-43.58%	11.39	10.84	-9.89%
2	0.04	1.00%				9.62	
3	0.04	1.00%				10.33	
Average		1.08%				10.26	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.522	169.5	15.46	17.05	-7.51%
2	0.021	0.485	161.4	15.85		
3	0.021	0.506	170.0	16.00		
Average				15.77		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.18	4.50%	25.50%	-79.41%	>17.76	> 18.33	0.54%
2	0.20	5.00%				> 17.94	
3	0.25	6.25%				> 17.30	
Average		5.25%				> 17.86	

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.498	77.5	15.55	22.48	-31.83%
2	0.010	0.472	72.1	15.26		
3	0.010	0.488	74.0	15.15		
Average				15.32		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.18	9.00%	134.83%	-93.82%	>14.10	> 14.27	2.01%
2	0.15	7.50%				> 15.01	
3	0.17	8.50%				> 13.87	
Average		8.33%				> 14.38	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.506	80.3	15.87	19.06	-17.18%
2	0.010	0.451	71.3	15.81		
3	0.010	0.501	78.6	15.68		
Average				15.79		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.40	20.00%	142.83%	-89.38%	>14.60	> 13.83	-0.50%
2	0.27	13.50%				> 14.72	
3	0.24	12.00%				> 15.03	
Average		15.17%				> 14.53	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.449	116.6	12.37	13.40	-6.20%
2	0.021	0.460	117.8	12.19		
3	0.021	0.489	135.0	13.15		
Average				12.57		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.39	19.50%	29.33%	-24.99%	>18.56	> 17.82	-7.90%
2	0.40	20.00%				> 16.11	
3	0.53	26.50%				> 17.35	
Average		22.00%				> 17.09	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.485	76.1	15.69	18.09	-11.94%
2	0.010	0.502	81.2	16.18		
3	0.010	0.499	79.5	15.92		
Average				15.93		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.31	7.75%	16.25%	-52.82%	10.24	11.11	23.86%
2	0.34	8.50%				13.64	
3	0.27	6.75%				13.30	
Average		7.67%				12.68	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.487	25.4	5.80	7.07	-19.14%
2	0.009	0.486	24.1	5.51		
3	0.009	0.518	27.3	5.85		
Average				5.72		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	1.00%	1.92%	-47.92%	11.39	12.77	13.58%
2	0.03	0.75%				13.31	
3	0.05	1.25%				12.73	
Average		1.00%				12.94	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.508	167.0	15.65	17.05	-5.70%
2	0.021	0.502	172.9	16.40		
3	0.021	0.495	168.2	16.18		
Average				16.08		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.59	14.75%	25.50%	-35.29%	>17.76	> 17.13	0.81%
2	0.71	17.75%				> 18.05	
3	0.68	17.00%				> 18.53	
Average		16.50%				> 17.90	

500 HRS IN R-22/MINERAL OIL @ 260 F
168 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.480	83.6	17.41	22.48	-23.69%
2	0.010	0.505	87.4	17.31		
3	0.010	0.485	81.3	16.75		
Average				17.16		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	7.50%	134.83%	-94.56%	>14.10	> 14.02	-0.95%
2	0.14	7.00%				> 14.38	
3	0.15	7.50%				> 13.50	
Average		7.33%				> 13.97	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.100	0.493	86.2	1.75	19.06	-35.04%
2	0.010	0.499	87.6	17.56		
3	0.010	0.503	89.8	17.84		
Average				12.38		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	7.50%	142.83%	-94.98%	>14.60	> 14.49	-1.55%
2	0.14	7.00%				> 14.32	
3	0.14	7.00%				> 14.31	
Average		7.17%				> 14.37	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.447	122.9	13.09	13.40	0.91%
2	0.021	0.508	147.8	13.85		
3	0.021	0.465	133.0	13.62		
Average				13.52		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.42	21.00%	29.33%	-21.01%	>18.56	> 15.48	-9.95%
2	0.50	25.00%				> 18.66	
3	0.47	23.50%				> 16.00	
Average		23.17%				> 16.71	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.517	84.7	16.37	18.09	-4.62%
2	0.010	0.503	88.1	17.50		
3	0.010	0.492	88.0	17.89		
Average				17.25		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.20	5.00%	16.25%	-63.59%	10.24	10.54	-2.86%
2	0.23	5.75%				9.87	
3	0.28	7.00%				9.43	
Average		5.92%				9.95	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.538	22.0	4.53	7.07	-22.65%
2	0.009	0.496	22.5	5.03		
3	0.009	0.535	33.0	6.84		
Average				5.47		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.03	0.75%	1.92%	-43.58%	11.39	12.06	5.03%
2	0.05	1.25%				12.16	
3	0.05	1.25%				11.67	
Average		1.08%				11.96	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.505	183.1	17.27	17.05	1.96%
2	0.021	0.542	198.4	17.43		
3	0.021	0.506	185.5	17.46		
Average				17.38		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.43	10.75%	25.50%	-50.00%	>17.76	> 18.42	4.50%
2	0.55	13.75%				> 18.75	
3	0.55	13.75%				> 18.51	
Average		12.75%				> 18.56	

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.492	86.1	17.49	22.48	-23.32%
2	0.010	0.484	82.8	17.10		
3	0.010	0.492	84.3	17.12		
Average				17.24		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	134.83%	-94.56%	>14.10	> 13.95	1.04%
2	0.14	7.00%				> 14.24	
3	0.14	7.00%				> 14.55	
Average		7.33%				> 14.25	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.450	81.3	18.07	19.06	-7.67%
2	0.010	0.459	79.8	17.39		
3	0.010	0.478	82.9	17.34		
Average				17.60		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	142.83%	-94.63%	>14.60	> 15.75	7.37%
2	0.14	7.00%				> 16.95	
3	0.16	8.00%				> 14.33	
Average		7.67%				> 15.68	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.452	126.8	13.36	13.40	0.17%
2	0.021	0.502	145.4	13.79		
3	0.021	0.461	127.0	13.12		
Average				13.42		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.45	22.50%	29.33%	-17.60%	>18.56	> 15.59	-15.61%
2	0.50	25.00%				> 17.15	
3	0.50	25.00%				> 14.25	
Average		24.17%				> 15.66	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.510	82.9	16.25	18.09	-6.99%
2	0.010	0.503	87.6	17.41		
3	0.010	0.492	82.8	16.82		
Average				16.83		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.21	5.25%	16.25%	-67.18%	10.24	11.64	17.19%
2	0.25	6.25%				12.35	
3	0.18	4.50%				12.01	
Average		5.33%				12.00	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.518	32.5	6.97	7.07	-10.94%
2	0.009	0.507	30.3	6.63		
3	0.009	0.491	23.4	5.29		
Average				6.30		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-39.24%	11.39	> 13.28	15.72%
2	0.04	1.00%				> 13.22	
3	0.05	1.25%				> 13.04	
Average		1.17%				> 13.18	

Insulation Type: Aramid Mat, Polyester Film Composite- Nomex-Mylar-Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.510	178.1	16.63	17.05	-3.96%
2	0.021	0.495	168.3	16.18		
3	0.021	0.504	172.7	16.32		
Average				16.37		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.27	6.75%	25.50%	-72.55%	>17.76	> 18.70	5.41%
2	0.26	6.50%				> 18.24	
3	0.31	7.75%				> 19.22	
Average		7.00%				> 18.72	

500 HRS IN R-22/MINERAL OIL @ 260 F
336 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.489	82.0	16.76	22.48	-26.39%
2	0.010	0.495	81.6	16.48		
3	0.010	0.486	79.7	16.40		
Average				16.55		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.13	6.50%	134.83%	-94.93%	>14.10	> 14.20	0.21%
2	0.14	7.00%				> 14.14	
3	0.14	7.00%				> 14.05	
Average		6.83%				> 14.13	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.471	83.1	17.63	19.06	-8.11%
2	0.010	0.498	89.5	17.96		
3	0.010	0.508	86.1	16.95		
Average				17.51		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.57	28.50%	142.83%	-86.81%	>14.60	> 16.18	9.86%
2	0.44	22.00%				> 16.16	
3	0.12	6.00%				> 15.78	
Average		18.83%				> 16.04	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.479	131.4	13.06	13.40	-3.65%
2	0.021	0.481	125.3	12.40		
3	0.021	0.528	147.1	13.27		
Average				12.91		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.41	20.50%	29.33%	-34.65%	>18.56	> 17.83	-10.54%
2	0.32	16.00%				> 16.26	
3	0.42	21.00%				> 15.72	
Average		19.17%				> 16.60	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.485	85.5	17.62	18.09	-8.02%
2	0.010	0.521	86.8	16.66		
3	0.010	0.503	78.7	15.64		
Average				16.64		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.36	9.00%	16.25%	-53.33%	10.24	13.48	29.13%
2	0.33	8.25%				12.86	
3	0.22	5.50%				13.33	
Average		7.58%				13.22	

Sheet Insulation, Dry

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.490	23.0	5.20	7.07	-28.36%
2	0.009	0.481	21.0	4.85		
3	0.009	0.509	23.6	5.14		
Average				5.07		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.06	1.50%	1.92%	-30.56%	11.39	> 13.61	14.02%
2	0.05	1.25%				> 12.11	
3	0.05	1.25%				> 13.24	
Average		1.33%				> 12.99	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.525	171.2	15.53	17.05	-9.43%
2	0.021	0.496	161.8	15.53		
3	0.021	0.505	161.9	15.27		
Average				15.44		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.39	9.75%	25.50%	-65.36%	>17.76	> 18.06	1.63%
2	0.34	8.50%				> 18.69	
3	0.33	8.25%				> 17.40	
Average		8.83%				> 18.05	

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.480	79.5	16.55	22.48	-26.84%
2	0.010	0.491	80.4	16.36		
3	0.010	0.510	83.8	16.42		
Average				16.45		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	134.83%	-94.56%	>14.10	> 14.48	3.19%
2	0.14	7.00%				> 14.14	
3	0.16	8.00%				> 15.03	
Average		7.33%				> 14.55	

Insulation Type: Polyester Film,Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.484	79.7	16.46	19.06	-14.59%
2	0.010	0.505	81.4	16.12		
3	0.010	0.495	80.5	16.26		
Average				16.28		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-95.10%	>14.60	> 15.10	3.38%
2	0.14	7.00%				> 15.08	
3	0.14	7.00%				> 15.10	
Average		7.00%				> 15.09	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.510	94.8	8.85	13.40	-27.00%
2	0.021	0.454	107.1	11.23		
3	0.021	0.478	93.0	9.26		
Average				9.78		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.47	23.50%	29.33%	-26.13%	>18.56	> 18.25	-4.51%
2	0.38	19.00%				> 17.50	
3	0.45	22.50%				> 17.42	
Average		21.67%				> 17.72	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.495	47.8	9.65	18.09	-38.32%
2	0.010	0.515	45.8	8.89		
3	0.010	0.466	69.6	14.94		
Average				11.16		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.23	5.75%	16.25%	-64.10%	10.24	13.91	27.90%
2	0.23	5.75%				12.74	
3	0.24	6.00%				12.64	
Average		5.83%				13.10	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.415	17.2	4.60	7.07	-27.09%
2	0.009	0.514	27.8	6.00		
3	0.009	0.523	22.9	4.87		
Average				5.16		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-34.90%	11.39	12.58	12.15%
2	0.04	1.00%				12.18	
3	0.06	1.50%				13.56	
Average		1.25%				12.77	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.521	164.1	15.00	17.05	-15.70%
2	0.021	0.486	143.4	14.05		
3	0.021	0.490	144.8	14.07		
Average				14.37		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.11	2.75%	25.50%	-83.01%	>17.76	> 19.70	8.00%
2	0.21	5.25%				> 18.74	
3	0.20	5.00%				> 19.10	
Average		4.33%				> 19.18	

500 HRS IN R-22/MINERAL OIL @ 260 F
500 HRS IN R-407C/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.509	89.2	17.51	22.48	-23.29%
2	0.010	0.470	79.2	16.84		
3	0.010	0.513	89.2	17.38		
Average				17.24		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.15	7.50%	134.83%	-94.68%	>14.10	> 14.00	-0.24%
2	0.14	7.00%				> 14.11	
3	0.14	7.00%				> 14.09	
Average		7.17%				> 14.07	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.508	86.7	17.06	19.06	-9.32%
2	0.010	0.525	91.7	17.46		
3	0.010	0.509	88.3	17.34		
Average				17.28		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	142.83%	-94.87%	>14.60	> 14.66	0.89%
2	0.14	7.00%				> 14.89	
3	0.14	7.00%				> 14.64	
Average		7.33%				> 14.73	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.522	146.2	13.34	13.40	0.89%
2	0.021	0.512	147.3	13.70		
3	0.021	0.492	139.7	13.52		
Average				13.52		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.39	19.50%	29.33%	-24.99%	>18.56	> 18.25	-4.51%
2	0.47	23.50%				> 17.50	
3	0.46	23.00%				> 17.42	
Average		22.00%				> 17.72	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.010	0.500	88.8	17.76	18.09	2.34%
2	0.010	0.495	97.7	19.74		
3	0.010	0.485	87.5	18.04		
Average				18.51		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.23	5.75%	16.25%	-56.92%	10.24	12.33	10.06%
2	0.36	9.00%				11.78	
3	0.25	6.25%				9.70	
Average		7.00%				11.27	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.009	0.519	27.7	5.93	7.07	-18.22%
2	0.009	0.478	26.8	6.23		
3	0.009	0.541	25.3	5.19		
Average				5.78		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.05	1.25%	1.92%	-34.90%	11.39	12.10	6.61%
2	0.05	1.25%				12.52	
3	0.05	1.25%				11.81	
Average		1.25%				12.14	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength (Unexposed)	Change in Tensile Strength From Unexposed
1	0.021	0.492	162.2	15.70	17.05	-10.42%
2	0.021	0.520	167.7	15.36		
3	0.021	0.526	163.1	14.77		
Average				15.27		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths (Unexposed)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.22	5.50%	25.50%	-79.74%	>17.76	> 18.97	10.08%
2	0.22	5.50%				> 19.83	
3	0.18	4.50%				> 19.85	
Average		5.17%				> 19.55	

Data Tables

Part 3

**R-502/Mineral Oil to
R-404A/Polyolester**

500 HRS IN R-502/MINERAL OIL @ 260 F**Varnish Type Iso-800**

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5835	0.1932	0.5372	0.1851
2	0.7122	0.2348	0.6459	0.2232
3	0.9472	0.3111	0.8554	0.2946

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.4993	0.4504	-7.93%	-9.79%
2	0.6107	0.5407	-9.31%	-11.46%
3	0.8137	0.7174	-9.69%	-11.84%
	AVERAGE		-8.98%	-11.03%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	1.2260	0.4083	1.1995	0.4118
2	0.8899	0.2975	0.8820	0.3029
3	0.8352	0.2794	0.8295	0.2848

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	1.0461	1.0077	-2.16%	-3.67%
2	0.7578	0.7408	-0.89%	-2.25%
3	0.7110	0.6968	-0.68%	-2.00%
	AVERAGE		-1.24%	-2.64%

1000 HRS IN R-502/MINERAL OIL @ 260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.7111	0.2306	0.6636	0.2221
2	0.6034	0.1976	0.5221	0.1888
3	0.8707	0.2872	0.7960	0.2776

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.6147	0.5648	-6.68%	-8.12%
2	0.5191	0.4264	-13.47%	-17.87%
3	0.7465	0.6632	-8.58%	-11.16%
		AVERAGE	-9.58%	-12.38%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	1.2260	0.4083	1.2140	0.4202
2	0.8899	0.2975	0.8948	0.2926
3	0.8352	0.2794	0.8437	0.3112

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	1.0461	1.0155	-0.98%	-2.92%
2	0.7578	0.7704	0.55%	1.65%
3	0.7110	0.6812	1.02%	-4.19%
		AVERAGE	0.20%	-1.82%

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5835	0.1932	0.5273	0.1798
2	0.7122	0.2348	0.6358	0.2169
3	0.9472	0.3111	0.8395	0.2873

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.4993	0.4445	-9.63%	-10.97%
2	0.6107	0.5359	-10.73%	-12.25%
3	0.8137	0.7064	-11.37%	-13.19%
		AVERAGE	-10.58%	-12.14%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	1.5700	0.5211	1.4935	0.5059
2	1.3061	0.4350	1.2556	0.4256
3	1.1600	0.3867	1.1196	0.3788

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	1.3418	1.2634	-4.87%	-5.84%
2	1.1144	1.0618	-3.87%	-4.72%
3	0.9893	0.9477	-3.48%	-4.20%
		AVERAGE	-4.07%	-4.92%

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5835	0.1932	0.5245	0.1791
2	0.7122	0.2348	0.6332	0.2155
3	0.9472	0.3111	0.8360	0.2851

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.4993	0.4419	-10.11%	-11.50%
2	0.6107	0.5343	-11.09%	-12.51%
3	0.8137	0.7047	-11.74%	-13.39%
		AVERAGE	-10.98%	-12.47%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	1.5700	0.5211	1.4890	0.5034
2	1.3061	0.4350	1.2526	0.4240
3	1.1600	0.3867	1.1152	0.3776

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	1.3418	1.2608	-5.16%	-6.03%
2	1.1144	1.0600	-4.10%	-4.88%
3	0.9893	0.9436	-3.86%	-4.62%
		AVERAGE	-4.37%	-5.18%

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F

Varnish Type Iso-800

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	0.5835	0.1932	0.5244	0.1787
2	0.7122	0.2348	0.6322	0.2155
3	0.9472	0.3111	0.8360	0.2847

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	0.4993	0.4422	-10.13%	-11.43%
2	0.6107	0.5331	-11.23%	-12.71%
3	0.8137	0.7053	-11.74%	-13.33%
		AVERAGE	-11.03%	-12.49%

Varnish Type 923

Varnish Disk#	Weight Disk Before in Air (grams)	Weight Disk before in Methanol (grams)	Weight Disk after in Air (grams)	Weight Disk after in MeOH (grams)
1	1.5700	0.5211	1.4886	0.4939
2	1.3061	0.4350	1.2538	0.4239
3	1.1600	0.3867	1.1163	0.3773

Varnish Disk#	Volume Before (milliliters)	Volume After (milliliters)	Change in Weight	Change in Volume
1	1.3418	1.2725	-5.18%	-5.17%
2	1.1144	1.0617	-4.00%	-4.73%
3	0.9893	0.9454	-3.77%	-4.44%
		AVERAGE	-4.32%	-4.78%

500 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	53.10	-13.37%
	51.25	43.25	
	52.50	46.30	
	64.45	60.50	
	60.35	45.05	
Average	57.30	49.64	
Wire Type A coated with 923	65.90	37.90	-53.35%
	59.60	28.45	
	52.95	28.30	
	56.35	27.95	
	68.40	18.85	
Average	60.64	28.29	
Wire Type B coated with Iso-800	58.25	57.35	4.78%
	53.35	60.55	
	52.30	65.20	
	54.25	57.10	
	56.95	48.05	
Average	55.02	57.65	
Wire Type B coated with 923	72.40	74.70	-7.50%
	69.20	70.10	
	71.65	50.55	
	75.80	67.10	
	63.50	63.65	
Average	70.51	65.22	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	66.15	-0.52%
	51.25	52.60	
	52.50	47.25	
	64.45	62.05	
	60.35	56.95	
	Average 57.30	57.00	
Wire Type A coated with 923	65.90	48.10	-26.43%
	59.60	41.15	
	52.95	47.90	
	56.35	42.40	
	68.40	43.50	
	Average 60.64	44.61	
Wire Type B coated with Iso-800	58.25	40.30	11.63%
	53.35	56.20	
	52.30	88.65	
	54.25	66.60	
	56.95	55.35	
	Average 55.02	61.42	
Wire Type B coated with 923	72.40	58.15	-23.47%
	69.20	38.85	
	71.65	57.10	
	75.80	54.20	
	63.50	61.50	
	Average 70.51	53.96	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	42.27	-2.60%
	51.25	56.05	
	52.50	61.02	
	64.45	47.95	
	60.35	71.77	
Average	57.30	55.81	
Wire Type A coated with 923	65.90	27.82	-53.91%
	59.60	28.22	
	52.95	32.32	
	56.35	23.10	
	68.40	28.30	
Average	60.64	27.95	
Wire Type B coated with Iso-800	58.25	40.92	-3.17%
	53.35	56.95	
	52.30	50.92	
	54.25	54.12	
	56.95	63.47	
Average	55.02	53.28	
Wire Type B coated with 923	72.40	65.25	-12.16%
	69.20	59.37	
	71.65	67.55	
	75.80	46.70	
	63.50	70.82	
Average	70.51	61.94	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

1000 HRS IN R-502/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	63.65	6.73%
	51.25	54.40	
	52.50	63.27	
	64.45	71.30	
	60.35	53.15	
Average	57.30	61.15	
Wire Type A coated with 923	65.90	34.42	-45.65%
	59.60	30.42	
	52.95	33.00	
	56.35	30.97	
	68.40	35.97	
Average	60.64	32.96	
Wire Type B coated with Iso-800	58.25	58.32	16.76%
	53.35	68.02	
	52.30	62.80	
	54.25	61.15	
	56.95	70.92	
Average	55.02	64.24	
Wire Type B coated with 923	72.40	61.92	-11.44%
	69.20	64.10	
	71.65	68.15	
	75.80	76.12	
	63.50	41.92	
Average	70.51	62.44	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	59.95	0.07%
	51.25	62.50	
	52.50	58.00	
	64.45	56.45	
	60.35	49.80	
	Average 57.30	57.34	
Wire Type A coated with 923	65.90	31.00	-51.53%
	59.60	32.75	
	52.95	26.75	
	56.35	27.60	
	68.40	28.85	
	Average 60.64	29.39	
Wire Type B coated with Iso-800	58.25	61.10	-2.71%
	53.35	57.30	
	52.30	58.60	
	54.25	49.45	
	56.95	41.20	
	Average 55.02	53.53	
Wire Type B coated with 923	72.40	63.10	-28.85%
	69.20	68.45	
	71.65	43.05	
	75.80	43.65	
	63.50	32.60	
	Average 70.51	50.17	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	42.85	-8.81%
	51.25	57.50	
	52.50	41.95	
	64.45	56.90	
	60.35	62.05	
Average	57.30	52.25	
Wire Type A coated with 923	65.90	32.75	-39.40%
	59.60	40.40	
	52.95	41.70	
	56.35	34.25	
	68.40	34.65	
Average	60.64	36.75	
Wire Type B coated with Iso-800	58.25	61.75	9.38%
	53.35	64.75	
	52.30	62.35	
	54.25	50.80	
	56.95	61.25	
Average	55.02	60.18	
Wire Type B coated with 923	72.40	50.65	-14.21%
	69.20	56.10	
	71.65	67.75	
	75.80	68.10	
	63.50	59.85	
Average	70.51	60.49	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	69.05	26.95%
	51.25	71.85	
	52.50	70.90	
	64.45	78.05	
	60.35	73.85	
	Average	57.30	72.74
Wire Type A coated with 923	65.90	31.50	-44.08%
	59.60	34.85	
	52.95	32.35	
	56.35	33.65	
	68.40	37.20	
	Average	60.64	33.91
Wire Type B coated with Iso-800	58.25	73.70	29.95%
	53.35	80.65	
	52.30	69.85	
	54.25	59.65	
	56.95	73.65	
	Average	55.02	71.50
Wire Type B coated with 923	72.40	63.00	-11.79%
	69.20	77.35	
	71.65	56.00	
	75.80	56.15	
	63.50	58.50	
	Average	70.51	62.20

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	81.30	6.11%
	51.25	65.75	
	52.50	58.95	
	64.45	44.85	
	60.35	53.15	
Average	57.30	60.80	
Wire Type A coated with 923	65.90	31.70	-38.41%
	59.60	35.95	
	52.95	38.20	
	56.35	39.60	
	68.40	41.30	
Average	60.64	37.35	
Wire Type B coated with Iso-800	58.25	53.80	3.78%
	53.35	66.15	
	52.30	54.75	
	54.25	62.50	
	56.95	48.30	
Average	55.02	57.10	
Wire Type B coated with 923	72.40	54.45	-28.51%
	69.20	54.90	
	71.65	47.75	
	75.80	53.60	
	63.50	41.35	
Average	70.51	50.41	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	85.07	6.19%
	51.25	62.32	
	52.50	41.27	
	64.45	60.82	
	60.35	54.75	
	Average 57.30	60.85	
Wire Type A coated with 923	65.90	34.32	-48.92%
	59.60	30.87	
	52.95	28.35	
	56.35	31.52	
	68.40	29.80	
	Average 60.64	30.97	
Wire Type B coated with Iso-800	58.25	60.52	1.82%
	53.35	61.07	
	52.30	52.05	
	54.25	47.30	
	56.95	59.17	
	Average 55.02	56.02	
Wire Type B coated with 923	72.40	43.15	-19.95%
	69.20	68.20	
	71.65	46.67	
	75.80	63.65	
	63.50	60.55	
	Average 70.51	56.44	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Wire Type Varnish	Unexposed Bond Strengths Pounds	Experimental Bond Strengths Pounds	Change in Bond Strength From Unexposed
Wire Type A coated with Iso-800	57.95	50.57	2.50%
	51.25	66.32	
	52.50	57.32	
	64.45	56.30	
	60.35	63.15	
Average	57.30	58.73	
Wire Type A coated with 923	65.90	34.07	-40.62%
	59.60	39.10	
	52.95	38.32	
	56.35	39.47	
	68.40	29.07	
Average	60.64	36.01	
Wire Type B coated with Iso-800	58.25	61.35	11.28%
	53.35	56.15	
	52.30	72.00	
	54.25	62.97	
	56.95	53.65	
Average	55.02	61.22	
Wire Type B coated with 923	72.40	65.60	-10.53%
	69.20	48.20	
	71.65	65.10	
	75.80	59.87	
	63.50	76.67	
Average	70.51	63.09	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type /Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	19.12		569	405	
	18.18	19.72		586	414	
	17.00	19.83	19.62%	487	326	-28.08%
	18.27	18.18		483	422	
	11.90	18.70		557	362	
Average	15.98	19.11		536	386	
Wire Type A coated with 923	19.93	19.89		652	405	
	16.91	18.40		653	423	
	16.82	19.90	15.42%	642	418	-30.48%
	14.36	19.96		547	492	
	17.01	19.99		564	388	
Average	17.01	19.63		612	425	
Wire Type B coated with Iso-800	18.19	19.72		590	260	
	19.70	19.65		494	223	
	18.41	18.83	3.43%	457	363	-42.24%
	19.73	19.73		594	287	
	18.35	19.69		578	434	
Average	18.88	19.52		543	313	
Wire Type B coated with 923	19.76	16.35		621	374	
	19.70	16.04		423	485	
	19.85	19.89	-9.77%	688	462	-14.22%
	19.71	16.99		395	685	
	19.90	19.99		643	370	
Average	19.78	17.85		554	475	

Wire Type A Is Polyester base with amide imide overcoat

Wire Type B Is Esterimide base with amide imide overcoat

Varnished Magnet Wire

1000 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type / Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	18.60	2.92%	569	449	-22.26%
	18.18	12.80		586	403	
	17.00	19.76		487	423	
	18.27	16.22		483	414	
	11.90	14.83		557	396	
Average	15.98	16.44		536	417	
Wire Type A coated with 923	19.93	17.85	9.21%	652	350	-44.28%
	16.91	17.88		653	368	
	16.82	19.86		642	310	
	14.36	19.88		547	334	
	17.01	17.39		564	342	
Average	17.01	18.57		612	341	
Wire Type B coated with Iso-800	18.19	19.99	1.06%	590	547	-13.12%
	19.70	16.02		494	400	
	18.41	19.81		457	441	
	19.73	19.75		594	550	
	18.35	19.81		578	419	
Average	18.88	19.08		543	471	
Wire Type B coated with 923	19.76	14.76	-9.26%	621	396	-25.99%
	19.70	19.95		423	519	
	19.85	16.09		688	356	
	19.71	19.39		395	456	
	19.90	19.57		643	323	
Average	19.78	17.95		554	410	

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-502/MINERAL OIL @ 260 F

168 HRS IN R-404A/POLYOLESTER @260 F

Wire Type /Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	18.42		569	396	-29.23%
	18.18	17.92		586	381	
	17.00	19.66	19.55%	487	400	
	18.27	19.80		483	385	
	11.90	19.70		557	336	
	Average 15.98	19.10		536	380	
Wire Type A coated with 923	19.93	19.73		652	522	-16.25%
	16.91	19.79		653	524	
	16.82	19.96	13.67%	642	497	
	14.36	17.18		547	482	
	17.01	19.99		564	536	
	Average 17.01	19.33		612	512	
Wire Type B coated with Iso-800	18.19	18.38		590	334	-39.88%
	19.70	19.99		494	275	
	18.41	19.96	3.56%	457	305	
	19.73	19.60		594	302	
	18.35	19.81		578	415	
	Average 18.88	19.55		543	326	
Wire Type B coated with 923	19.76	19.80		621	532	-5.42%
	19.70	19.83		423	427	
	19.85	19.99	0.10%	688	481	
	19.71	19.99		395	522	
	19.90	19.41		643	658	
	Average 19.78	19.80		554	524	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Varnished Magnet Wire

500 HRS IN R-502/MINERAL OIL @ 260 F 336 HRS IN R-404A/POLYOLESTER @260 F

Wire Type /Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	16.50		569	369	
	18.18	19.99		586	373	
	17.00	18.89	17.34%	487	348	-30.13%
	18.27	19.70		483	387	
	11.90	18.65		557	397	
Average	15.98	18.75		536	375	
Wire Type A coated with 923	19.93	19.71		652	451	
	16.91	18.87		653	419	
	16.82	19.70	12.48%	642	458	-23.35%
	14.36	18.40		547	555	
	17.01	18.96		564	461	
Average	17.01	19.13		612	469	
Wire Type B coated with Iso-800	18.19	17.50		590	358	
	19.70	14.81		494	388	
	18.41	19.71	-5.21%	457	393	-29.89%
	19.73	17.70		594	362	
	18.35	19.74		578	401	
Average	18.88	17.89		543	380	
Wire Type B coated with 923	19.76	16.15		621	355	
	19.70	17.56		423	381	
	19.85	15.43	-14.72%	688	411	-32.17%
	19.71	19.71		395	397	
	19.90	15.51		643	335	
Average	19.78	16.87		554	376	

Wire Type A is Polyester base with amide imide overcoat
Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F

Wire Type /Varnish	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A coated with Iso-800	14.53	18.18	10.02%	569	376	-29.79%
	18.18	19.17		586	357	
	17.00	17.70		487	464	
	18.27	16.36		483	300	
	11.90	16.47		557	386	
Average	15.98	17.58		536	377	
Wire Type A coated with 923	19.93	19.89	14.78%	652	507	-23.68%
	16.91	19.69		653	490	
	16.82	19.99		642	503	
	14.36	19.90		547	410	
	17.01	18.13		564	424	
Average	17.01	19.52		612	467	
Wire Type B coated with Iso-800	18.19	19.73	-2.03%	590	331	-33.28%
	19.70	19.73		494	446	
	18.41	19.30		457	402	
	19.73	17.10		594	368	
	18.35	16.60		578	263	
Average	18.88	18.49		543	362	
Wire Type B coated with 923	19.76	18.88	-1.11%	621	546	-14.33%
	19.70	19.96		423	439	
	19.85	19.75		688	543	
	19.71	19.33		395	426	
	19.90	19.90		643	419	
Average	19.78	19.56		554	475	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

Unvarnished Magnet Wire

500 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type A	16.40	13.17	-13.09%	518	391	-19.96%
	15.10	11.99		577	465	
	14.37	9.86		569	420	
	15.70	14.61		555	437	
	14.66	16.62		556	508	
Average	15.25	13.25		555	444	
Wire Type B	15.24	15.97	17.59%	576	550	-8.74%
	14.63	14.63		580	468	
	14.06	16.54		595	553	
	12.60	16.21		592	543	
	10.60	15.59		576	550	
Average	13.43	15.79		584	533	

1000 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type A	16.40	17.05	10.27%	518	375	-33.55%
	15.10	17.97		577	386	
	14.37	16.00		569	345	
	15.70	16.53		555	346	
	14.66	16.51		556	392	
Average	15.25	16.81		555	369	
Wire Type B	15.24	12.20	10.67%	576	395	-40.49%
	14.63	16.36		580	305	
	14.06	15.02		595	249	
	12.60	16.20		592	388	
	10.60	14.51		576	400	
Average	13.43	14.86		584	347	

500 HRS IN R-502/MINERAL OIL @ 260 F

168 HRS IN R-404A/POLYOLESTER @260 F

Wire Type A	16.40	17.30	10.63%	518	389	-26.13%
	15.10	15.96		577	405	
	14.37	17.36		569	410	
	15.70	16.28		555	430	
	14.66	17.43		556	416	
Average	15.25	16.87		555	410	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F**168 HRS IN R-404A/POLYOLESTER @260 F**

Wire Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change	Unexposed Burnout Strengths (seconds)	Experimental Burnout Strengths (seconds)	Burnout Change
Wire Type B	15.24	15.60	16.03%	576	356	-39.77%
	14.63	15.05		580	458	
	14.06	15.69		595	252	
	12.60	15.61		592	336	
	10.60	15.94		576	356	
Average	13.43	15.58		584	352	

500 HRS IN R-502/MINERAL OIL @ 260 F**336 HRS IN R-404A/POLYOLESTER @260 F**

Wire Type A	16.40	16.47	14.74%	518	431	-22.45%
	15.10	17.89		577	413	
	14.37	17.61		569	435	
	15.70	17.84		555	446	
	14.66	17.66		556	427	
Average	15.25	17.49		555	430	
Wire Type B	15.24	15.92	13.06%	576	443	-26.89%
	14.63	16.38		580	436	
	14.06	16.78		595	392	
	12.60	13.29		592	443	
	10.60	13.53		576	420	
Average	13.43	15.18		584	427	

500 HRS IN R-502/MINERAL OIL @ 260 F**500 HRS IN R-404A/POLYOLESTER @260 F**

Wire Type A	16.40	16.65	8.34%	518	404	-26.02%
	15.10	12.96		577	429	
	14.37	17.11		569	397	
	15.70	18.21		555	409	
	14.66	17.66		556	414	
Average	15.25	16.52		555	411	
Wire Type B	15.24	15.49	16.28%	576	408	-26.89%
	14.63	14.00		580	478	
	14.06	16.00		595	407	
	12.60	15.87		592	430	
	10.60	16.70		576	411	
Average	13.43	15.61		584	427	

Wire Type A is Polyester base with amide imide overcoat

Wire Type B is Esterimide base with amide imide overcoat

500 HRS IN R-502/MINERAL OIL @ 260 F

Lead Wire Insulation Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
Polyester Composite	10.87	9.65	
Dacron-Mylar-Dacron	10.82	10.09	2.46%
	7.62	10.29	
Average	9.77	10.01	
Polyester, Fluoropolymer Composite	10.78	14.59	
	9.24	15.18	43.83%
Dacron-Teflon-Dacron	10.46	14.07	
Average	10.16	14.61	

1000 HRS IN R-502/MINERAL OIL @ 260 F

Polyester Composite	10.87	2.24	
Dacron-Mylar-Dacron	10.82	2.39	-75.50%
	7.62	2.55	
Average	9.77	2.39	
Polyester, Fluoropolymer Composite	10.78	11.00	
	9.24	10.87	6.40%
Dacron-Teflon-Dacron	10.46	10.56	
Average	10.16	10.81	

Lead Wire

500 HRS IN R-502/MINERAL OIL @ 260 F 168 HRS IN R-404A/POLYOLESTER @260 F

Lead Wire Insulation Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
Polyester Composite	10.87	6.86	
Dacron-Mylar-Dacron	10.82	9.35	-12.96%
	7.62	9.30	
Average	9.77	8.50	
Polyester, Fluoropolymer Composite	10.78	15.66	
	9.24	14.98	51.51%
Dacron-Teflon-Dacron	10.46	15.54	
Average	10.16	15.39	

500 HRS IN R-502/MINERAL OIL @ 260 F 336 HRS IN R-404A/POLYOLESTER @260 F

Polyester Composite	10.87	9.50	
Dacron-Mylar-Dacron	10.82	7.55	-7.37%
	7.62	10.10	
Average	9.77	9.05	
Polyester, Fluoropolymer Composite	10.78	11.84	
	9.24	16.14	35.20%
Dacron-Teflon-Dacron	10.46	13.23	
Average	10.16	13.74	

500 HRS IN R-502/MINERAL OIL @ 260 F 500 HRS IN R-404A/POLYOLESTER @260 F

Polyester Composite	10.87	4.03	
Dacron-Mylar-Dacron	10.82	7.63	-26.31%
	7.62	9.94	
Average	9.77	7.20	
Polyester, Fluoropolymer Composite	10.78	11.92	
	9.24	13.23	31.00%
Dacron-Teflon-Dacron	10.46	14.78	
	10.16	13.31	

Sleeving

500 HRS IN R-502/MINERAL OIL @ 260 F

<u>Sleeving Type</u>	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric change
Polyester Film	>19.14	>15.21	-2.29%
	>17.05	>18.27	
	>16.60	>18.10	
Average	>17.60	>17.19	

Aramid Fiber Mat	>11.83	>10.69	0.19%
Polyester Film	>12.33	>12.57	
	>12.40	>13.37	
Average	>12.19	>12.21	

1000 HRS IN R-502/MINERAL OIL @ 260 F

Polyester Film	>19.14	-	16.03%
	>17.05	>14.76	
	>16.60	>11.27	
Average	>11.22	>13.02	

Aramid Fiber Mat	>11.83	6.61	-50.44%
Polyester Film	>12.33	6.12	
	>12.40	5.39	
Average	>12.19	6.04	

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F

<u>Sleeving Type</u>	<u>Unexposed Dielectric Strengths (Kilovolts)</u>	<u>Experimental Dielectric Strengths (Kilovolts)</u>	<u>Dielectric change</u>
Polyester Film	>19.14	>17.13	-6.23%
	>17.05	>17.76	
	>16.60	>15.24	
Average	>17.60	>16.50	
Aramid Fiber Mat Polyester Film	>11.83	>12.51	-10.48%
	>12.33	8.57	
	>12.40	11.65	
Average	>12.19	>10.91	

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F

Polyester Film	>19.14	>18.36	-1.57%
	>17.05	>15.25	
	>16.60	>18.35	
Average	>17.60	>17.32	
Aramid Fiber Mat Polyester Film	>11.83	10.57	-11.38%
	>12.33	11.03	
	>12.40	-	
Average	>12.19	10.80	

500 HRS IN R-502/MINERAL OIL @ 260 F

500 HRS IN R-404A/POLYOLESTER @260 F

Sleeving Type	Unexposed Dielectric Strengths (Kilovolts)	Experimental Dielectric Strengths (Kilovolts)	Dielectric change
Polyester Film	>19.14	>16.41	-8.51%
	>17.05	>15.79	
	>16.60	-	
	Average >17.60	>16.10	
Aramid Fiber Mat Polyester Film	>11.83	5.99	-28.31%
	>12.33	11.63	
	>12.40	8.59	
	Average >12.19	8.74	

500 HRS IN R-502/MINERAL OIL @ 260 F**Insulation Type: Polyester Film**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.500	81.6	16.31	22.48	-26.33%
2	0.010	0.435	73.2	16.82		
3	0.010	0.564	93.4	16.55		
Average				16.56		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.47	73.50%	134.83%	-45.86%	>14.10	>14.51	2.81%
2	1.44	72.00%				>14.43	
3	1.47	73.50%				>14.55	
Average		73.00%				>14.50	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.460	80.0	17.38	19.06	-10.54%
2	0.010	0.496	88.1	17.76		
3	0.010	0.460	73.7	16.01		
Average				17.05		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.12	106.00%	142.83%	-26.72%	>14.60	>14.70	0.55%
2	2.57	128.50%				>14.47	
3	1.59	79.50%				>14.87	
Average		104.67%				>14.68	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.489	119.5	11.64	13.40	-11.27%
2	0.021	0.550	145.3	12.58		
3	0.021	0.410	98.6	11.45		
Average				11.89		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.32	16.00%	29.33%	-39.77%	>18.56	>15.40	-9.55%
2	0.40	20.00%				>18.86	
3	0.34	17.00%				>16.10	
Average		17.67%				>16.79	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.492	80.2	16.29	18.09	-10.36%
2	0.010	0.579	94.2	16.27		
3	0.010	0.579	93.2	16.09		
Average				16.22		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.54	13.50%	16.25%	-15.90%	10.24	13.93	19.08%
2	0.54	13.50%				11.35	
3	0.56	14.00%				11.30	
Average		13.67%				12.19	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.484	22.1	5.07	7.07	-22.53%
2	0.009	0.510	26.8	5.84		
3	0.009	0.465	23.1	5.52		
Average				5.48		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.09	2.25%	1.92%	12.85%	11.39	13.33	19.08%
2	0.09	2.25%				14.26	
3	0.08	2.00%				13.10	
Average		2.17%				13.56	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.494	146.6	14.13	17.05	-16.07%
2	0.021	0.521	153.1	13.99		
3	0.021	0.504	156.7	14.81		
Average				14.31		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.59	14.75%	25.50%	-39.22%	>17.76	>18.30	4.82%
2	0.63	15.75%				>18.65	
3	0.64	16.00%				>18.90	
Average		15.50%				>18.62	

500 HRS IN R-502/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	-0.567	99.0	17.46	22.48	-21.24%
2	0.010	0.490	89.6	18.29		
3	0.010	0.488	84.8	17.37		
Average				17.70		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.74	87.00%	134.83%	-26.57%	>14.10	>14.28	0.50%
2	2.62	131.00%				>14.24	
3	1.58	79.00%				>13.99	
Average		99.00%				>14.17	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.504	87.1	17.28	19.06	-9.05%
2	0.010	0.512	90.1	17.59		
3	0.010	0.497	85.2	17.13		
Average				17.33		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	2.58	129.00%	142.83%	-12.83%	>14.60	>14.16	-2.26%
2	2.95	147.50%				>14.60	
3	1.94	97.00%				>14.05	
Average		124.50%				>14.27	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.549	152.2	13.20	13.40	-0.23%
2	0.021	0.466	132.4	13.53		
3	0.021	0.455	127.8	13.38		
Average				13.37		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.43	21.50%	29.33%	-29.54%	>18.56	>19.45	4.35%
2	0.40	20.00%				>19.86	
3	0.41	20.50%				>18.79	
Average		20.67%				>19.37	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.444	86.3	19.44	18.09	11.75%
2	0.010	0.486	100.4	20.66		
3	0.010	0.509	104.6	20.55		
Average				20.22		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.34	8.50%	16.25%	-43.08%	10.24	11.59	7.62%
2	0.38	9.50%				9.21	
3	0.39	9.75%				12.26	
Average		9.25%				11.02	

Sheet Insulation

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.482	28.1	6.47	7.07	-4.69%
2	0.009	0.475	28.7	6.70		
3	0.009	0.562	35.7	7.05		
Average				6.74		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	1.92%	-8.85%	11.39	10.41	-5.38%
2	0.06	1.50%				11.21	
3	0.08	2.00%				10.71	
Average		1.75%				10.78	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.512	187.0	17.39	17.05	-0.02%
3	0.021	0.466	160.1	16.36		
3	0.021	0.539	196.8	17.39		
Average				17.05		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.38	9.50%	25.50%	-65.69%	>17.76	>17.65	-0.51%
2	0.29	7.25%				>18.09	
3	0.38	9.50%				>17.27	
Average		8.75%				>17.67	

1000 HRS IN R-502/MINERAL OIL @ 260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>14.61	. 2.29%
2	BRITTLE	BRITTLE				>14.64	
3	BRITTLE	BRITTLE				>14.02	
Average		BRITTLE				>14.42	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1			BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.01	-4.25%
2	BRITTLE	BRITTLE				>13.91	
3	BRITTLE	BRITTLE				>14.02	
Average		BRITTLE				>13.98	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.520	27.2	2.49	13.40	-83.14%
2	0.021	0.587	26.8	2.17		
3	0.021	0.487	21.7	2.12		
Average				2.26		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.04	2.00%	29.33%	-93.75%	>18.56	>16.56	-10.09%
2	0.03	1.50%				>17.20	
3	0.04	2.00%				>16.30	
Average		1.83%				>16.69	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.435	75.7	17.39	18.09	-7.35%
2	0.010	0.472	78.1	16.55		
3	0.010	0.510	83.4	16.34		
Average				16.76		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.33	8.25%	16.25%	-47.18%	10.24	14.39	32.26%
2	0.35	8.75%				13.39	
3	0.35	8.75%				12.85	
Average		8.58%				13.54	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.571	32.7	6.35	7.07	-12.49%
2	0.009	0.472	27.2	6.40		
3	0.009	0.542	28.4	5.81		
Average				6.19		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	1.92%	-17.53%	11.39	13.90	16.77%
2	0.06	1.50%				12.87	
3	0.06	1.50%				13.13	
Average		1.58%				13.30	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.471	72.5	7.32	17.05	-66.09%
2	0.021	0.544	88.7	7.76		
3	0.021	0.533	25.3	2.26		
Average				5.78		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.29	7.25%	25.50%	-76.47%	>17.76	>19.71	8.41%
2	0.39	9.75%				>19.49	
3	0.04	1.00%				>18.56	
Average		6.00%				>19.25	

1000 HRS IN R-502/MINERAL OIL @ 260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	BROKE	-	BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.10	>14.44	-0.57%
2	BRITTLE	BRITTLE				>13.78	
3	BRITTLE	BRITTLE				>13.84	
Average		BRITTLE				>14.02	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	BROKE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>14.60	>14.64	-1.44%
2	BRITTLE	BRITTLE				>14.34	
3	BRITTLE	BRITTLE				>14.19	
Average		BRITTLE				>14.39	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength Unexposed	Change in Tensile Strength From Unexposed
1	BROKE		BRITTLE	BRITTLE		BRITTLE
2			BRITTLE	BRITTLE		
3			BRITTLE	BRITTLE		
Average				BRITTLE		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths Unexposed	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	BRITTLE	BRITTLE		BRITTLE	>18.56	>19.84	-7.47%
2	BRITTLE	BRITTLE				12.26	
3	BRITTLE	BRITTLE				>19.42	
Average		BRITTLE				>17.17	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength Unexposed	Change in Tensile Strength From Unexposed
1	0.010	0.608	107.8	17.73	18.09	-6.46%
2	0.010	0.517	84.4	16.32		
3	0.010	0.492	82.2	16.71		
Average				16.92		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths Unexposed	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.25	6.25%	16.25%	-50.26%	10.24	10.42	4.20%
2	0.35	8.75%				10.49	
3	0.37	9.25%				11.10	
Average		8.08%				10.67	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.439	23.7	6.00	7.07	-17.82%
2	0.009	0.497	28.2	6.30		
3	0.009	0.461	21.3	5.13		
Average				5.81		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.10	2.50%	1.92%	-13.19%	11.39	11.83	-0.41%
2	0.06	1.50%				12.20	
3	0.04	1.00%				10.00	
Average		1.67%				11.34	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.450	72.8	7.70	17.05	-55.19%
2	0.021	0.450	72.8	7.70		
3	0.021	0.532	84.0	7.52		
Average				7.64		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.40	10.00%	25.50%	-64.05%	>17.76	>19.82	5.42%
2	0.30	7.50%				>17.35	
3	0.40	10.00%				>19.00	
Average		9.17%				>18.72	

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.475	75.7	17.70	22.48	-20.77%
2	0.009	0.440	70.0	17.66		
3	0.009	0.463	75.3	18.07		
Average				17.81		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.59	79.50%	134.83%	-50.80%	>14.10	>14.30	2.84%
2	0.84	42.00%				>14.63	
3	1.55	77.50%				>14.57	
Average		66.33%				>14.50	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.481	78.5	16.32	19.06	-14.86%
2	0.010	0.443	71.0	16.03		
3	0.010	0.551	90.0	16.33		
Average				16.23		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.27	63.50%	142.83%	-56.24%	>14.60	>15.39	5.50%
2	1.21	60.50%				>16.02	
3	1.27	63.50%				>14.80	
Average		62.50%				>15.40	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.565	153.4	12.93	13.40	-8.45%
2	0.021	0.461	123.7	12.78		
3	0.023	0.513	131.5	11.10		
Average				12.27		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.44	22.00%	29.33%	-28.97%	>18.56	>19.40	-7.33%
2	0.44	22.00%				>16.18	
3	0.37	18.50%				>16.02	
Average		20.83%				>17.20	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.460	80.6	17.51	18.09	-5.60%
2	0.010	0.503	87.4	17.38		
3	0.010	0.521	85.2	16.34		
Average				17.08		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.22	5.50%	16.25%	-37.44%	10.24	13.78	32.13%
2	0.58	14.50%				13.29	
3	0.42	10.50%				13.52	
Average		10.17%				13.53	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.450	22.2	5.48	7.07	-23.28%
2	0.009	0.492	24.6	5.56		
3	0.009	0.503	23.7	5.24		
Average				5.42		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.08	2.00%	1.92%	8.51%	11.39	13.47	19.23%
2	0.09	2.25%				12.97	
3	0.08	2.00%				14.30	
Average		2.08%				13.58	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.509	166.8	15.60	17.05	-8.91%
2	0.021	0.499	160.5	15.32		
3	0.021	0.519	170.8	15.67		
Average				15.53		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.71	17.75%	25.50%	-39.22%	>17.76	>19.39	4.99%
2	0.50	12.50%				>18.60	
3	0.65	16.25%				>17.95	
Average		15.50%				>18.65	

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.562	93.1	18.40	22.48	-17.84%
2	0.009	0.489	83.7	19.02		
3	0.009	0.460	74.5	18.00		
Average				18.47		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.55	77.50%	134.83%	-36.09%	>14.10	>14.30	1.73%
2	2.07	103.50%				>14.74	
3	1.55	77.50%				>13.99	
Average		86.17%				>14.34	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.490	74.5	15.20	19.06	-18.69%
2	0.010	0.522	80.2	15.36		
3	0.010	0.475	75.7	15.93		
Average				15.50		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.37	68.50%	142.83%	-48.54%	>14.60	>14.39	1.10%
2	1.27	63.50%				>15.05	
3	1.77	88.50%				>14.84	
Average		73.50%				>14.76	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.409	109.1	12.70	13.40	-3.53%
2	0.021	0.506	138.3	13.02		
3	0.021	0.538	147.6	13.06		
Average				12.93		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.37	18.50%	29.33%	-32.38%	>18.56	>17.66	2.66%
2	0.40	20.00%				>19.94	
3	0.42	21.00%				>19.56	
Average		19.83%				>19.05	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.522	85.8	16.44	18.09	-4.74%
2	0.010	0.591	105.2	17.80		
3	0.010	0.500	87.3	17.46		
Average				17.23		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.50	12.50%	16.25%	-12.82%	10.24	11.59	24.09%
2	0.62	15.50%				12.97	
3	0.58	14.50%				13.56	
Average		14.17%				12.71	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.524	27.2	5.76	7.07	-23.41%
2	0.009	0.465	24.2	5.77		
3	0.009	0.497	21.1	4.72		
Average				5.41		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.11	2.75%	1.92%	21.53%	11.39	11.10	6.85%
2	0.10	2.50%				13.00	
3	0.07	1.75%				12.41	
Average		2.33%				12.17	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.582	153.0	12.52	17.05	-40.21%
2	0.021	0.464	71.9	7.38		
3	0.021	0.493	110.6	10.68		
Average				10.19		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.38	9.50%	25.50%	-68.95%	>17.76	>19.67	8.65%
2	0.39	9.75%				>18.91	
3	0.18	4.50%				>19.31	
Average		7.92%				>19.30	

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.440	73.3	18.51	22.48	-17.62%
2	0.009	0.450	74.5	18.40		
3	0.009	0.490	82.3	18.65		
Average				18.52		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	1.94	97.00%	134.83%	-21.51%	>14.10	>13.36	-3.48%
2	1.75	87.50%				>13.38	
3	2.66	133.00%				>14.09	
Average		105.83%				>13.61	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.550	90.8	16.50	19.06	-13.52%
2	0.010	0.492	81.2	16.50		
3	0.010	0.502	82.6	16.44		
Average				16.48		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.16	8.00%	142.83%	-94.63%	>14.60	>14.38	-0.80%
2	0.16	8.00%				>14.36	
3	0.14	7.00%				>14.71	
Average		7.67%				>14.48	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.485	130.2	12.78	13.40	-4.01%
2	0.021	0.500	136.1	12.96		
3	0.021	0.505	136.2	12.84		
Average				12.86		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.44	22.00%	29.33%	-22.72%	>18.56	>18.80	3.16%
2	0.47	23.50%				>18.89	
3	0.45	22.50%				>19.75	
Average		22.67%				>19.15	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.505	90.0	17.82	18.09	-3.39%
2	0.010	0.519	91.8	17.68		
3	0.010	0.451	76.4	16.93		
Average				17.48		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.48	12.00%	16.25%	-35.90%	10.24	12.72	22.92%
2	0.45	11.25%				12.47	
3	0.32	8.00%				12.57	
Average		10.42%				12.59	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.489	23.0	5.21	7.07	-12.39%
2	0.009	0.494	28.3	6.37		
3	0.009	0.503	31.7	7.00		
Average				6.19		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.08	2.00%	1.92%	-13.19%	11.39	12.16	0.64%
2	0.05	1.25%				10.46	
3	0.07	1.75%				11.77	
Average		1.67%				11.46	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.498	171.3	16.38	17.05	-4.75%
2	0.021	0.494	166.4	16.04		
3	0.021	0.503	172.2	16.30		
Average				16.24		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.60	15.00%	25.50%	-42.48%	>17.76	>18.11	0.28%
2	0.58	14.50%				>17.73	
3	0.58	14.50%				>17.59	
Average		14.67%				>17.81	

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.495	79.3	17.80	22.48	-20.42%
2	0.009	0.492	80.1	18.09		
3	0.009	0.508	81.3	17.78		
Average				17.89		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.91	45.50%	134.83%	-59.46%	>14.10	>14.60	1.37%
2	1.10	55.00%				>14.27	
3	1.27	63.50%				>14.01	
Average		54.67%				>14.29	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.503	88.2	17.52	19.06	-8.53%
2	0.010	0.499	87.1	17.44		
3	0.010	0.504	87.4	17.33		
Average				17.43		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-95.10%	>14.60	>13.40	-3.22%
2	0.14	7.00%				>14.40	
3	0.14	7.00%				>14.59	
Average		7.00%				>14.13	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.021	0.499	133.4	12.73	13.40	-2.95%
2	0.021	0.483	130.9	12.91		
3	0.021	0.504	141.6	13.38		
Average				13.00		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.35	17.50%	29.33%	-34.08%	>18.56	>19.82	5.94%
2	0.39	19.50%				>19.20	
3	0.42	21.00%				>19.97	
Average		19.33%				>19.66	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.010	0.505	89.4	17.70	18.09	-1.86%
2	0.010	0.465	83.7	18.00		
3	0.010	0.487	85.5	17.56		
Average				17.75		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.38	9.50%	16.25%	-40.00%	10.24	10.00	7.03%
2	0.41	10.25%				11.59	
3	0.38	9.50%				11.29	
Average		9.75%				10.96	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.499	28.6	6.36	7.07	-15.86%
2	0.009	0.433	23.1	5.93		
3	0.009	0.472	23.6	5.56		
Average				5.95		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	1.92%	-17.53%	11.39	12.51	7.11%
2	0.06	1.50%				12.16	
3	0.06	1.50%				11.93	
Average		1.58%				12.20	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.499	170.4	16.26	17.05	-7.96%
2	0.021	0.495	162.1	15.59		
3	0.021	0.504	161.1	15.22		
Average				15.69		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.51	12.75%	25.50%	-62.42%	>17.76	>18.58	2.74%
2	0.37	9.25%				>17.44	
3	0.27	6.75%				>18.72	
Average		9.58%				>18.25	

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.453	73.2	17.96	22.48	-21.44%
2	0.009	0.494	72.8	16.38		
3	0.009	0.512	85.9	18.64		
Average				17.66		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.90	45.00%	134.83%	-59.46%	>14.10	>14.01	2.32%
2	0.11	5.50%				>14.67	
3	2.27	113.50%				>14.60	
Average		54.67%				>14.43	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.010	0.487	81.6	16.75	19.06	-12.06%
2	0.010	0.495	82.8	16.72		
3	0.010	0.499	83.9	16.81		
Average				16.76		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-95.10%	>14.60	>14.37	0.07%
2	0.14	7.00%				>14.26	
3	0.14	7.00%				>15.20	
Average		7.00%				>14.61	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.021	0.495	132.3	12.73	13.40	-4.88%
2	0.021	0.404	104.2	12.28		
3	0.021	0.504	140.0	13.23		
Average				12.75		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.48	24.00%	29.33%	-28.40%	>18.56	>19.35	-3.54%
2	0.34	17.00%				>18.30	
3	0.44	22.00%				>16.06	
Average		21.00%				>17.90	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.010	0.496	93.9	18.92	18.09	-0.42%
2	0.010	0.505	86.3	17.09		
3	0.010	0.516	93.1	18.03		
Average				18.01		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.55	13.75%	16.25%	-27.18%	10.24	13.70	30.27%
2	0.40	10.00%				13.33	
3	0.47	11.75%				12.99	
Average		11.83%				13.34	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.499	27.4	6.09	7.07	-14.43%
2	0.009	0.514	27.5	5.93		
3	0.009	0.507	28.0	6.13		
Average				6.05		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	1.92%	-8.85%	11.39	12.83	11.71%
2	0.07	1.75%				12.82	
3	0.07	1.75%				12.52	
Average		1.75%				12.72	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.500	163.8	15.60	17.05	-17.22%
2	0.021	0.533	120.4	10.76		
3	0.021	0.431	144.7	15.99		
Average				14.11		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.37	9.25%	25.50%	-57.84%	>17.76	>17.73	4.99%
2	0.39	9.75%				>19.10	
3	0.53	13.25%				>19.11	
Average		10.75%				>18.65	

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F
24 HR BAKE @ 302 F

Insulation Type: Polyester Film

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.009	0.501	81.9	18.15	22.48	-19.74%
2	0.009	0.470	75.4	17.83		
3	0.009	0.490	80.1	18.15		
Average				18.04		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	134.83%	-94.44%	>14.10	>14.55	2.67%
2	0.16	8.00%				>14.85	
3	0.15	7.50%				>14.03	
Average		7.50%				>14.48	

Insulation Type: Polyester Film, Low Oligomer

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.010	0.450	74.9	16.64	19.06	-13.02%
2	0.010	0.548	89.9	16.41		
3	0.010	0.489	81.6	16.69		
Average				16.58		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.14	7.00%	142.83%	-94.87%	>14.60	>14.73	4.68%
2	0.16	8.00%				>15.89	
3	0.14	7.00%				>15.23	
Average		7.33%				>15.28	

Insulation Type: Polyester Composite- Dacron-Mylar-Dacron

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.021	0.513	137.0	12.72	13.40	-2.65%
2	0.021	0.495	136.3	13.11		
3	0.021	0.495	138.3	13.30		
Average				13.04		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.39	19.50%	29.33%	-24.42%	>18.56	>17.17	-4.31%
2	0.45	22.50%				>18.93	
3	0.49	24.50%				>17.18	
Average		22.17%				>17.76	

Insulation Type: Aramid Fiber Mat- Nomex

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From 'Unexposed'
1	0.010	0.493	85.9	17.42	18.09	-9.52%
2	0.010	0.577	93.4	16.19		
3	0.010	0.445	69.0	15.49		
Average				16.37		

Sample #	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from 'Unexposed'	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.54	13.50%	16.25%	-42.05%	10.24	11.76	10.90%
2	0.32	8.00%				9.52	
3	0.27	6.75%				12.79	
Average		9.42%				11.36	

Insulation Type: Aramid Fiber, Mica Mat- Nomex Mica

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.009	0.490	26.1	5.92	7.07	-16.65%
2	0.009	0.568	28.2	5.52		
3	0.009	0.492	27.7	6.24		
Average				5.89		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.07	1.75%	1.92%	-8.85%	11.39	12.74	12.73%
2	0.06	1.50%				12.92	
3	0.08	2.00%				12.86	
Average		1.75%				12.84	

**Insulation Type: Aramid Mat, Polyester Film Composite-
Nomex-Mylar-Nomex**

Sample #	Sample Width (Inches)	Sample Thickness (Inches)	Break Load (Pounds)	Tensile Strength (ksi)	Average Tensile Strength 'Unexposed'	Change in Tensile Strength From Unexposed
1	0.021	0.520	119.5	10.94	17.05	-16.66%
2	0.021	0.507	166.2	15.61		
3	0.021	0.514	173.5	16.07		
Average				14.21		

	Stretch (Inches)	Experimental Elongation	Average Elongations (Unexposed)	Change in Elongation from Unexposed	Average Dielectric Strengths 'Unexposed'	Experimental Dielectric Strengths (Kilovolts)	Dielectric Change
1	0.17	4.25%	25.50%	-68.63%	>17.76	>18.70	2.68%
2	0.45	11.25%				>18.76	
3	0.34	8.50%				>17.25	
Average		8.00%				>18.24	

Tape and Tie Cord

500 HRS IN R-502/MINERAL OIL @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	36.55	
	2	37.20	38.55	-9.48%
	3	29.70	40.45	
	Average	42.55	38.52	

Tape B	1	441.60	419.10	
	2	424.20	314.50	-16.56%
	3	490.70	398.20	
	Average	452.17	377.27	

Cord C	1	28.05	27.75	
	2	34.85	32.50	-12.28%
	3	40.50	30.45	
	Average	34.47	30.23	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from unexposed Elongation
Tape A	1	0.64	32.00%	0.22	11.00%	
	2	0.23	11.50%	0.32	16.00%	-24.41%
	3	0.40	20.00%	0.42	21.00%	
	Average	0.42	21.17%	0.32	16.00%	

Tape B	1	0.11	5.50%	0.10	5.00%	
	2	0.11	5.50%	0.07	3.50%	-17.65%
	3	0.12	6.00%	0.11	5.50%	
	Average	0.11	5.67%	0.09	4.67%	

Cord C	1	0.62	31.00%	0.40	20.00%	
	2	0.18	9.00%	0.51	25.50%	34.00%
	3	0.20	10.00%	0.43	21.50%	
	Average	0.33	16.67%	0.45	22.33%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester, acrylic binder

Cord C is polyester tie cord

Tape and Tie Cord

1000 HRS IN R-502/MINERAL OIL @ 260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	24.30	
	2	37.20	27.92	-40.43%
	3	29.70	23.82	
	Average	42.55	25.35	

Tape B	1	441.60	361.20	
	2	424.20	327.50	-33.16%
	3	490.70	218.00	
	Average	452.17	302.23	

Cord C	1	28.05	22.30	
	2	34.85	25.30	-36.68%
	3	40.50	17.87	
	Average	34.47	21.82	

		Unexposed		Experimental		Change from unexposed
		Stretch (Inches)	Unexposed Elongation	Stretch (Inches)	Experimental Elongation	
Tape A	1	0.64	32.00%	0.09	4.50%	
	2	0.23	11.50%	0.07	3.50%	-82.68%
	3	0.40	20.00%	0.06	3.00%	
	Average	0.42	21.17%	0.07	3.67%	

Tape B	1	0.11	5.50%	0.20	10.00%	
	2	0.11	5.50%	0.12	6.00%	17.65%
	3	0.12	6.00%	0.08	4.00%	
	Average	0.11	5.67%	0.13	6.67%	

Cord C	1	0.62	31.00%	0.32	16.00%	
	2	0.18	9.00%	0.36	18.00%	-4.00%
	3	0.20	10.00%	0.28	14.00%	
	Average	0.33	16.67%	0.32	16.00%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester, acrylic binder

Cord C is polyester tie cord

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	39.50	
	2	37.20	40.07	-6.37%
	3	29.70	39.95	
	Average	42.55	39.84	

Tape B	1	441.60	448.70	
	2	424.20	470.00	-1.53%
	3	490.70	417.00	
	Average	452.17	445.23	

Cord C	1	28.05	28.55	
	2	34.85	26.37	-20.56%
	3	40.50	27.22	
	Average	34.47	27.38	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from unexposed Elongation
Tape A	1	0.64	32.00%	0.28	14.00%	
	2	0.23	11.50%	0.29	14.50%	-31.50%
	3	0.40	20.00%	0.30	15.00%	
	Average	0.42	21.17%	0.29	14.50%	

Tape B	1	0.11	5.50%	0.15	7.50%	
	2	0.11	5.50%	0.12	6.00%	8.82%
	3	0.12	6.00%	0.10	5.00%	
	Average	0.11	5.67%	0.12	6.17%	

Cord C	1	0.62	31.00%	0.29	14.50%	
	2	0.18	9.00%	0.31	15.50%	-7.00%
	3	0.20	10.00%	0.33	16.50%	
	Average	0.33	16.67%	0.31	15.50%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester, acrylic binder
Cord C is polyester tie cord

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	39.00	
	2	37.20	39.90	-18.96%
	3	29.70	24.55	
	Average	42.55	34.48	
Tape B	1	441.60	375.00	
	2	424.20	348.70	-22.23%
	3	490.70	331.20	
	Average	452.17	351.63	
Cord C	1	28.05	28.90	
	2	34.85	21.85	-24.84%
	3	40.50	26.97	
	Average	34.47	25.91	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from unexposed Elongation
Tape A	1	0.64	32.00%	0.34	17.00%	
	2	0.23	11.50%	0.31	15.50%	-29.13%
	3	0.40	20.00%	0.25	12.50%	
	Average	0.42	21.17%	0.30	15.00%	
Tape B	1	0.11	5.50%	0.09	4.50%	
	2	0.11	5.50%	0.08	4.00%	-29.41%
	3	0.12	6.00%	0.07	3.50%	
	Average	0.11	5.67%	0.08	4.00%	
Cord C	1	0.62	31.00%	0.42	21.00%	
	2	0.18	9.00%	0.40	20.00%	22.00%
	3	0.20	10.00%	0.40	20.00%	
	Average	0.33	16.67%	0.41	20.33%	

Tape A is heat shrinkable braided polyester

Tape B is braided polyester, acrylic binder

Cord C is polyester tie cord

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F

Tape Tie Cords	Sample #	Unexposed Break Load (lbs.)	Experimental Breakload (lbs.)	Change in Breakload Strength
Tape A	1	60.75	38.29	
	2	37.20	40.15	-8.02%
	3	29.70	38.97	
	Average	42.55	39.14	

Tape B	1	441.60	239.50	
	2	424.20	421.00	-20.74%
	3	490.70	414.70	
	Average	452.17	358.40	

Cord C	1	28.05	30.10	
	2	34.85	33.20	-7.23%
	3	40.50	32.62	
	Average	34.47	31.97	

		Unexposed Stretch (Inches)	Unexposed Elongation	Experimental Stretch (Inches)	Experimental Elongation	Change from unexposed Elongation
Tape A	1	0.64	32.00%	0.29	14.50%	
	2	0.23	11.50%	0.32	16.00%	-30.71%
	3	0.40	20.00%	0.27	13.50%	
	Average	0.42	21.17%	0.29	14.67%	

Tape B	1	0.11	5.50%	0.09	4.50%	
	2	0.11	5.50%	0.09	4.50%	-17.65%
	3	0.12	6.00%	0.10	5.00%	
	Average	0.11	5.67%	0.09	4.67%	

Cord C	1	0.62	31.00%	0.41	20.50%	
	2	0.18	9.00%	0.41	20.50%	27.00%
	3	0.20	10.00%	0.45	22.50%	
	Average	0.33	16.67%	0.42	21.17%	

Tape A is heat shrinkable braided polyester
Tape B is braided polyester, acrylic binder
Cord C is polyester tie cord

500 HRS IN R-502/MINERAL OIL @ 260 F

<u>Magnet Wire Type</u>	<u>Unexposed Voltage Withstand</u>	<u>Experimental Voltage Withstand</u>	<u>Appearance Change</u>
Wire Type A	Pass	Pass	None
Wire Type B	Pass	Pass	None

1000 HRS IN R-502/MINERAL OIL @ 260 F

Wire Type A	Pass	Pass	None
Wire Type B	Pass	Pass	None

500 HRS IN R-502/MINERAL OIL @ 260 F
168 HRS IN R-404A/POLYOLESTER @260 F

Wire Type A	Pass	Pass	None
Wire Type B	Pass	Pass	None

500 HRS IN R-502/MINERAL OIL @ 260 F
336 HRS IN R-404A/POLYOLESTER @260 F

Wire Type A	Pass	Pass	None
Wire Type B	Pass	Pass	None

500 HRS IN R-502/MINERAL OIL @ 260 F
500 HRS IN R-404A/POLYOLESTER @260 F

Wire Type A	Pass	Pass	None
Wire Type B	Pass	Pass	None

Wire Type A is Polyester base with amide imide overcoat
 Wire Type B is Esterimide base with amide imide overcoat