

September 24, 2014

▪ **TEST REPORT** ▪

PN 116080 Rev 1

PO 5690

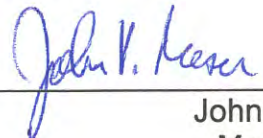
ARDL Engineering

Dielectric Strength Testing

Prepared For:

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*Certificate Numbers 255.01 & 255.02

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Cambria County Association for the Blind and Handicapped

SUBJECT: Dielectric strength testing on three materials.
Purchase Order #: 5690.

RECEIVED: Three sets of two slabs identified as 370-2322 (80 mils), 370-2322 (50 mils) and 370-2412.

DIELECTRIC STRENGTH TEST

Test Method: ASTM D 149-09, Method A, Short-Time Test.

Sample Preparation: Samples were conditioned for at least 40 hours at 23 °C and 50 % relative humidity.

Test Procedure: Place sample between 1/4 inch diameter electrodes (Type 3 of ASTM D 149). Apply an increasing AC voltage at a rate of 2,000 volts/sec to the electrodes until dielectric breakdown occurs. Record the peak voltage applied.

Test Conditions: The test was conducted in oil (Mobile Univolt) with room conditions of 70°F (21 °C) and 50 % relative humidity.

Test Date: May 21, 2014.

370-2322 (80 mils) Results:

Test	Thickness		Breakdown Voltage (kVAC)	Dielectric Strength	
	mm	mils		V/mil	kV/mm
1	1.77	69.7	28	402	15.8
2	1.79	70.5	27	383	15.1
3	1.78	70.1	30	428	16.9
4	2.08	81.9	33	397	15.6
5	1.79	70.5	29	412	16.2

Average	404	V/mil	15.9	kV/mm
Standard Deviation	17	V/mil	0.7	kV/mm

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370-2322 (50 mils) Results:

Test	Thickness		Breakdown Voltage (kVAC)	Dielectric Strength	
	mm	mils		V/mil	kV/mm
1	1.24	48.8	24	492	19.4
2	1.41	55.5	27	486	19.1
3	1.56	61.4	30	480	18.9
4	0.97	38.2	23	602	23.7
5	1.18	46.5	25	538	21.2

Average	520	V/mil	20.5	kV/mm
Standard Deviation	51	V/mil	2.0	kV/mm

370-2412 Results:

Test	Thickness		Breakdown Voltage (kVAC)	Dielectric Strength	
	mm	mils		V/mil	kV/mm
1	1.51	59.4	29	488	19.2
2	1.05	41.3	26	617	24.3
3	1.36	53.5	29	532	21.0
4	1.59	62.6	30	471	18.6
5	1.65	65.0	28	431	17.0

Average	508	V/mil	20.0	kV/mm
Standard Deviation	71	V/mil	2.8	kV/mm

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