

TEST REPORT

THERMAL CHAMBER - CONDUCTOR

DATE: 9/20/2013

Applicable standards

ANSI C29.11-1989(R1996) Composite Suspension Insulators for Overhead
Transmission Lines – Tests (modified)

Description of test

Aim: To assess the adhesion and longevity of a coating to the substrate by subjecting the sample to a thermal cycle. This will mimic some outdoors environmental conditions and will assess if the coating and the substrates have different coefficients of thermal expansion by separation of coating from substrate.

Description: The coated samples were placed in a thermal chamber for 96 hours. The thermal chamber is programmed to have a stabilization period of 8 hours and a rise/fall time of 4 hours. The chamber first falls in temperature from ambient to -35⁰F, then stabilized at -35⁰F, then rises to +50⁰F, then stabilized at +50⁰F then falls to -35⁰F to start a new cycle. This cycle is repeated four times.







Rating: The rating for this test is visual. When the samples were removed from the chamber, photographs were taken to compare before & after testing.

Sample(s)



Coating	Substrate	Size	No of samples
D7-1, D7-2, D7-3	Aluminum	4" Round	3
Control	Aluminum	4" Round	3

ADVANCED COATINGS: TEST REPORT

Test Results

Sample ID: D7		
	Dry	Wet
Before		
		
		

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<p>After</p>		
<p>Control(Before)</p>	<p>Not Available</p>	<p>Not Available</p>
<p>Control (After)</p>	<p>Not Available</p>	<p>Not Available</p>

ADVANCED COATINGS: TEST REPORT

Observations

The following observations can be made:

- No visual damage to samples
- Hydrophobicity appears to remain the same or get better

Hydrophobicity Classification	D7-1	Control
Before	3	N/A
After	2	N/A

Hydrophobicity Classification	D7-2	Control
Before	2	N/A
After	2	N/A

Hydrophobicity Classification	D7-3	Control
Before	3	N/A
After	3	N/A