

# **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 -35°F, then stabilized at -35°F, then rises to +50°F, then stabilized at +50°F then falls to -35°F to start a new cycle. This cycle is repeated four times.

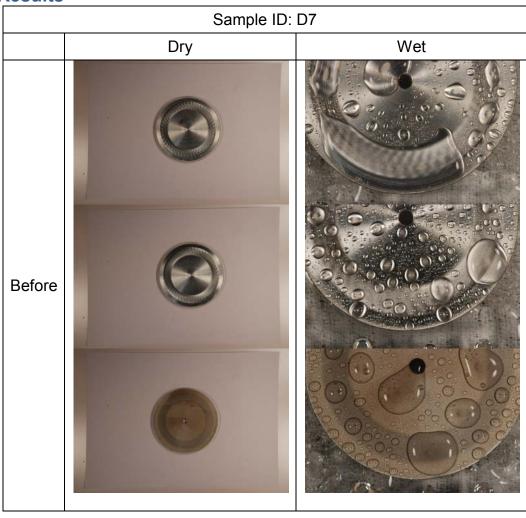
**Rating:** The rating for this test is visual. When the samples were removed from the chamber, photographs were taken to compare before & after testing.

## Sample(s)

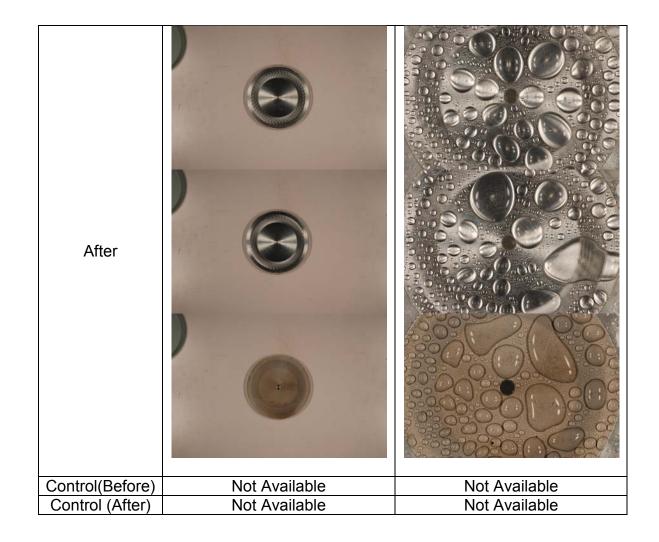
Coating	Substrate	Size	No of samples
D7-1, D7-2, D7-3	Aluminum	4" Round	3
Control	Aluminum	4" Round	3

## ADVANCED COATINGS: TEST REPORT

# Test Results



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## **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