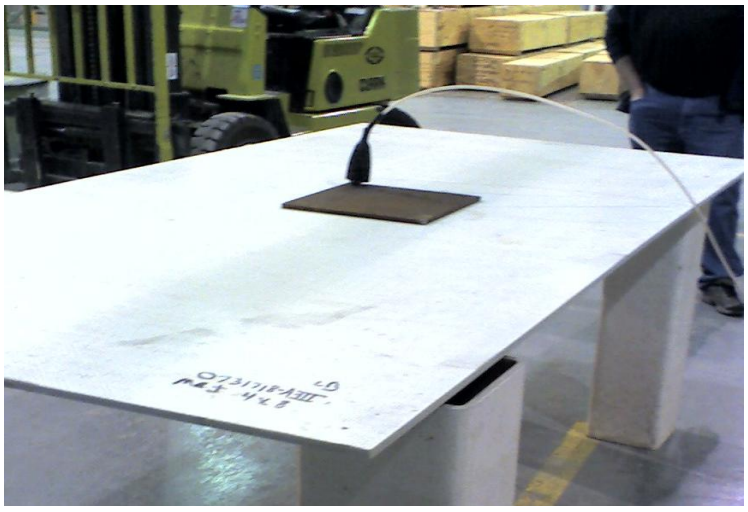
Dielectric Property Testing
ArmorCore UL752-III
Fiberglass Panel

11-16-2007



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1. Test Description

To determine dielectric properties of a standard ArmorCore UL 752-III 4ft x 8ft sheet, Waco Composites tested the panel in two configurations. In each case the panels were subjected to a large electric potential starting at 10 kV that was incrementally adjusted by an additional 10 kV until the testing apparatus' fuse was blown. An analog ammeter was used to measure the current passing through the panel.

2. Test #1

The first test used two 12 inch carbon steel plates 3/8" thick as nodes for the experiment. A bolt was welded onto each plate to function as an attachment point for the voltage source. The plates were each placed on the opposing faces of the panel and the voltage source terminals were then clipped onto the bolt. This measures the resistance of the panel through its thickness. The data is recorded in table 1 under test 1. The fuse was blown when the test voltage reached 60 kV.



3. Test #2

The second test measured the resistance across the 8 ft length of the panel. The voltage source terminal clips were attached directly to the panel and the steel plates removed from the experiment setup. The values are recorded in table 1 under test 2. There was no detectable current flow at the full test voltage of 100 kV.



TABLE 1 – TEST DATA

Test 1		Test 2	
kV	µA	kV	µA
±1kV	±0.1µA	±1kV	±0.1µA
10	0	10	0
20	0	20	0
30	0	30	0
40	1.2	40	0
50	10	50	0
60	MAX	60	0
		70	0
		80	0
		90	0
		100	0