Test 13:

Bundle: Seven wires (6 over 1) of BMS 42/1/1-20 specification.
Metal Shaving: Aluminum **7075; 50** mils by 8 mils
Circuit Resistance: 1 Ohm
Generator: 3 phase, 400Hz, 120 line to neutral (208 line to line), 10 kVA.

Observations	Test 13
Flash	Yes
Strong Arcing	No
Circuit Breakers Tripped	No
Damage Length	0
# Wires Failing Wet Dielectric Test	0 of 5

In this test an Aluminum **7075** (50 mils by 8 mils) was used. Upon application of the voltage there was a high buzzing sound followed by a small flash. The sample then became dormant. There was no soot built up or visible damage to the insulation and none of the circuit breakers tripped. The oscilloscope showed a 100 amp peak short circuit current for 125 milliseconds that transitioned into an arc waveform for less than ½ a cycle before clearing (no current). None of the five wires failed the wet dielectric test.

Test 14:

Bundle: Seven wires **(6** over 1) **of** BMS 42A/8/1-20 specification.
Metal Shaving: Steel; 52 mils by **9** mils
Circuit Resistance: 1 Ohm
Generator: **3** phase, 400Hz, 120 line to neutral (208 line to line), 10 kVA.

Observations	Test 14
Flash	Yes
Strong Arcing	No
Circuit Breakers Tripped	No
Damage Length	0
# Wires Failing Wet Dielectric Test	0 of 5

This sample flashed immediately after power was applied to the sample. **A** small amount **of** soot was deposited on the wire. The insulation appeared to be slightly damaged but none **of** the five wire tested failed the wet dielectric test.

The oscillogram shows that there was intermittent arcing for less than 20 milliseconds and that the phase C wire did not become involved. There were ***peak*** current of 100 amperes **and** the total energy dissipated was about 18joules. Figure **37** shows the power and energy dissipated during the flash.