TS-SSC 91-200

TECHNICAL NOTE

Date: 10/15/91
By: Richard E. Sims
Subject: Insulation Breakdown Tests of 50 MM Dipole Aluiminum Lead End Winding Keys.

Various coatings were applied to machined aluminum lead end winding keys. These keys were cured into the end parts of 50 mm inner dipole coils. A HiPot tester was then connected between the coil lead and the aluminum body of the end key. The DC voltage was increased slowly with the leakage set to the 20 microampere range. Breakdown was defined when the leakage current rose rapidly and pegged the mter. The voltage was then turned down to zero and then reapplied to obtain the second breakdown reading.

Coil #	Coating	First Breakdown (Volts)	Second Breakdown (Volts)
129	Polyimide, Dupont RK692, 2 coats	2800	600
126	Polyphenylene Sulfide, one coat	2500	600
128	Polyimide, Dupont R5069, two coats	2200	1200
130	Polyimide, Dupont RK692, one coat	1500	600
127	Epoxy Ester, one coat	1200	1200

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