



1/28/91

To: John Carson
From: Jim Strait
Subject: Collaring Shims for DC0306

The Kapton collaring shims for DC0306[1] should be 10 mils in the inner coil and 10 mils in the outer coil. These thicknesses include the adhesive and represent the thickness that would be measured with a flat anvil micrometer. The thickness, with and without adhesive, of each of the layers used to make the shim packages should be measured and recorded in the traveller. The Kapton should be placed on the outer surface of the ground wrap insulation and should be extended as far as possible into the region of the G-10 end keys. The ends of the different Kapton layers used to make the pole shim should be staggered by about 1/8 inch.

The inner coils in DC0305 are, on the average, 7.8, 6.4 and 7.9 mils larger (at 10 kpsi) larger than those in DC0303, 304 and 305 respectively and the outer coils are 1.5, 0.7 and 0.1 mils larger than in the same magnets. The inner coil shim specified here is 7 mils thinner than that used in the previous three magnets[2]. The outer coil shim is the same as in DC0304 and 305 and 3 mils thinner than that in DC0303. The prestresses after collar keying were 8.6 and 8.5 kpsi in DC0303[3] and 13.7 and 9.2 kpsi in DC0304[4] in the inner and outer coils respectively. DC0305 has not been keyed yet. The sums of coil plus shim thickness specified here for DC0306 are within the range of those for the two previous keyed magnets whose prestresses were acceptable.

Footnotes

- [1] Upper Inner 17M-1015 Upper Outer 17M-2008R
Lower Inner 17M-1016 Lower Outer 17M-2006R
- [2] J. Strait, DC0303 Collaring Shims, TS-SSC 90-074, 10/16/90.
J. Strait, Collaring Shims for DC0304 with New Coils, TS-SSC 90-106,
12/17/90.
J. Strait, DC0305 Collaring Shims, TS-SSC 91-005, 1/16/91.
- [3] J. Strait, Keying of DC0303: Strain Gage Data, TS-SSC 90-079, 10/5/90.
- [4] J. Strait, DC0304 Collar Keying Strain Gauge Data, TS-SSC 91-004, 1/14/91.

cc: Rodger Bossert
Steve Delchamps
Wayne Koska
Gale Pewitt
Ried Rihel
Dan Smith
Masayohsi Wake