



Fermilab

5/1/91
TS-SSC 91-078

To: Dan Smith

From: Jim Strait *JS*

Subject: Shims for long 50 mm magnet coil molds (inner and outer)

The shim under the stop bar on the long 50 mm magnet inner mold should be increased from 5 mils to 10 mils for the second long inner coil (15M-50-1002). A 7 mils shim should be placed under the stop bar on the long outer mold; that is, the sum of the stop bar plus shim thickness should be 0.247 inch.

Based on experience with the short 50 mm coils the target size for inner coils is approximately +10 mils relative to the master and for outer coils is approximately +3 mils relative to the master. To achieve these sizes with the short EDMed molds, we have made the sum of the mold stop bar plus shims 0.255 inch (0.250 inch bar plus a 5 mil shim) for the inner coils and 0.247 inch (0.247 inch bar with no shim).

The first long inner coil (15M-50-1001) was molded using a 5 mil shim. Its average size is +5.5 mils relative to the master, approximately 4.5 mils too small. The increased shim specified above for the inner mold will increase the cavity size by 5 mils and is expected to result in a coil 3-4 mils larger than the first coil. The outer coil shim specified above is the same as that used on recent short coils. Based on the size of the first long outer coil we may modify the shim thickness for the second coil.

cc: R.Bossert, J.Carson, S.Delchamps, S.Gourlay, W.Koska, E.G.Pewitt, R.Rihel, R.Sims, M.Wake, W.Zimmerman