

Testing of the Large Bore Single Aperture 1-metre Superconducting Dipoles made with Phenolic Inserts, L. BOTTURA, G.A. KIRBY, J. LUCAS, R. OSTOJIC, S. RUSSECHUCK, A. SIEMKO, T.M. TAYLOR, I. VANENKOV, W. WETERINGS, CERN, Geneva, Switzerland; H. BOSCHMAN, R.L. DUBBELDAM, HOLEC RIDDERKERK, The Netherlands - Two identical single aperture 1-metre superconducting dipoles have been built in collaboration with HOLEC and tested at CERN. The 87.8 mm aperture magnets feature a single layer coil wound using LHC main dipole outer layer cable, phenolic spacer type collars, and a keyed two part structural iron yoke. The magnets are designed as models of the D1 separation dipole in the LHC experimental insertions, whose nominal field is 4.5 T at 4.5 K. The first tested magnet achieved after a few training quenches its short sample limit of 5.6 T at 4.35 K and 7.2 T at 1.9 K. In this paper we present the results of magnet testing at 4.2 K and 1.9 K, and in particular review the performance of the injection moulded phenolic spacers.