

Magnet Prototypes for ANKA, D. EINFELD, A. KRUSSEL, M. PONT*, Forschungszentrum Karlsruhe (FZK), ANKA Project Group, Germany - ANKA is a 2.5 Storage Ring consisting of 16 dipoles with a maximum field of 1.5 T, 40 quadrupoles divided in two families with a maximum gradient of 20 T/m, 24 sextupoles with a length of 145 mm long and a maximum second order differential of 734 T/m², and 44 correctors. A prototype of each different magnet has been built and the magnetic measurements are underway. The prototypes have been built with steel 1200-100 A from EBG, 1 mm thick and the conductor is made of Cu from Outokumpu. Dipoles have a magnetic length of 2183.1 mm. The laminations have been stacked together and then welded on the exterior to provide mechanical rigidity. For the quadrupoles and the sextupoles, with a maximum length of 390 mm, a gluing process has been chosen. The effective length of the magnets with and without different chamfers will be checked and compared with 3-d calculations. The field quality for the dipole, quadrupole and sextupole prototypes will also be measured and compared with the 2d calculations. Discussions on the differences observed will be reported.

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