Amorphous carbon (a-C) thin films, produced in different coating configurations by using d.c magnetron sputtering, have been investigated in laboratory for low secondary electron yield (SEY) applications. After the coatings had shown a reliable low initial SEY, the a-C thin films have been applied in the SPS and tested with LHC type beams. Currently, we have used a-C thin film coated in so-called liner configuration for the electron cloud monitors as well as for a removable sample. In addition the vacuum chambers of three dipole magnets have been coated and inserted in the machine.

After describing the different configurations used for the coatings, results of the tests in the machine and a summary of the analyses after extraction will be presented. Based on comparison between different coating configurations, a new series of coatings has been applied on three further dipole magnet vacuum chambers. They have been installed and will be tested in coming machine development runs.