RF Liners for High Brilliance Beam, N. ROUVIERE, ESRF - High brilliance storage rings may be limited in their single bunch performances by the gas desorption produced by high temperatures reached on the RF liners shielding the beam from bellow corrugations. One straight section is available at the ESRF to carry out tests of various geometries of RF liners. With the 16 bunch filling mode, 6 mA per bunch is currently used to measure the temperature increase of different types of RF liners developed at ESRF, LEP, APS and PEPII. The results of these models will be described and analysed in this paper.