

Abstract: The influence of quenching prior to charging on charge storage capability in Teflon FEP films was investigated. It is shown that the heating rate before quenching, the cooling rate during quenching, the quenching temperature and the storage period between quenching and charging affect the charge storage lifetime. It was found that quenching leads to only small crystallinity changes, but to a significant reduction of average crystallite size. The activation energies were determined by the initial rise method and the attempt-to-escape frequencies at higher temperature were estimated for FEP before and after quenching. The depth dependence of the hardening in quenched Teflon FEP samples was studied by use of electron beam charging and corona charging in combination with TSD experiments