

**Abstract:** The influence of heat treatment (heating followed by quenching prior to charging) on charge storage in polymer foils has been studied by TSD (thermally stimulated depolarization) and surface-potential decay measurements of FEP (fluorinated ethylene propylene), PETP (polyethylene terephthalate), and PP (polypropylene) foils charged by corona discharge or electron beam. It is shown that the heating rate before quenching and the quenching temperature affect the charge-decay time and the TSD peak temperature. Crystallinity and crystal granular size have been measured before and after quenching by means of X-ray diffraction. The different charge stabilities can be explained qualitatively by morphology changes