



Investigation Studies of Microwave Effect on Structure of Cellulosic Fibers II

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Abstract : Paper sheets were obtained by different types of lignocellulosic fibers. The best-produced paper sheets in part (I) were submitted to accelerate ageing by heating with conventional methods furthermore microwave was used for correlation and research its impact on structure of cellulosic filaments. The property of microwaves, was their ability, under suitable conditions, to produce rapid and uniform heating throughout the material exposed to them. There was a noticeable change had occurred in mechanical properties of paper sheets obtained from cotton linter pulp with time comparing with that in part (I). The paper obtained from bagasse and mixed pulps deteriorated with time. In the case of paper sheets obtained from wood pulp, deterioration in mechanical properties with time is not taken into account comparing with that submitted to accelerate ageing (part I). In all cases whiteness influenced by submitting paper sheets to accelerate ageing. Examining electron microscopy and infrared spectroscopy had been studied.

Keywords : Papersheets; Infrared spectroscopy; Scanning electron microscopy; Strength properties; Optical properties.

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