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ACCUMULATED PROCESSES IN KINETIC OF MECHANICAL AND ELECTRICAL DESTRUCTION OF POLYMERS

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Abstract

The distribution on longevity τ-time of waiting of bursting (mechanical destruction on constant tension) and punching (electrical destruction on constant tensity of field) of polymer films of polyethyleneterephthalate and polyethylene was measured. The results of uninterrupted experiments and experiments with interrupting the influence of load on samples, remained whole after tested within a time, answering the average value of lg τ were compared. The duration of interval, temperature, tension of field of opposite sign, depending on what was observed the various degree of regeneration of durable properties of polymer objects, varied in the intervals. For the mechanical destruction it was displayed the irreversibility of accumulated changes, which were identified as fluctuation break of tense chain molecules. The capability of accumulated changes to regeneration (up to complete) was determined for the electrical destruction. This permits to connect the kinetics of electrical destruction with the formation of time of volumetric electronic charges, on achieving the initial value which begin with punching.

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