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RESEARCH OF SIMULATED DETERIORATION INFLUENCE
ON ELECTROPHYSICAL PARAMETERS OF BANKNOTE PAPER

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**Research methodology.** The well-known methods for determining electrophysical properties and the newest technique have been used as the methodological basis of the study of correlation between degradation process of banknote paper and its electrophysical properties. The newest technique is a combination of four-point van der Pauw method, which is used for evaluating the resistance of semiconductor and dielectric layers for measuring the resistance of a flat object (with a thickness that is much smaller than the width and length) with electrodes with minimum cross section placed on the marginal parts of the sample.

**Results.** Technological basis of quality changes control of simulated deteriorated banknote substrates samples by changing their structural and surface properties, based on the theoretical basis of impact of the product structure heterogeneity on the character of its electrophysical properties that can be used as an indicator of banknotes deterioration was determined by experimental research.

**Novelty.** The scientific novelty of the results lies in the fact that there have been defined and processed the influences of various deterioration factors on electrophysical properties of banknote paper. Preconditions of their occurrence and changes during the process of banknote substrate degradation were defined.

**The practical significance.** Experimental research method of determining the banknote paper deterioration stage, which determines the changes of mechanical and structural properties of banknote paper substrate developed. The method can be used for predicting the changes of banknote durability during circulation by determining the durability of materials and semi-finished banknote products during manufacturing.