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**RESEARCH OF DEFORMATION PROPERTIES OF polymer LAYERS  
OF SCREEN PRINTING PLATES**

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***Research methodology.*** *To get the main results of the scientific work, the research of deformation properties of photopolymer materials for manufacturing screen printing plates by laser engraving has been conducted to determine their resistance to load and ink solvents in the printing process.*

***Results.*** *The study of deformation properties of polymeric materials in temporary and constant loads before and after swelling in solvents of screen inks for 30 minutes shows that the developed polymeric material is flexible and after the removal of the load most of the deformation disappears. The least aggressive solvent is white spirit and inks diluted by it can be used for printing from screen plates produced by laser engraving.*

***Novelty.*** *Suitability of the developed material for manufacturing and exploitation of screen printing plates has been proved by the research of its deformation properties before and after the exposure to solvents, to optimize the manufacturing process of relief-dot images application.*

***Practical significance.*** *The use of polymer materials based on oligo urethane acrylates for manufacturing screen printing plates by laser engraving allows providing: high graphic reproduction characteristics of printing plates (high degree of reproduction of image elements with maximum accuracy); possibility of creating «thick» stencils for very thick ink layer prints; reducing the length of the technological process through the use of copying layers, on which images are directly applied by laser, without additional operations; reducing the cost of printing plates manufacturing by using cheap and available materials; environmental safety of processes of printing plates manufacturing by using non-toxic, environmentally friendly materials.*