
Import-substituting technology of hydra jetting equipment consumable items production used for processing RST materials

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The article deals with the prospect of producing a high-tech device — the focusing tube used in systems for waterjet cutting of various materials. In the current economic situation, import substitution issues have national importance. To analyze the possibilities of developing the appropriate technological process, we constructed a series of mathematical simulation models; the analysis reveals the suspension motion processes and their physical essence and focusing tube internal channel wearing out processes. We established dependencies between the abrasive concentration and the focusing tube inner surface wearing out, as well as evaluated the abrasive grains magnitude impact on the wearing out and their physical and mechanical properties. In the study we draw the conclusions about the processes occurring during the abrasive slurry motion through a focusing nozzle. We compare our research results with those obtained in other research projects.

Keywords: import substitution, focusing tube, waterjet cutting, abrasive, numerical modeling.

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