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Quality characteristics study of complex shape parts after vibroabrasive treatment

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Abstract

© 2016,International Journal of Pharmacy and Technology. All rights reserved.Article is devoted to researches of quality characteristics of various materials in different zones of the new vibration machine container of equipped with the container with side vibro-platforms on the basis of the developed mathematical model of its mass center movement. Data on operational characteristics of serial details after processing are also given in the developed equipment. 2. In this article on the basis of comparison methods,the received results,analytical research of the mass center movement of the vibration machine and numerical methods of calculations with use of computer programs,optimum design data of the tested equipment control are determined,and dependence of surface quality characteristics on these parameters is revealed. 3. Results of metal sample research and distribution of residual tension when using the vibration machine with the container equipped with side vibro-platforms are given. Analytical dependence of metal sample on the major technology factors of process and location of samples in various zones of the container is received. The trajectory of the machine mass center movement at various parameters of vibro-platforms arrangement concerning container walls is defined. 4. The received research results allowed to specify design data of the new vibration machine for processing serial details. 5. On the basis of the above it is possible to draw a conclusion that use of the vibro-machines equipped with system of side vibro-platforms due to their additional movements concerning walls of the container allows to increase productivity of the equipment and to provide details with identical characteristics of quality regardless of their location in the container.

Keywords

Processed surface, Vibration machine, Vibro-abrasive processing, Vibro-platform