

MASTERS THESIS
RESEARCH AND MODELING OF THE RELATIONSHIP
BETWEEN PROCESS PARAMETERS AND
CHARACTERISTICS OF VIBRATING EQUIPMENT
PROCESSING

Abstract

The analysis of finishing operations shows on the metal-working enterprises of different industries, that the delete of burr and rounding of sharp edges on stamped details makes from 10 to 70 percent of general labour intensiveness of their production; cleaning and improvement of quality of surface of founding makes from 6 to 10 percent of general labour intensiveness of their making on an engineer; providing of low values of sizes of roughness of surfaces of details with the purpose of decorative treatment or preparation under the different types of metal plating makes from 10 to 15 percent of general labour intensiveness of their making. It is explained by that all transferred operations are executed by facilities of small mechanization with predominance of hand labour.

Essence of oscillation treatment is a mechanical or chemi-mechanical process of output of shallow particles of metal from the processed surface, and also smoothing out of roughness by their flowage. The process of vibrating is accompanied by the successive causing on the processed surface of large number of small blows, which caused by an action directed vibrations which are given to the detail through a working instrument, as shown in the poster (1).

One of methods of increase of the productivity and quality in metal-workingness is the vibroabrasive finishing advantages of which consist in its large technological possibilities.

The existent constructions of oscillation machine-tools differ character of vibration of container (volume and flat) and method of placing of details in a container (with fixing and without fixing). Treatment with fixing is applied for large details. Treatment of without fixing is used for

shallow, small and middle details. This method got a most wide use in modern vibrotreatment.

Touching the prospects of the use of vibrations of different spectrum in technological aims, it is possible to mark that in the nearest years interest to this problem from the side of the proper specialists of different industries will increase.