

Design of Plating Lines Using Information Technologies

O. I. Anosova, A. A. Rodina, K. V. Nemtinov, V. A. Nemtinov

Tambov State Technical University, Tambov

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Abstract: In this article, we describe the technology of automated design for plating lines, including the following stages: forming a block diagram of system's structural variants and choosing the best option from the standpoint of the set criteria; forming a set of options for model's elements and making an optimal choice of variants in order to meet their performance indicators; designing original components and mechanisms.

The choice of an assembly variant depends on the size of production department, and the direction of products flow processing.

The final stage of automated design of galvanic lines includes structural development of original components and mechanisms, final layout of the line, and completion of design documentation (drawings, sketches, calculations, etc.).

Approbation of an automated design procedure for galvanic lines is made at the design of plating lines for zinc plating of steel parts. We provide an example of model's visualization for the designed plating line showing each single node and its elements.

The advantages of the developed lines include a decrease in the time for development of the technological scheme, the use of a universal bath sizes, an appropriate choice of related equipment in a short time, etc.

The procedure proposed by the authors is also used for creating a virtual model of teaching and material resources of a technical university.