

ADDITIVE TECHNOLOGY DESIGN FOR 3D PRINTING AND APPLICATION TO FAST PRODUCT DEVELOPMENT

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Abstract

Quality of produced part depends based on generated G-code for 3D printing. Nowadays, various softwares for 3D printing technology design are presented. In this paper is presented procedure from product design to functional prototype production using additive technologies. Product design and was conducted using commercial CAD software package. At the very beginning, it starts with a physical model that did not satisfy its full function. The first CAD model had greatly the same dimensions as the physical model, but some new geometrical features was implemented to new CAD model as well as some small details dimensions. Printing is performed by FDM (Fused Deposition Modeling) method on a 3D printer German RepRap x400. This technology allows a large selection in the selection of printing parameters of the desired object. All these parameters are defined in the software for production design, in this case Simplify 3D which allows generation of the G-code. Using generated G code the first prototype was produced and after that the CAD model was corrected in order to satisfy its full function.

Keywords

Fast product development, CAD, Additive production, PLA

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