Development and Production of Prototype Model of Axial Fan

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Additive technologies belong to modern trends in production of prototype components. They include e.g. sintering of powders with a various chemical composition, granularity, physical, chemical and other usable qualities. There belong to additive technologies especially a technology of Rapid Prototyping that use various principles to make components. According to the used technology photopolymers, thermoplastics, a specially modified paper or metal powders are used in a Rapid Prototyping machinery.

An article deals with a characteristic, concept, calculation and production of a prototype model of an axial fan that enables quick build-up time of fan turbine speed. Production of the axial fan is realized by an additive technology of Rapid Prototyping using a method of Fused Deposition Modelling – a 3D printer Fortus 360mc. The article describes individual development stages from the concept to production itself including a final visualization of the prototype model of an 11-blade axial fan.

Keywords: Axial Fan, Additive Technology, Rapid Prototyping, Fused Deposition Modeling, 3D Printer

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