Deformation of Print PLA Material Depending on the Temperature of Reheating Printing Pad

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The article presents results of research in the field of prototyping – 3D printing. The authors are focused on polylactic acid material known by the abbreviation PLA, which is widely used in 3D printing method to produce objects. The tech-nology of successive layering of plastics and its solidification causes states of tension in printed objects and subsequently their deformation. That may even lead to torn the object from the print pad. The article deals with dimensions of the deformations at the specimen just in dependence on heating of the print pad. The authors also suggest a compromise solution between excessive deformation of underlying layers and therefore proportional change of physical dimensions of the object and low adhesion of the object to the underlying heating bed, which can be seen as cut off the object during the printing process as mentioned.

Keywords: 3D print, FDM, PLA, Polylactic acid, Warping, Deformation, Heated bed

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