

Analysis of the Influence of the Layer Height on the Strength of 3D Printed Structures

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Abstract.

This paper aims to analyze the influence of layer height on the strength of the final product obtained based on 3D printing technology.

This paper considers a comparative study between FDM and SLA printing, the use of an Ender 3 Pro printer from Creality (FDM type-PLA material) to obtain test specimens and, to verify the strength of the specimens with a dynamometer. Current studies bring a rich contribution to the study and understanding of the importance of using 3D printing technology in all technical fields and beyond. The diversification of printing methods, of the materials, lead, inevitably, to the need to study them in order to optimize and improve the printing processes. This paper tries to bring a contribution in this direction, in terms of the practical knowledge of our group of work.

The conclusion of this study highlights the fact that the printing height leads to a decrease in the tensile strength of the final product.