

Comparison of Tensile Strength and Folding Endurance of (FDM Process) 3D Printed ABS and PLA Materials

Authors : R. Devicharan

Abstract : In a short span 3D Printing is expected to play a vital role in our life. The possibility of creativity and speed in manufacturing through various 3D printing processes is infinite. This study is performed on the FDM (Fused Deposition Modelling) method of 3D printing, which is one of the pre-dominant methods of 3D printing technologies. This study focuses on physical properties of the objects produced by 3D printing which determine the applications of the 3D printed objects. This paper specifically aims at the study of the tensile strength and the folding endurance of the 3D printed objects through the FDM (Fused Deposition Modelling) method using the ABS (Acronitrile Butadiene Styrene) and PLA (Poly Lactic Acid) plastic materials. The study is performed on a controlled environment and the specific machine settings. Appropriate tables, graphs are plotted and research analysis techniques will be utilized to analyse, verify and validate the experiment results.

Keywords : FDM process, 3D printing, ABS for 3D printing, PLA for 3D printing, rapid prototyping

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020