

Design of 3D polymer printed shapes for practical applications

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Abstract.

The term "3D printing" can refer to a variety of processes in which material is deposited, joined or solidified under computer control to create a three-dimensional object, with material being added together (such as liquid molecules or powder grains being fused together), typically layer by layer. One of the key advantages of 3D printing is the ability to produce very complex shapes or geometries, from the simplest to the most complex, that would be otherwise impossible to construct by hand, including hollow parts or parts with internal truss structures to reduce weight.

In industries and companies where 3D printing is still a relatively new addition, PLA material is the best option. Because it is known in the industry as the easiest filament material to print. It is ideal for those who are looking to carry out fast prototyping, which is why it's the perfect choice for quick work. In this paper, the authors intend to establish a series of printing rules for different geometric shapes made of polymeric materials through the 3D printing process for practical applications and to present as much as possible the behavior in time of these printed components.