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A Critical Review on Classification of Materials used in 3D Printing Process

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In recent years, 3D printing technology has demonstrated its usefulness in a variety of fields because it provides faster, easier, and less expensive solutions, as well as the ability to build a variety of complicated configurations that must overlap many traditional production processes. It has gained attention from all around the globe as a developing method for producing complex three-dimensional products applicable in several industries, like aerospace, automotive, healthcare, biomedical, construction, food, and textile. The key advantages of 3D printing are design freedom, design customization, waste reduction, the capacity to build complicated structures, and quick prototyping. Using 3D CAD models and 3D printers, different types of materials can be printed layer over layer. Metals and alloys, ceramics, polymers, composites, smart materials, concrete, and biomaterials are often utilized in 3D printing technologies. In this article, we go through a wide selection of materials applied in 3D printing. Applications of 3D printed products made of different materials and different processes of 3D techniques are also described in the article and concluded with suggestions for future research in this field. New researchers and industrial people on 3D printing would benefit from the outcomes of this article.

Keywords: 3D printing; Additive manufacturing; 3D printing materials; Applications of 3D printing

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