A Methodology of Additive Manufacturing Technology in Ceramic Field

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Abstract

The application of design ideas determines whether they are creative or not. Creativity is about finding a solution to a problem or a new idea and its appropriate application or tendency to be an innovation. It is not a skill to create ideal ideas greater than the ability of human beings, but the skill is to find creative applicable ideas, which is enabled now by additive manufacturing technology, its new trends in the design process and its various advantages as precision with complex details and speed of achieving the idea in virtual model which was not possible before using AM technologies in production and application of different ideas in design.

It is important to know that additive manufacturing comprises much more than just design and methodology. It is a complete process in which every building block has an essential role to play. Before getting started with the part-printing process, Ceramists have to work with a design that appropriately considers the requirements, the production technology and the material, and they must have a clear understanding of the possibilities, challenges and potential added value of additive manufacturing technology.

AS additive Manufacturing development has a significant impact in ceramic field, AM opened up new horizons in design trends, so this research attempts to shed light on the development of this type of technology and its effect on the design methodology through analyzing of ceramic artistic examples.

The research present a general methodology aimed at covering all AM technologies in general, taking into account that AM manufacturing includes many different techniques and materials, ranging from polymers, ceramics and metals and therefore each technology and materials will have their own characteristics and requirements, but this methodology is a good starting point adapted to the requirements of ceramics in particular.

Keywords:

Ceramic – Design – Methodology.

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