

# Journal of Thin Films, Coating Science Technology and Application

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## Low-Velocity Impact Behaviour of 3d Printing Techniques Using Fiber Reinforcement Polymer Composites: A State of the Art Review

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## Abstract

Additive manufacturing (AM) is one of the pioneering fields of composite manufacturing, not only in the fabrication of composite all other emerging fields also utilize this technology. Fibers are one of the predominant reinforcing agents which are used to fabricate composite materials for many applications. This review article provides a detailed discussion about the role of 3D printing technology using fiber-reinforced composites in low-velocity applications. 3D printing technology provides very good build and dimensional stability for all the applications such as mechanical, thermal, vibrational, and acoustics. In this, article the pieces of literature are categorized into four types such as ink-jet printing technology, stereolithography, selective laser sintering, fusion deposition modelling (FDM). And, the works in each field were discussed, from the discussion the fiber reinforcement composite shows enhanced results for laser sintering 3D printing technology. The excellent performance determined from the supportive natural fibers in the time of impact event happened. Owing to this, the durability of the laser reaction on fabrication technique always improves the stability of the composite in various low velocity dynamic mechanical loading conditions.

## Keywords

3D printing, low-velocity impact, ink-jet printing technology, stereolithography, selective laser sintering, fusion deposition modelling (FDM)

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References



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