

ADDITIVE MANUFACTURING (AM) PROCESS RECOMMENDATION FOR HOLE FEATURE

Dama Y. B.¹ and Bhagwan F. Jogi²

¹ Ph.D. Research Scholar and ²Associate Professor

Department of Mechanical Engineering, Dr. Babasaheb Ambedkar Technological University, Lonere-Raigad,
402 103 Maharashtra, India

ABSTRACT

Additive Manufacturing (AM) is becoming the major manufacturing technology in today's world. Huge development has been seen in recent decades and which is at much faster pace. Also, it has matured from simple prototyping to actual end use products and production tooling. Various manufacturing processes are developed under additive manufacturing techniques like SLS, FDM, DMLS, SLA, PolyJet, LTP, FDM, LENS, Binder jet printing. etc. Layer by layer addition of materials is key method in all these process and hence this technology is referred as additive manufacturing. There are different equivalent terms used like rapid prototyping, 3D printing, digital manufacturing etc. Additive manufacturing is used in variety of industries like aerospace components, automotive, consumer goods, medical equipment parts and devices, fashion industry, Jewelry etc. All parts can be manufactured by either subtractive manufacturing or additive manufacturing techniques. However, different design features created on part to be produced has different manufacturing challenges in metal subtraction manufacturing process and metal addition manufacturing techniques. Since increase in number of parts that manufactured directly using additive manufacturing techniques, it is very important to list down the best design for manufacturing principle, which was suitable for different additive manufacturing processes. This will help design community to ensure parts are designed from additive manufacturing aspect instead of general design and send for printing it. The fundamental point of this work is to consider and comprehend the distinctive additive processes and discover the best design for manufacturing practices to be followed. Consequently, one should ready to pick proper additive manufacturing process for printing based on design features on component to be printed.

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