Assignment -II

21BCE10072
Mangesh Jaybhaye

Introduction

Steriolithography (SLA) is a type of 3D printing technology that uses a laser to cure liquid resin into solid objects layer by layer. The laser beam is directed onto the surfaces of the resin which is contained in a vat, hardening the resin into the desired shape. The process repeats until the entire object is created. SLA Technology is known for producing highly detailed and accurate parts, but it also has some limitations such as cost of material and the fact that it requires post-processing to remove support structures and ensure that the surface finish is smooth.

How it works:-

1. Pre-processing - The 3D model is sliced into thin layers & the print data is sent to the 3D printer.
2. Resin Vat preparation - The liquid photopolymer resin is poured into a transparent vat.
3. Layer formation - The laser is directed into surface of the resin, curing and hardening it into a solid shape. The build platform then lowers by the thickness of one layer, and the process repeats
4. Object formation:- The laser continues to build the object layer by layer until the entire object is complete
5. Post processing - The finished object is removed from the resin vat and undergoes additional steps to remove access resin and support surface structures, as well as to improve the surface finish