

# 3D Printing Organic Materials - Mycelium/Fungi

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- Mycelium in Fungi being used to 3D print
- Advantages: Renewable raw material, cost effective, requires little energy, naturally recyclable and eco friendly
- Most commonly used in extrusion based processes where mycelium composite printed into shape as a softened/melted paste
- Mycelium material allows for creative freedom in colors, textures, patterns, etc.
- First, mycelium must be fed with other materials like wood, sawdust, or paper to make it elastic and malleable before printing
- Then, having a sterile environment is essential because mycelium is susceptible to bacterial contaminations
- After printing, mycelium grows and solidifies composite material - increases structural performance at this stage
- When desired shape and size is achieved, heating it stops the mycelium from continuing growing
- Application in architecture - Shape Lab of the Institute of Architecture and Media at Graz University of Technology developed material called MyCera
- Added mycelium to clay/sawdust to act as biological binder and improve structure of 3d print
  - Mycelium heat insulating and structurally very strong
  - Solution for waste management and CO2 emissions
  - Promising for constructing future buildings and other architecture



Sources & More Info:

<https://3dprintingindustry.com/news/researchers-develop-new-fungi-based-3d-printing-material-225036/>

<https://www.3dnatives.com/en/mycelium-as-a-material-for-3d-printing-140620244/#>