

# Special composites for 3D Printing

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## Fused Filament Fabrication

Polymer composites combine the advantageous properties of both plastic and metal or ceramics and therefore offer new areas of application for the end user. Our special compounding process allows a very high fill rate of metal or ceramic aggregates of up to 50%. Polymers like PA6, PA6.6, PA12, PP, PPS ABS etc. as well as thermoplastic elastomers (TPE) serve as base material.

### Usage in 3D Printing

For 3D Printing (Fused Filament Fabrication, FFF), the resulting composite granulate is extruded to filaments with varying diameters and homogeneous microstructure. The filaments are tested for geometric accuracy and delivered ready-to-use on spools.

The composite materials can be printed with any commercial filament printer and thus allow the production of 3D printed parts with special properties. Alternately, it is possible to process the functional composite materials by Injection Molding or extrusion, as well as by pressing or calendaring.

### Applications

Polymer composite filaments customized according to user requirements can be used in a variety of applications, i.e.:

- Configuration of parts/seals for electromagnetic compatibility (EMC)
- Substitute for electric wiring by direct printed tracks inside or outside the parts
- Parts equipped with special thermal, magnetic, dielectric or flame retardant properties



3D printing with thermally highly conductive polymer composite.

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