CLAIMS

What is claimed is:

1. A method for fabricating a three-dimensional (3d) object, the method comprising:

delivering a build material to a build surface, wherein the build material comprises **a blended composition of** a powder material **and a binder material**;

increasing a powder loading density of the build material delivered on the build surface; and

selectively irradiating the build material to alter the physical state of a portion of the build material.

2. The method of claim 1, wherein said delivering the build material to thebuild surface comprises delivering the build material as a pre-mixed slurry.

3. The method of claim 1, comprising sequentially producing multiple layers of the build material and irradiating the multiple layers of the build material to produce the 3d object.

4. The method of claim 3, wherein selectively irradiating the build material comprises irradiating the build material with a pattern of irradiation such that the object has a structure that allows fluid to flow therethrough.

5. The method of claim 2, wherein said delivering the build material to the build surface comprises:

lowering the build surface into a vat of build material; and

moving the build surface by incremental motion away from the vat of build material.

6. The method of claim 2, wherein said delivering the build material to the build surface comprises:

dispensing layers of the build material onto the build surface; and

moving the build surface incrementally in a direction away from an imaging system.

7. The method of claim 6, comprising conditioning a surface of the build material delivered on the build surface using a doctoring blade.

8. The method of claim 6, comprising conditioning a surface of the build material delivered on the build surface using a film.
9. The method of claim 8, comprising stabilizing the film with a rigid surface during layer formation.
10. The method of claim 4, wherein said increasing the powder loading density of the build material comprises flowing fluid through the build surface.
11. The method of claim 10, wherein said increasing the powder loading density of the build material comprises flowing fluid through the 3d object being built.
12. The method of claim 2, wherein said increasing the powder loading density of the build material comprises applying ultrasonic agitation to compact the powder material.
13. The method of claim 2, wherein said increasing the powder loading density of the build material comprises at least partially evaporating an at least one component of the binder material.
14. The method of claim 13, wherein the at least one component is a volatile organic solvent.
15. The method of claim 13, wherein said increasing the powder loading density of the build material comprises removing an amount of the binder material from a given layer such that the layer has a porous structure.