



# realize the unrealistic

## Technology & Material Chart

Technology	Common Brand Name	The Process	Materials	Good To Know
<b>Binder Jetting</b>	Z-Corp ColorJet VoxelJet	Liquid binder sprayed onto powder bed	Gypsum plaster-based powder	<ul style="list-style-type: none"><li>▶ Extremely Fragile</li><li>▶ Requires post-processing</li><li>▶ Full color</li><li>▶ Sand-like finish</li></ul>
<b>Material Extrusion</b>	Fused Deposition Modeling (FDM) Fused Filament Fabrication (FFF) Desktop Printing	Filament heated and extruded through a nozzle onto a platform	Plastics – ABS, PLA in filament form	<ul style="list-style-type: none"><li>▶ Lots of material choices – colors, fills (carbon fiber, glass, wood)</li><li>▶ May require support structure</li><li>▶ Visible layers</li></ul>
<b>Material Jetting</b>	PolyJet ProJet	UV-cured jetted polymer	Various polymers, including rubber-like and transparent materials	<ul style="list-style-type: none"><li>▶ Fine Details</li><li>▶ Multi-material build capability</li><li>▶ Good finish</li></ul>
<b>Powder Bed Fusion</b> <small>Disclosure: This is NW Rapid's process</small>	Selective Laser Sintering (SLS)	Lasers used to melt layers in powder bed	Nylon 12, Nylon 11, Rubber-like TPE	<ul style="list-style-type: none"><li>▶ Tough &amp; durable</li><li>▶ Working assemblies possible</li><li>▶ Ease of second ops</li><li>▶ Good to Excellent finish</li></ul>
<b>Vat Photopolymerization</b>	Stereolithography (SLA)	Laser-cured or UV-cured liquid resin	Transparent	<ul style="list-style-type: none"><li>▶ Finest details</li><li>▶ Moderately fragile</li><li>▶ Breaks down with UV exposure</li><li>▶ Very clear materials, some transparent colors</li></ul>

Northwest Rapid Manufacturing

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