



3 March, 2016

Material Specification Print Sheet

ABS Conductive Filament

Conductive Filament

Matter Hackers



Not Yet Printed

Pre and Post Processing:

If printing directly onto a build plate, a heated build plate is a must. Otherwise this material will warp off of the plate very rapidly. If printing a large print, a heated build chamber is highly recommended.

HAZARDS (rating 1-10)

May release potentially irritating fumes. Print in a ventilated environment.



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<p style="text-align: center;">Settings to print with</p> <p>Temp Range: 200-250 (ideal ~223°C)</p> <p>Recommended flow multiplier: 1.100</p> <p>Recommended layer size: 0.1-0.3</p> <p>Build Plate Temp: 90°C</p> <p>Recommended Fan: 70-100%</p>	<p style="text-align: center;">Prime/Unprime:</p> <table border="1"> <tr> <td>Steps: 100</td> <td>Steps: 100</td> </tr> <tr> <td>Rate: 10,000</td> <td>Rate: 10,000</td> </tr> <tr> <td>Time (ms): 25</td> <td>Time (ms): 20</td> </tr> <tr> <td>Primes after Tool Change: 1</td> <td>Primes after Tool Change: 1</td> </tr> </table>	Steps: 100	Steps: 100	Rate: 10,000	Rate: 10,000	Time (ms): 25	Time (ms): 20	Primes after Tool Change: 1	Primes after Tool Change: 1
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<p style="text-align: center;">How well it handles prints</p> <p>Overhangs: 35°</p> <p>Retraction: 4</p> <p>Circles: 2</p> <p>Layer change: 3</p> <p>Fine detail: 4</p> <p>Curling: 1</p>	<p style="text-align: center;">Properties of Material</p> <p>Modulus of Elasticity:</p> <p>Yield Strength:</p> <p>Fracture Point:</p> <p>Modulus of Elasticity in Bending:</p> <p><i>All parts done with a ___% infill</i></p>								

Chemical	Water	Vinegar	HCl	Acetone	HF	Sulfuric Acid
Resistance (High/Limited/None)						
Chemical	Aqua Regia	Bleach	Gasoline	Methyl Alcohol	Ethyl Alcohol	NaOH
Resistance (High/Limited/None)						

Images (Left to right, top to bottom): Single walled vase, Artifact/Feature size test, Retraction/Feature size test, arch, top of overhang test, bottom of overhang test.

Overhang: Minimum angle to the horizontal at which layers are relatively unperturbed.

Print handling parameters: 5-optimal, 4-very good, 3-fair, 2-passable, 1-very poor

Chemical Resistance: High-no observable affect after a long period of time, Limited-Slight affects over time (swelling, discoloration, slight softening, etc), None-very severely affected by chemical.



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NOTES:

-The resistance of this material is about 1200 ohms/cm, which is far higher than that of most wires, so don't expect to be able to print a large circuit without taking into account the resistance of the connections.

-Also, this material will not withstand huge currents, so avoid using this for high voltage or high current applications (don't try to print a tesla coil)

-If doing a multimaterial print with conductive filament, use ABS as the second material. The conductive filament will not adhere to PLA whatsoever.