

T-GLASE

POLYETHYLENE TEREPHTHALATE THERMOPLASTIC (PETT) - TAULMAN 3D



Pre and Post Processing

A heated bed with polyacrylate-containing hair spray is recommended for flat prints.

Post-print coatings may interfere with optical properties, depending on the application technique/compounds this may either help or hinder the transparency of the part. Slight brushing with heat may aid in removal of annoying strings, but can also damage details.



HAZARDS (rating 1-10)

T-glase is designed to be FDA approved as food safe, although printing in a ventilated space is still recommended.

T-glase has an extremely low glass transition (78°C), so limit exposure to high temperature environments.

<p>SETTINGS TO PRINT WITH</p> <ul style="list-style-type: none"> Temp Range: 210-248°C Recommended flow multiplier: 0.80-0.9 Recommended layer size: .2-.45mm Build Plate Temp: 40°C Recommended Fan: 50% 	<p>PRIME/UNPRIME:</p> <table border="0"> <tr> <td>Steps: 250</td> <td>Steps: 200</td> </tr> <tr> <td>Rate: 10,000</td> <td>Rate: 10,000</td> </tr> <tr> <td>Time (ms): 70</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: 250	Steps: 200	Rate: 10,000	Rate: 10,000	Time (ms): 70	Time (ms): 20	Primes after Tool Change: 1	Primes after Tool Change: 1
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<p>HOW WELL IT HANDLES PRINTS</p> <p>Overhangs: 40° Retraction: 4 Circles: 4 Layer change: 2 Fine detail: 4 Curling: 4</p>	<p>PROPERTIES OF MATERIAL</p> <p>Modulus of Elasticity: Yield Strength: Fracture Point: Modulus of Elasticity in Bending: <i>All parts done with a ___% infill</i></p>								



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



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.

**NOTES:**

T-glase is technically referred to as 'water clear,' although on a typical 3D printer, it is not possible to print a part that looks wholly clear. To obtain maximum clarity, you will want to print with a high temperature and a large layer size.

XTC-3D has been found to work very well for increasing the clarity, and is currently suggested for use by Taulman

In this case, heating the piece will not remove the obvious layers, and will only weaken the part to the point where all details are easily destroyed (at temperatures past 78°C).

Because high flow is fairly standard with T-glase, it is very important to slow down the speed, to speeds of around 14-20mm/s