

3D Printing Filament Comparison V1.1 May 2018

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THREE DOT ZERO STUDIOS Print Temp Bed Temp Strength Flexibility Durability Shrinkage Soluble Food Blue Glue Stick Typical Uses												
ABS Acrylonitrile Butadiene Styrene	230 310 210-250 °C	50 100 150 50-100 °C	••	••	•••	••		Acetone	No	6	Court	Functional Parts
ASA Acrylonitrile Styrene Acrylate	150 230 310 240-260 °C	50 100 150 100-120 °C	••	•	•••	••		Acetone	No		Guuk	Outdoor Use
Carbon Fiber Carbon Fiber and PLA blend	150 230 310 195-220 °C	50 100 150 N/A °C	••	•	•••	••		No	No		-	Functional Parts
Cleaning Cleaning Filament	150 230 310 150-260 °C	50 100 150 N/A °C	-	-	-	•	-	-	-	-	-	Nozzle Cleaning / Unclogging
Color Changing PLA or ABS with color changing properties	150 230 310 	50 100 150 N/A °C	••	••	••	•		No	No		Guuk	Educational, Modelling
Conductive Conductive PLA or ABS	150 230 310 215-230 °C	50 100 150 N/A °C	••	••	•	•		No	No		-	Electronics
Flexible, TPE, TPU Thermoplastic Urethane / Polyurethane	150 230 310 225-235 °C	50 100 150 N/A °C	•	•••	••	•••		No	No		Guik	Elastic Parts, Wearables
FPE Flexible Polyester	230 310 205-250 °C	50 100 150 75 °C	•	•••	•••	••		No	Yes	-	Guve	Flexible Parts
Glow-In-The-Dark Glow in the dark PLA or ABS	230 310 210-220 °C	50 100 150 N/A °C	••	••	••	•		No	No		-	Educational, Modelling
HIPS High Impact Polystyrene	230 310 210-250 °C	50 100 150 50-100 °C	•	••	•••	••		Solvent	No		Guis	Support Structures
Lignin (bioFila) Lignin and PLA plus additives	150 230 310 190-225 °C	50 100 150 55 °C	••	•	•••	•••		No	Yes		Guis	All Purpose
Magnetic PLA with powdered iron	150 230 310 195-220 °C	50 100 150 N/A °C	••	••	••	•••		No	No		-	Educational, Experimental
Metal PLA / ABS Metal Powder and PLA or ABS blend	150 230 310 195-220 °C	50 100 150 N/A °C	••	•	•••	•••		No	No		-	Jewellery
nGen Similar to PETG	230 310 210-240 °C	50 100 150 60 °C	••	•••	•••	••		No	Yes		-	All Purpose
Nylon Polyamide	230 310 220-260 °C	50 100 150 50-100 °C	•••	•••	•••	••		No	Yes	-	Guik	All Purpose
PC Polycarbonate	230 310 270-310 °C	50 100 150 90-105 °C	•••	•••	•••	••		Acetone	No	-	Guis	Functional Parts
PC/ABS Polycarbonate ABS	150 230 310 260-280 °C	50 100 150 120 °C	••	•	•••	•••		No	No	-	Guis	Functional Parts
PET (CPE) Polyethylene Terephthalate	150 230 310 220-250 °C	50 100 150 N/A °C	•••	•••	•••	••		No	Yes		-	All Purpose
PETG (XT, N-Vent) Poly-Ethylene Terephthalate Glycol	150 230 310 220-235 °C	50 100 150 N/A °C	••	•••	•••	••		No	Yes		-	All Purpose
PETT (T-Glase) PolyEthylene coTrimethylene Terephthalate	150 230 310 235-240 °C	50 100 150 N/A °C	•••	•••	•••	••		No	Yes		_	Functional Parts
PLA Polylactic Acid	150 230 310 180-230 °C	50 100 150 N/A °C	••	•	••	•		No	Yes		Guis	Consumer Products
PMMA, Acrylic Polymethyl Methacrylate	230 310 235-250 °C	50 100 150 100-120 °C	••	•	•••	••		Acetone	No		OWE	Light diffusers, Modelling
POM, Acetal Polyoxymethylene	230 310 210-225 °C	50 100 150 130 °C	•••	•	••	•••		Chemical	No	-	ARBS	Functional Parts
PORO-LAY Rubber-elastomeric polymer with PVA	230 310 220-235 °C	50 100 150 N/A °C	•••	•	••	•		Water	Yes		-	Experimental
PP Polypropylene	230 310 210-230 °C	50 100 150 120-150 °C	••	•••	••	•••		No	Yes		-	Flexible Components
PVA Polyvinyl Alcohol	150 230 310 180-230 °C	50 100 150 N/A °C	•••	•	••	•		Water	Yes		-	Support Structures
Sandstone (Laybrick) Co-polyester and chalk powder	150 230 310 165-210 °C	50 100 150 N/A °C	•	•	•	••		No	No		-	Architectural Modelling
TPC Thermoplastic Copolyester	230 310 210-210 °C	50 100 150 60-100 °C	•	•••	••	•••		No	No		-	Elastic Parts, Outdoor Use
Wax (MOLDLAY) Wax-like properties	150 230 310 170-180 °C	50 100 150 N/A °C	•	•	•	•		No	No		-	Lost Wax Casting
Wood (Laywood) Wood PLA Blend	150 230 310 195-220 °C	50 100 150 N/A °C	••	••	••	••		No	No		-	All Purpose (natural finish)