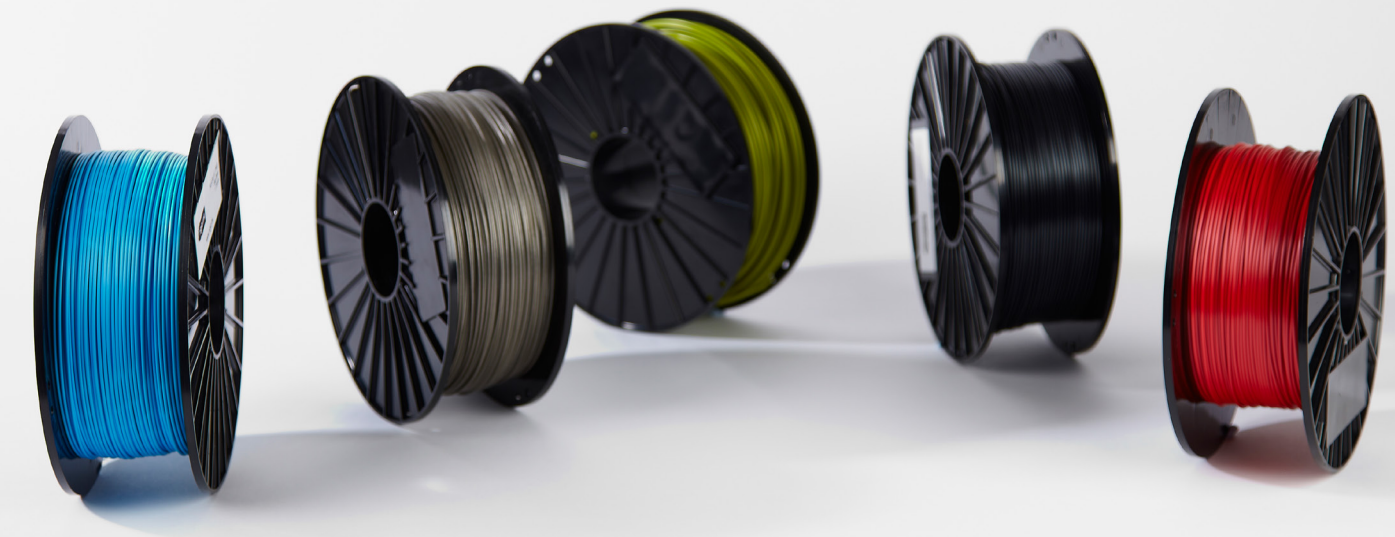
rigid.ink

PLA
Technical Data Sheet



HIGHEST RATED FILAMENT ON AMAZON
60-DAY MONEY BACK GUARANTEE

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Description:

A high-purity general purpose low-temperature biopolymer that is easy to print with.

Prints at a lower temperature than most other PLA filaments.

Applications:

Prototyping, general modelling, and artwork.

Recommended Print Settings:

Printing Temps 1.75mm	180-205°C
Printing Temps 2.85mm	185-210°C
Heated Bed Temp	Off-45°C
Cooling Fans	Off, then 100% after 1st layer
Ideal Build Volume	Doors and covers open/removed
Extrusion Multiplier	x0.9 (90%)
Retraction (direct drive)	Try 1mm as a starting point at 20-30mm/s
Retraction (bowden feed)	Varies per printer, as above, but try 3mm as a starting point
Print Speed Advisory	None
Print Surface Advisory	None
Print Layer Advisory	None

General Advice:

Start at the low end of the temperature range and increase if needed for faster print speeds.

Do not leave the hotend idle at printing temperatures for more than 5 minutes as the filament will begin to degrade in the nozzle.

Properties:

Typical Properties(1)	Value	Test Standard
Density	1.24g/cm³	D792
Glass Transition Temperature	55-60°C	D3418
Melting Point	145-160°C	D3418
Melt Flow Rate (220°C/10kg)	6g/10 min	D1238
Relative Viscosity (2)	4.0	D5225
Peak Melt Temperature	145-160°C	D3418
Tensile Yield Strength	8700psi, 60MPa	D882
Tensile Strength at Break	7700psi, 53MPa	D882
Tensile Modulus	524kpsi,3.6GPa	D882
Tensile Elongation	6%	D882
Notched Izod Impact	0.3ft-lb/in, 16J/m	D256
Flexural Strength	12kpsi, 83MPa	D790
Flexural Modulus	555kpsi, 3.8GPa	D790
Heat Distortion Temperature (Tested at 66psi, 0.45MPa)	55°C	E2092

(1) NOT to be construed as specifications

(2) Relative Viscosity measured at 1.0g/dl in chloroform at 30°C

Other Info:

Versatile biopolymer that's easy to print with

Low smell and long-term biodegradable

Very little shrinkage

rigid.ink PLA is surprisingly strong, great for end-use parts

No heated bed necessary, but you can use one at under 45°C

Low heat grade PLA, wide extrusion temperature range 180-210°C

Ideal for general modelling

Compatible with most printers

Can be sanded and smoothed to give an outstanding finish

Readily accepts most kinds of paints

A superb material for general use in school

Can be annealed to improve strength and thermal properties

Damp filament can be dried at 40-50°C for 8-12 hours in a circulating air dryer

Print Surface Materials:

Adheres well to most bed surfaces including PEI, BuildTak, blue painters' tape, etc.

Bed surfaces must be kept clean with the appropriate cleaning fluid/solvent in order to obtain reliable adhesion.

A heated bed is usually unnecessary. Notable exceptions are bed surfaces based on FR4 materials. These often require a bed to be heated up to the maximum advised temperature of 45°C in order to achieve satisfactory adhesion.

Other methods of securing a print include 3DLAC, Extra-Hold vinyl-based hairspray, glue sticks, ABS slurry, and so on.
