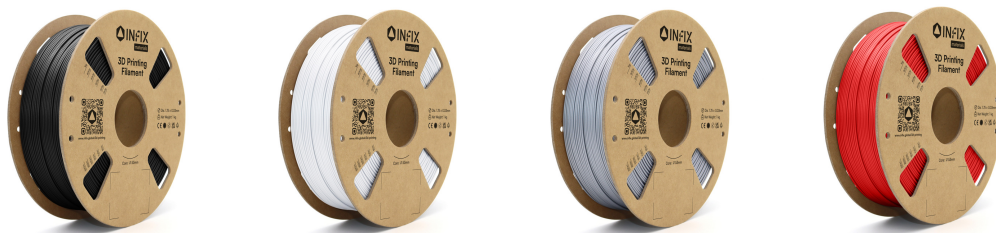




3D Printing Filaments

PLA
High Speed



Infix 3D Printing Filaments

Infix 3D Printing Filaments are part of the Infix Materials range of products, which focuses on development of premium production materials, mainly for additive manufacturing.

Our filaments are developed in-house and are produced in ISO 9001 certified facilities where we have full control over specifications, production chain, and quality control.

PLA Plus High Speed Overview

PLA is a biodegradable, recyclable polymer made from fermented plant starch. It is widely regarded as the go-to filament type for the majority of 3D printing applications, as it is easy to print on almost any FDM/FFF 3D printers and has a high print quality with minimal warping.

PLA can be printed without a heated bed, and it doesn't require an enclosure either. It tends to print better in lower temperatures compared to other filament types, however it has a lower temperature resistance by comparison, as well.

Compared to other filament choices, PLA, in general, is more brittle and not particularly strong. Parts that require strength and durability are likely not suitable to be printed in PLA. PLA's ability to return to its original shape following prolonged mechanical stress (creep resistance) is really low, which can make this material not suitable for some functional parts.

Infix PLA Plus High Speed filament has been formulated to increase the MFI (melt flow index) while maintaining all the great features of Infix PLA Plus with the added ability to be printed at high speeds, up to 500mm/s.

Due to low viscosity, stringing is reduced at high speeds. This in turn, requires careful tuning of the flow and retraction settings on your printer as well as cooling. Low speed printing may be more difficult compared to standard PLA Plus prints.

pros



high speed printing (up to 500mm/s)



reduced stringing at high speeds



increased strength compared to normal PLA



low viscosity



biodegradable

cons



low temperature resistance



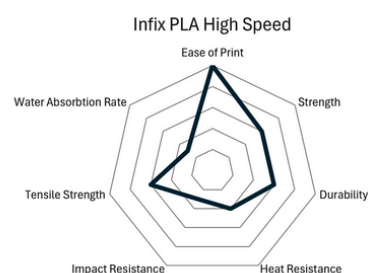
brittle



low chemical resistance



limited color options available



Material Properties

Category	Property	Typical Value	Testing Method
PHYSICAL PROPERTIES	Material Density	1.17g/cm ³	ISO 1183
MECHANICAL PROPERTIES	Tensile Strength	34 MPa	ISO 527-1:2019
	Bending Modulus	1680 MPa	ISO 527-1:2019
	Bending Strength	44-47 MP	ISO 527-1:2019
	Elongation at Break	1.2 - 1.7 %	ISO 527-1:2019
THERMAL PROPERTIES	Vicat Softening Point	70 °C	ISO 306
	Melt Flow Rate	65g/10min	ISO 1133
	Heat Deflection Temperature	55 °C	ISO 75/A

Operating Conditions

Category	Parameter	Reference Value
PRINT SETTINGS	Nozzle Temperature	190-220°C
	Bed Temperature	0-40°C
	Active Cooling Fan	YES (min 50%)
ENCLOSURE REQUIREMENT		Generally not required (check your printer requirements)

Storage Conditions

Parameter	Reference Value
Temperature	15-30°C
Humidity	≤40% RH

Avoid direct UV light. Materials oxidation may be accelerated and colors can fade.

Infix PLA+ 3D printing filament can be used with any desktop or industrial FDM/FFF 3d printer with a heated bed that is capable of generating the required operating conditions and is designed to operate within the specifications of the filament models selected.

3D printer configurations and settings are available on our website: www.infix.global/3d-printing

For additional technical support, you can contact us at: filament-support@infix.global

Disclaimer

The information on the datasheet is accurate to the best of Infix Global Limited knowledge. This document should be used as reference only. Your results may differ depending on your specific setup and equipment. You are encouraged to perform specific tests for any application that requires engineering around specifications.

Infix Global Limited will not be liable for any damage, loss or injury as a result of using Infix 3D Printing Filaments in a particular project.