INFIX materials 3D Printing Filaments

ABS Premium

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.

ABS Premium Overview

ABS (Acrylonitrile Butadiene Styrene) is a strong and durable thermoplastic, a popular choice for functional parts that require mechanical impact and stress resistance. It can withstand higher temperatures than PLA or PETG making it ideal for applications where heat resistance is important.

3D printing with ABS can be challenging, as it shrinks more than other common thermoplastics, making it prone to warping.
Generally, it has a slightly lower surface detail compared to PLA, making it less desirable for cosmetic or high-resolution models.
Achieving good quality printing requires a combination of techniques to minimize layer temperature differences. High bed temperatures and the use of an enclosure are genrally recommended.

ABS is known to be a high emitter of VOCs (volatile organic compounds) and has a strong odour, which require a dedicated setup for working with this material over prolonged periods of time.

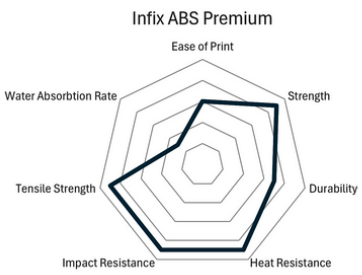
As it has a strong chemical resistance, Infix ABS Premium is a great candidate for acetone smoothing for those applications where post-processing is needed in order to achieve a specific finish.

pros

- mechanical strength
- good chemical resistance
- high temperature resistance
- suitable for acetone vapour smoothing
- cost-effective and widely used

cons

- not beginner-friendly
- emits fumes
- has a lower surface detail



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Material Properties

Category	Property	Typical Value	Testing Method
PHYSICAL PROPERTIES	Material Density	1.057 g/cm3	ISO 1183-1:2019
MECHANICAL PROPERTIES	Tensile Strength	17-18 MPa	25um ASTM D1992
	Tensile Strength at Break (50mm/min))	33.2 Mpa	ISO 527-2:2012
	Tensile Strength Rate (50mm/min)	2.9%	ISO 527-2:2012
	Notched Impact Strength	16 kJ/m2	ISO 179-1:2000
THERMAL PROPERTIES	Glass Transition Temperature	106.7 ℃	ISO 11357—3:1999
	Melting Index (200℃, 2.16kg)	2.6 g/10min	ASTM D1238
	Melting Point	178.5 ℃	ISO 11357-2:1999

Operating Conditions

Category	Parameter	Reference Value
PRINT SETTINGS	Nozzle Temperature	230-250℃
	Bed Temperature	80-120℃
	Active Cooling Fan	NO (max 20%)
ENCLOSURE REQUIREMENT	Recommended	
DRYING REQUIREMENT	YES, 6-8 hours at 80℃	

Storage Conditions

Parameter	Reference Value
Temperature	15-25℃
Humidity	≤20% 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 Inflix 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.

Inflix 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.