



PolyDissolve™ S2

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Printing with PolyDissolve™ S2

1) Prepare the gcode

Download the MyFirstPrint.stl on www.polymaker.com

Load the stl file in your favorite slicer.

Enter the correct settings for **PolyDissolve™ S2**

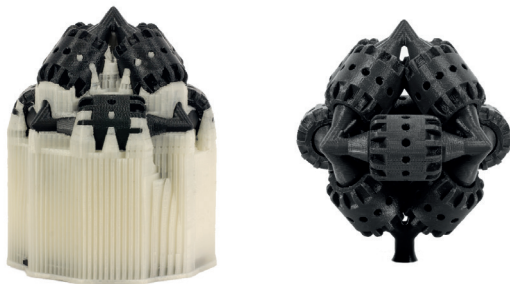
Property	Value
Nozzle temperature	230°C - 250°C
Bed temperature	90°C - 110°C
Nozzle speed	30mm/s - 40mm/s
Cooling fan	OFF
Z gap	0mm
X-Y gap	0.5mm

PolyDissolve™ S2 is designed to support high temperature materials such as PC, ABS or ASA based filament:

- Its heat resistance allows it to be printed in the same printing environment required to print PC, ABS or ASA (-80°C chamber temperature), without collapsing.
- It displays an excellent surface adhesion with PC, ABS and ASA based materials which unlocks new applications requiring more complex geometries.

2) Removing the support

- a)** We recommend to begin removing the support by hand to get rid of any excess material. This will speed up the second stage of removal.
- b)** After partially removing the support, the model can be submerged in warm alkaline water ($>70^{\circ}\text{C}$). To make the alkaline water combine 100g of PolyDissolve™ S2 solute* with 4L of tap water (this solution can dissolve 100g of support). The process can be sped up by agitating the water, using higher temperature ($\sim 90^{\circ}\text{C}$) or regularly changing the water.



The preferred method of disposal for PolyDissolve™ S2 depends on the local regulations. PolyDissolve™ S2 does not contain halogens or heavy metals. The pH usually drops under 10 after the dissolution of PolyDissolve™ S2, if not, mild acid can be used to drop the pH. It is suggested that you contact your local Sanitary Sewer (Waste water) Authority to obtain the proper disposal method prior to discharging to the sewer.

* The solute for PolyDissolve™ S2 is sold separately

PolyDissolve™ S2

PolyDissolve™ S2 is a dissolvable support for PC, ABS and ASA based filaments from our portfolio. It is specifically engineered to have a perfect interface with these materials whilst also displaying good solubility.

Available colors: 

Physical properties

Property	Testing method	Typical value
Density	ASTM D792 (ISO 1183, GB/T 1033)	1.1 (g/cm ³ at 21.5 °C)
Melt index	250 °C, 2.16 kg	4.4 (g/10 min)
Glass transition temperature	DSC, 10°C/min	93 (°C)
Vicat softening temperature	ASTM D1525 (ISO 306, GB/T 1633)	113 (°C)

Tested with 3D printed specimen

Material compatibility

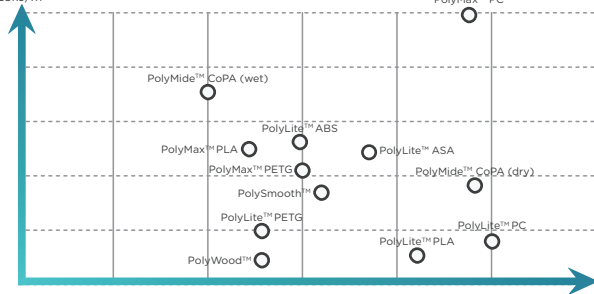
Material	Combination	
PLA based material from Polymaker's portfolio	N/A	++ : support the model very well
PETG based material from Polymaker's portfolio	N/A	+: generally support the model depending on its geometry
ABS/ASA based material from Polymaker's portfolio	++	-: generally don't support the model depending on its geometry
PC based material from Polymaker's portfolio	++	- -: do not support the model
PVB based material from Polymaker's portfolio	N/A	
TPU based material from Polymaker's portfolio	N/A	
PA12 based material from Polymaker's portfolio	+	

Note: PolyDissolve™ S2 will dissolve in warm water (>70 °C) so the main part must have a heat resistance of at least 70 °C.

TOUGHNESS

Impact Strength

25kJ/m²



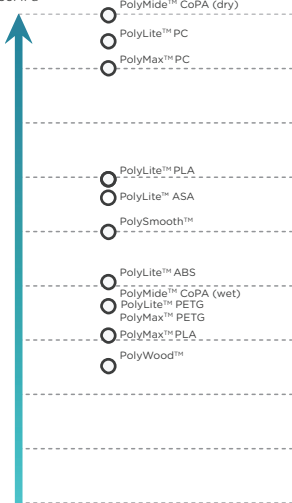
Bonding Strength

100MPa

STRENGTH

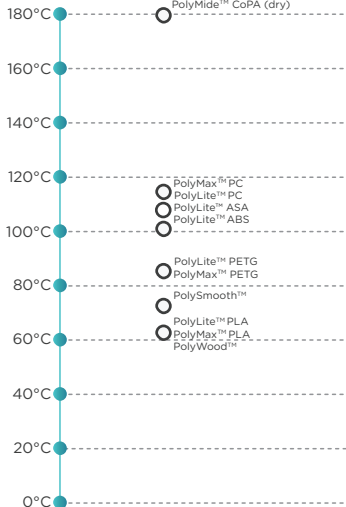
Tensile Strength

66MPa



HEAT RESISTANCE

Heat Softening Temp



Product Families

Industrial range: 



PolyLite™

ABS, PETG, PLA, PC, ASA

PolyLite™ is a family of 3D printing filaments made with the best raw materials to deliver exceptional quality and reliability. PolyLite™ covers the most popular 3D printing materials to meet your everyday needs in design and prototyping.



PolyMax™

PLA, PC, PETG,  PC-FR

PolyMax™ is a family of advanced 3D printing filaments produced with Polymaker's Nano-reinforcement technology, to deliver exceptional mechanical properties and printing quality.



PolyFlex™

TPU95

PolyFlex™ is a family of high-quality flexible materials. It provides the perfect solution for applications where high flexibility and durability are required.



PolyMide™

CoPA, ⚙ PA6-CF, ⚙ PA6-GF

PolyMide™ is a family of Nylon/polyamide based filaments. Produced with Polymaker's Warp-Free™ technology, PolyMide™ filaments deliver engineering properties intrinsic to Nylon and ease of printing.



PolyDissolve™

S1, S2

PolyDissolve™ is a family of dissolvable support filaments. This family offers support solution for our portfolio of filaments. It enables a greater design freedom.



Specialty

PolyWood™, PolySupport™, PolySmooth™, PolyCast™

⚙ Polymaker™ PC-ABS, ⚙ Polymaker™ PC-PBT

The Specialty family provides unique filaments from Polymaker to unlock new 3D printing applications.



Hardware

Polysher™, PolyBox™

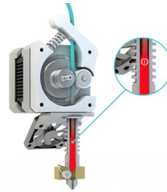
Polymaker offers 3D printing accessories to optimize the user experience with their filaments.

Technologies

JAM-FREE™

Jam-Free™ technology improves the heat stability of Polymaker's PLA filaments with softening temperatures over 140 °C. As a result, Polymaker's PLA filaments show minimal softening in the "cold end" and can melt rapidly once entering the heating zone, leading to excellent printing quality with zero risk of nozzle jams.

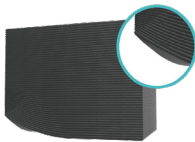
Regular PLA



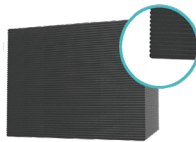
With Jam-Free™



Regular Nylon



With Warp-Free™



WARP-FREE™

Warp-Free™ technology enables the production of Nylon-based filaments that can be 3D printed with excellent dimensional stability and near-zero warpage. This is achieved by the fine control of micro-structure and crystallization behavior of Nylon, which enables the material to fully release the internal stress before solidification.

ASH-FREE™

Ash-Free™ technology allows Polymaker's filament which has been designed for investment casting to burn off cleanly without any residue, enabling defect-free metal parts. 3D printing has been used to produce investment casting patterns as it cuts down both the cost and lead time for small-volume production runs.

Without Ash-Free™

Ash content: 0.5%



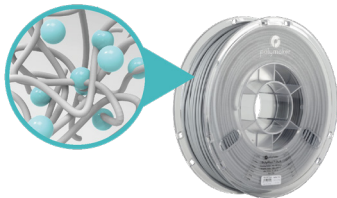
With Ash-Free™

Ash content: 0.003%



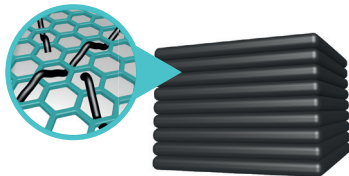
LAYER-FREE™

Layer-Free™ technology involves exposing a 3D printed part to an aerosol of micro-sized alcohol droplets, generated by a rapidly vibrating, perforated membrane called the nebulizer. The aerosol will then be adsorbed by the surface of the 3D printed part and render it smooth and layer-free.



STABILIZED FOAMING™

Stabilized Foaming™ technology is used to produce foamed filaments, whose foam structure can survive the printing process and be inherited by the printed parts. This enables light weight 3D printed parts with unprecedented surface finish.



Rough surface



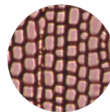
With Layer-Free™



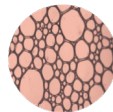
NANO-REINFORCEMENT

Nano-reinforcement technology is applied to produce filaments with excellent mechanical properties and printing quality. It dramatically improves the toughness of the material by increasing its impact resistance.

Wood



Stabilized Foaming™



FIBER ADHESION™

Fiber Adhesion™ technology improves the layer adhesion of fiber reinforced materials, by optimizing the surface chemistry of the fibers to achieve better dispersion and bonding to the matrix. This results in better strength along the Z-axis and reduced mechanical anisotropy.

Hardware

Polymaker offers 3D printing accessories to optimize the user experience with their filaments.

PolyBox™

PolyBox™ is a dry storage box designed to provide the optimum environment for 3D printing filaments. The PolyBox™ is compatible with all 3D printers and can house two 1kg spools or one 3kg spool.



Polysher™

The Polysher™ is a desktop post processing unit designed to remove layer lines from PolySmooth™ and PolyCast™ prints. The Polysher™ uses Polymaker's Layer-Free™ technology to create a fine mist of alcohol which evenly smooths the model.



Monitor your prints from anywhere with



THE SPAGHETTI DETECTIVE

The Spaghetti Detective's automatic failure detection can give added peace of mind, help prevent messy failures, and keep your printer up and running longer.

Advantages



MANAGE
PRINTING
REMOTELY



CATCH PRINT
HAZARDS
EARLY

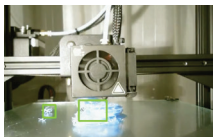


MANAGE
EQUIPMENT
DAMAGE RISK

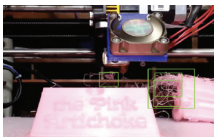


SAVE
TIME &
MONEY

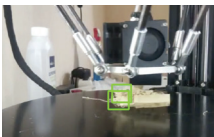
Overview



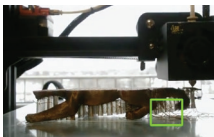
▲ Possible failure detected!



▲ Possible failure detected!



▲ Possible failure detected!



▲ Possible failure detected!



Scan to Learn More

thespaghettidetector.com/polymaker.html

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About Polymaker

Our Values



Customer
Oriented



Responsible



Entrepreneurial



Embracing
Innovation

Mission

Polymaker is committed to lowering the barriers to innovation and manufacturing, by continuously developing advanced 3D printing material technologies for industries and consumers.

Contact us

For any inquiries please contact:

inquiry@polymaker.com

For technical support please contact:

support@polymaker.com

The information provided in this document is intended to serve as basic guidelines on how particular product can be used. Users can adjust the printing conditions based on their needs and actual situations. It is normal for the product to be used outside of the recommended ranges of conditions. Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of Polymaker materials for the intended application. Polymaker makes no warranty of any kind, unless announced separately, to the fitness for any particular use or application. Polymaker shall not be made liable for any damage, injury or loss induced from the use of Polymaker materials in any particular application

