APPENDIX C Data Sheets

PolyLite™ ASA

My first print

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 PolyLite™ ASA;

Property	Value
Nozzle temperature	240°C-260°C
Bed temperature	75°C-95°C
Nozzle speed	30mm/s – 50mm/s
Cooling fan	OFF
Layer height	0.1
Infill	20%
Number of outlines (shell)	3
Top/Bottom layers	4
Surface adhesion	Brim or Raft

2) Prepare the printer

- Clean the build plate and prepare it with the right surface:
We recommend to print **PolyLite™ ASA** on BuildTak® or using Magigoo.
- Level the build plate.
- It is recommended to clean the nozzle when you change the material to prevent partial clog.

Note: It is recommended to use an enclosure to print **PolyLite™ ASA** to prevent warping issue.
It is recommended to place the printer in a well ventilated area.

3) Prepare the filament

- Carefully open the resealable bag, remove the spool and close the bag back to preserve the desiccant bag.
- It is recommended to store **PolyLite™ ASA** in the **PolyBox™** to prevent moisture absorption which will lower the quality and the mechanical properties of the print.
- Load the filament in your printer and wait until you have a consistent extrusion.
- At the end of the print, make sure to correctly store the filament back in the resealable bag if you are not using the **PolyBox™**.

4) Start the print

When the print begins make sure the first layer is correctly laid down and sticking well to the bed before leaving the printer to finish the print.

5) Post process

PolyLite™ ASA can be wet sanded to obtain a smoother surface.
PolyLite™ ASA can be chemically smoothed with acetone. We highly recommend to use our **PolySmooth™** filament for this purpose as it can be smooth with IPA which is safer to manipulate than acetone.

⭕ PolyLite™ ASA

PolyLite™ ASA is an alternative to ABS with an improved weather resistance. Its UV resistance and excellent mechanical properties make it the perfect choice for real life applications.

Available colors: ⚪ ⚫ · · · · · · · ·

Physical properties

Property	Testing method	Typical value
Density	ASTM D792 (ISO 1183, GB/T 1033)	1.1 (g/cm³ at 21.5 °C)
Glass transition temperature	DSC, 10 °C/min	97.8 (°C)
Vicat softening temperature	ASTM D1525 (ISO 306, GB/T 1633)	105.3 (°C)
Melt Index	220 °C, 10 kg	25 (g/10 min)

Mechanical properties

Property	Testing method	Typical value
Young's modulus (X-Y)	ASTM D638 (ISO 527, GB/T 1040)	2379 ± 157 (MPa)
Tensile strength (X-Y)	ASTM D638 (ISO 527, GB/T 1040)	43.8 ± 0.8 (MPa)
Elongation at break (X-Y)	ASTM D638 (ISO 527, GB/T 1040)	6.7 ± 0.6 (%)
Bending modulus	ASTM D790 (ISO 178, GB/T 9341)	3206 ± 108 (MPa)
Bending strength	ASTM D790 (ISO 178, GB/T 9341)	73.4 ± 2.1 (MPa)
Charpy impact strength	ASTM D256 (ISO 179, GB/T 1043)	10.3 ± 0.4 (kJ/m2)

Drying settings	Diameter accuracy (2.85/1.75 mm):			Weight accuracy:		
80°C for 8h	70%	is within	+/- 0.01	600g	+/-	20g
	97%	is within	+/- 0.02	750g	+/-	20g
	99%	is within	+/- 0.03	1000g	+/-	30g
	99.9%	is within	+/- 0.04	3000g	+/-	60g

TOUGHNESS
Impact Strength
25kJ/m²

PolyMax™ PC

PolyMide™ CoPA (wet)

PolyLite™ ABS

PolyMax™ PLA
PolyLite™ ASA
PolyMax™ PETG
PolyMide™ CoPA (dry)

PolySmooth™

PolyLite™ PETG
PolyLite™ PC

PolyLite™ PLA

PolyWood™

STIFFNESS
Bending Strength
100MPa

STRENGTH
Tensile Strength

66MPa

PolyMide™ CoPA (dry)

PolyLite™ PC

PolyMax™ PC

PolyLite™ PLA

PolyLite™ ASA

PolySmooth™

PolyLite™ ABS
PolyMide™ CoPA (wet)
PolyLite™ PETG
PolyMax™ PETG
PolyMax™ PLA

PolyWood™

HEAT RESISTANCE
Vicat Softening Temp

180°C — PolyMide™ CoPA (dry)

160°C

140°C

120°C — PolyMax™ PC
PolyLite™ PC
110°C — PolyLite™ ASA
PolyLite™ ABS
100°C

PolyLite™ PETG
PolyMax™ PETG
80°C
PolySmooth™

PolyLite™ PLA
PolyMax™ PLA
60°C
PolyWood™

40°C

20°C

0°C