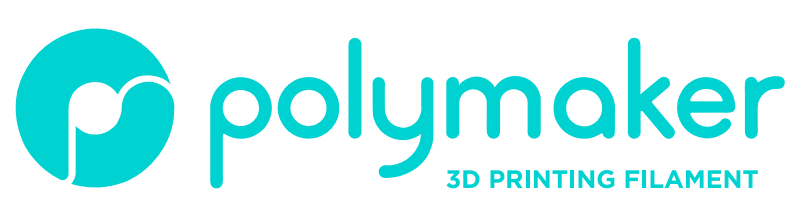


# TECHNICAL DATA SHEET



V6.0



## Polymaker™ ASA

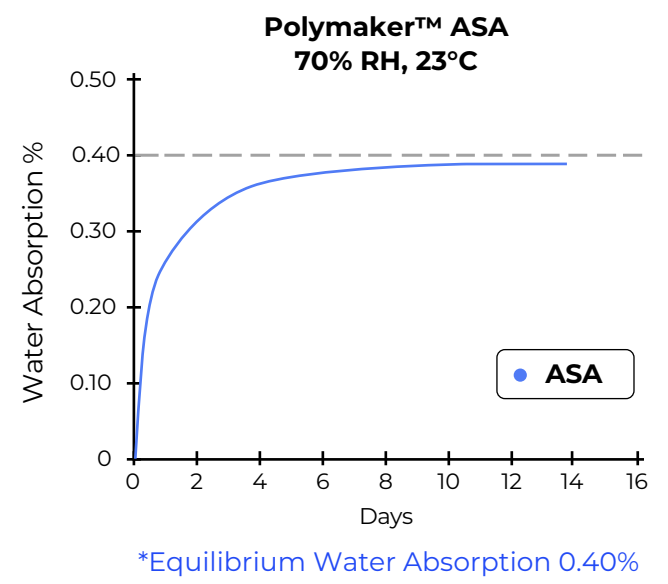
Polymaker™ ASA is an alternative to ABS with an improved weather resistance. Its UV resistance and excellent mechanical properties make it the perfect choice for real life applications.

[WWW.POLYMAKER.COM](http://WWW.POLYMAKER.COM)

### PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO1183, GB/T1033	1.13 g/cm <sup>3</sup> at 23°C
Melt index	220°C, 10kg	25g /10min
Light transmission	N/A	N/A
Light transmission	N/A	N/A

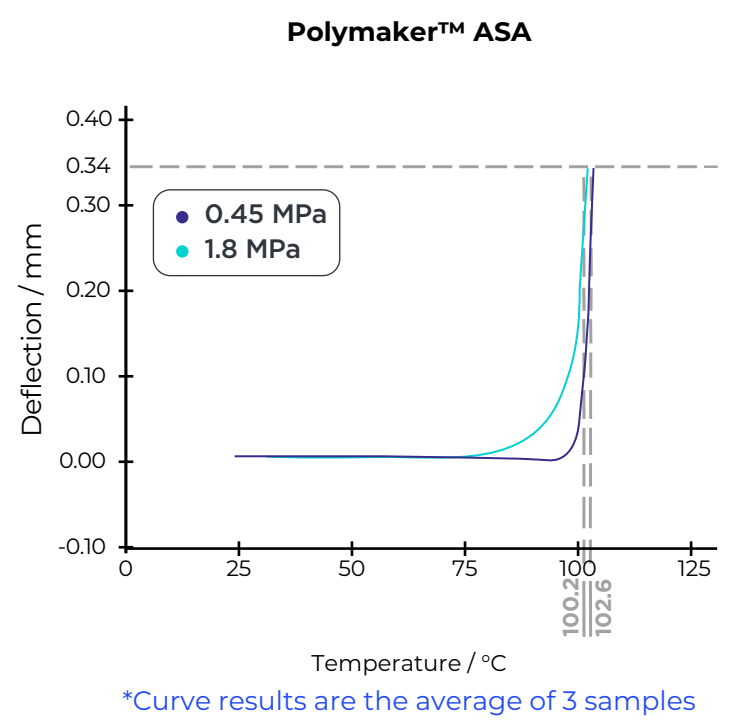
### MOISTURE ABSORPTION CURVE



### THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Glass transition temp.	DSC, 10°C/min	98°C
Melting temp.	DSC, 10°C/min	N/A
Crystallization temp.	DSC, 10°C/min	N/A
Decomposition temp.	TGA, 20°C/min	N/A
Vicat softening temp.	ISO 306, GB/T 1633	105°C
Heat deflection temp. (1.8MPa)	ISO 75 1.8MPa	100°C
Heat deflection temp. (0.45MPa)	ISO 75 0.45MPa	103°C

### HDT CURVE



### MECHANICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y)	ISO 527, GB/T 1040	2379 ± 157 MPa
Young's modulus (Z)		1965 ± 136 MPa
Tensile strength (X-Y)	ISO 527, GB/T 1040	43.8 ± 0.8 MPa
Tensile strength (Z)		32 ± 1.8 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	6.7 ± 0.6%
Elongation at break (Z)		1.65 ± 0.2%
Bending modulus (X-Y)	ISO 178, GB/T 9341	3206 ± 108 MPa
Bending modulus (Z)		N/A
Bending strength (X-Y)	ISO 178, GB/T 9341	73.4 ± 2.1 MPa
Bending strength (Z)		N/A
Notched Charpy impact strength (X-Y)	ISO 179, GB/T 1043	10.3 ± 0.4 kJ/m <sup>2</sup>
Notched Charpy impact strength (Z)		6.7 ± 1.4 kJ/m <sup>2</sup>

### CHEMICAL RESISTANCE DATA

PROPERTY	TYPICAL VALUE
Effect of weak acids	Good
Effect of strong acids	Poor
Effect of weak alkalis	Good
Effect of strong alkalis	Fair
Effect of oils and grease	Good

**Good:** Material may get minor attack after long periods of storage with chemical at ambient temperature

**Fair:** Material can be used for short time contact with chemicals at ambient temperature

**Poor:** Material becomes unstable on contact with chemical at ambient temperature

### RECOMMENDED PRINTING CONDITIONS

Nozzle temperature	230-260°C
Build plate temperature	75-95°C
Build surface treatment	PC and Textured PEI
Cooling fan	OFF
Closure chamber	Needed

Printing Speed	50-200mm/s
Drying temp. and time	70°C/7H
Retraction distance	1-3 (mm)
Retraction Speed	20-40 (mm/s)

\*Based on 0.4mm nozzle. Printing conditions may vary with different nozzle diameters.



**PolyBox™ or PolyDryer™ Box**  
Recommended storage for excellent printing quality

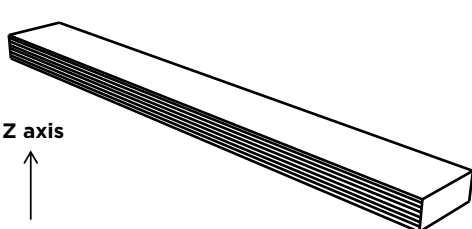
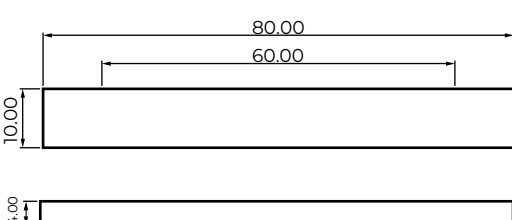
### HOW TO MAKE SPECIMENS

Printing temperature	260°C
Bed temperature	90°C
Top & bottom layer	3
Environmental Temperature	90°C

Infill	100%
Shell	2
Cooling fan	OFF

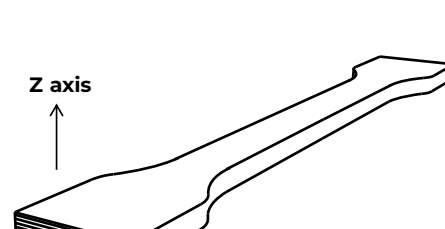
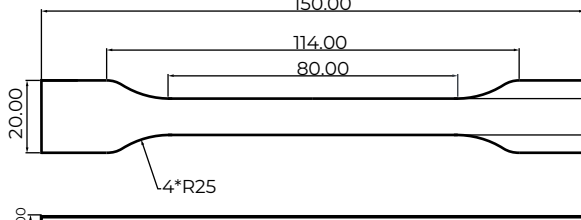
#### FLEXURAL TESTING SPECIMEN

ISO 178, GB/T 9341



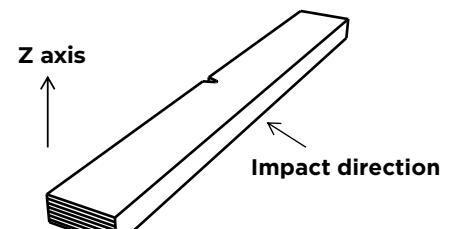
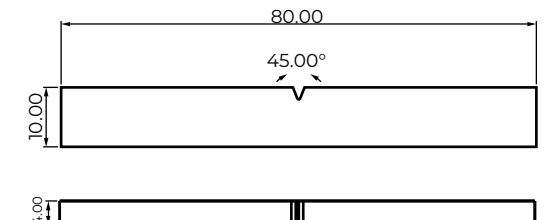
#### TENSILE TESTING SPECIMEN

ISO 527, GB/T 1040



#### IMPACT TESTING SPECIMEN

ISO 179, GB/T 1043



\*Based on testing with Polymaker™ PolyLite ASA (SKU: PF01046)

### DISCLAIMER

The typical values in this data sheet are intended for reference only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End-use performance of printed parts depends not only on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice. 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 use or application. Polymaker™ shall not be made liable for any damage, injury or loss induced from the use of Polymaker™ materials in any application.