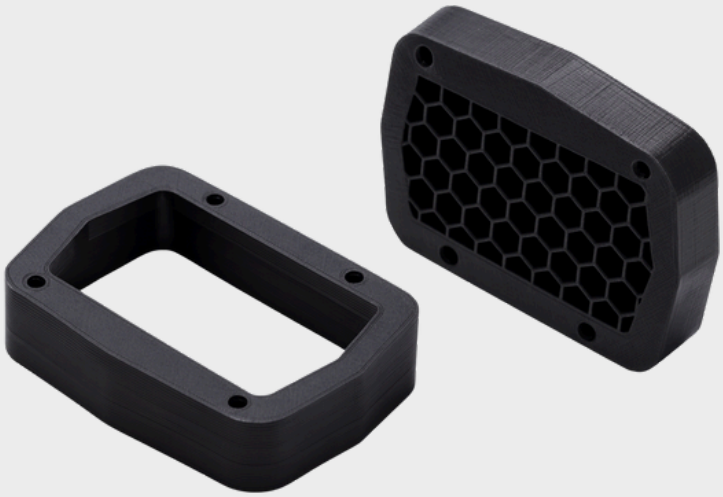
Mech Power
Parts made right



ASA

Technical Data Sheet

ASA shares many characteristics with ABS but offers superior resistance to UV exposure and harsh environmental conditions. It combines high toughness, rigidity, and impact strength, making it ideal for applications that demand durability and long-term outdoor performance. With its excellent weatherability and stable mechanical properties, ASA maintains color and structural integrity even under prolonged exposure to sunlight and temperature variations. This material is widely used for outdoor components, functional prototypes, and end-use parts that require long-term resistance to environmental aging.

Material Status	**Mass Production**	
Characteristics	• Weather resistance • High toughness	• High rigidity • High impact resistance
Applications	• Building materials • Car	• Outdoor • Electronic and electrical
Form	• Filament	
Processing Method	• 3D Print, FDM Print	

	Testing Method	**Typical Value**	
Physical Properties			
Density	GB/T 1033	1	g/cm^3
Melt Flow Index	GB/T 3682	10 -15	(220°C/10kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	50	MPa
Elongation at Break	GB/T 1040	30	%
Flexural Strength	GB/T 9341	35	MPa
Flexural Modulus	GB/T 9341	4300	MPa
IZOD Impact Strength	GB/T 1843	19	kJ/m^2

Thermal Properties

Heat distortion Temperature	GB/T 1634	88	°C (0.45 MPa)
Continuous Service Temperature	IEC 60216	N/A	
Maximum (short term) Use Temperature		N/A	

Electrical Properties

Insulation Resistance	DIN IEC 60167	N/A
Surface Resistance	DIN IEC 60093	N/A

Recommended printing parameters

Parameter	Recommended Range
Extruder Temperature	240–270°C
Build Platform Temperature	90–110°C
Fan Speed	0%
Printing Speed	40–100 mm/s

These parameters were tested using a 0.4 mm nozzle and Simplify3D v4.1.2. Actual settings may vary based on printer configuration and nozzle size.

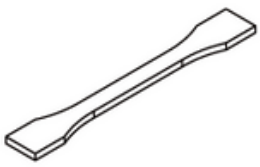
Drying Recommendations

Not applicable under standard storage and printing conditions.

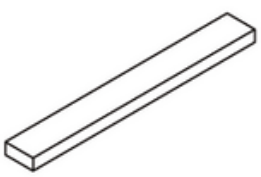
Notes

ASA exhibits relatively high shrinkage.
It is recommended to use a 3D printer equipped with a heated chamber to ensure dimensional stability and minimize warping during printing.

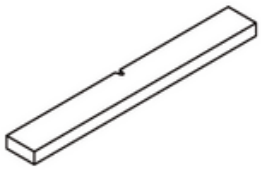
Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The listed physical, mechanical, thermal, and electrical properties are derived from injection-molded test specimens under standard test conditions.

Print Test Condition:

Parameter	Recommended Setting
Extruder Temperature	230–270°C
Build Platform Temperature	100°C
Outline / Perimeter Shells	4
Top / Bottom Layers	4
Infill Percentage	20%
Fan Speed	0%
Printing Speed	40mm/s

Test conducted using a 0.4 mm nozzle and Simplify 3D v4.1.2. Printing parameters may vary with different nozzle sizes and machine configurations.

Notice