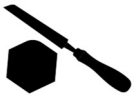
TECHNICAL DATA SHEET

VERSION 1.2
REVISION: 22/02/2023

ASA

SMARTFIL® ASA is an alternative to ABS for outdoor applications as it has excellent weather resistance. It has good dimensional stability reducing warping and cracking during the printing process.

Unlike many plastic materials, ASA maintains its vivid colors and impact resistance, even after long time of outdoor exposure. It has great resistance, perfect for applications that require mechanical efforts. Resistant to ultraviolet rays (U.V) and prolonged contact with water, it can also be machined, sanded or smoothed with acetone, which makes it a very versatile material.



Machinable

Thermal resistance

UV resistant

	VALUES		UNIT OF MEASUREMENT	STANDARD
PHYSICAL PROPERTIES				
Chemical name	Acrylonitrile Styrene Acrylate			
Density	1,17		g/cm^3	ASTM D792
MECHANICAL PROPERTIES [1]	**XY PLANE**	**ZX PLANE**		
Tensile strength	35	15,5	MPa	ISO 527
Traction module	1378	2199,1	MPa	ISO 527
Flexion strength	75,7	39,4	MPa	ISO 178
Flexion module	2044,4	1953,8	MPa	ISO 178
Elongation at maximum effort	2,9	0,8	%	ISO 527
Elongation by traction at break	6	0,8	%	ISO 527
Elongation by flexion at break	15,3	2,2	%	ISO 178
Charpy Impact Force (non-notched)	50,3	5	kJ/m2	ISO 179
Hardness	81,5		Shore D	ISO 7619-1
THERMAL PROPERTIES				
Glass transition temperature (Tg)	107		˚C	ISO 11357
VICAT B (50 N 50°C/h)	95		˚C	ISO 306
HDT B (0,45 MPa)	96		˚C	ISO 75
PRINTING PROPERTIES				
Printing temperature	250 – 260		˚C	
Bed temperature	90 – 110		˚C	
Layer fan	0 – 20		%	
Material flow	100		%	
Layer height	≥ 0,1		mm	
Nozzle recommendations	≥ 0,2		mm	
Print speed	30 – 50		mm/s	

[1] Values obtained on printed specimens, nozzle 0,4 mm, rectilinear infill 100%, layer height 0,2 mm. For more information please contact us by email at info@smartmaterials.com or visit our website www.smartmaterials3d.com

SIZE	NET WEIGHT	GROSS WEIGHT	DIAMETER	COLOR	PACKAGING
M	750 g	975 g	1,75 mm/2,85 mm	Several	SmartBag, security seal, desiccant bag.

NOTICE: The information provided in the data sheets is intended for reference only. It should not be used as design or quality control values. Actual values may differ significantly depending on printing conditions. The final performance of printed components not only depends on materials, design and printing conditions are also important.