

# EP076405NC001-TDS

## COCOON ASA-Fir(FR)

It is a thermoplastic engineering material with flame-retardance. The material fulfills flame retardancy according to UL 94 V-0 (@2.0mm) It has high strength, low shrinkage, strong interlayer adhesion, and good toughness. The great performance in both UV resistance, water resistance and thermal stability make it an ideal material in printing complex, ready-to-use components, including final parts, fixtures, functional prototypes with demanding geometries, as well as large-scale leisure architecture and sculpture parts.

### Part 1 Injection-Molded Specimen Performance

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Physical Properties				
Density	23°C	ISO 1183	g/cm <sup>3</sup>	1.28
Melt Flow Rate	220°C, 2.16kg	ISO 1133	g/10min	12
Mechanical Properties				
Tensile Strength	50mm/min	ISO 527-1	MPa	60
Elongation @ Break	50mm/min	ISO 527-1	%	3
Flexural Strength	2mm/min	ISO 178	MPa	70
Flexural Modulus	2mm/min	ISO 178	MPa	2200
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m <sup>2</sup>	5
Flame-retardant Property				
Flame Class Rating	2.0mm	UL94	/	V0

*Note: The typical physical properties are not intended for use as sales specifications.*

## Part 2 Printed Specimen Performance

Testing Items	Testing Conditions	Testing Methods	Units	Typical Values
Mechanical Properties				
Tensile Strength(X-Y)	50mm/min	ISO 527-1	MPa	40
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	12
Flexural Strength	2mm/min	ISO 178	MPa	70
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m2	66
Thermal Property				
Heat Deflection Temperature	0.45MPa	ISO 75-1	°C	100

*Note: All specimens are printed under the following conditions: nozzle temperature = 250°C, printing speed = 100 mm/s, build plate temperature=90°C infill = 100%, nozzle diameter = 0.4mm.*



Printing Path Direction of Specimen (Z)



Printing Path Direction of Specimen (X-Y)

## Part 3 Printing Guidelines

Parameters	Settings
Nozzle Temperature	230-260°C
Build Plate Temp.	80-100°C
Build Plate Material	Glass、PEI、 Steel Spring Build Plate
Bottom Layer Printing Temp.	250-260°C
Enclosed-chamber Printing	yes
Print Speed	60-150mm/s
Drying recommendations	80 °C in a hot air dryer for 4hours

Disclaimer:

The values provided in this data sheet are for reference and comparison purposes only. They should not be used for design specifications or quality control. Actual values may vary depending on printing conditions. The ultimate performance of printed parts depends not only on the material but also on the part design, environmental conditions, and printing conditions. The product specifications are subject to change without notice.

Each user is responsible for determining the safety, legality, technical suitability, and disposal/recycling of the intended use. Unless otherwise stated, POLYFUL makes no warranties of any kind, express or implied, regarding the suitability of its materials for any use or application. POLYFUL shall not be liable for any damages, injuries, or losses caused by the use of POLYFUL materials in any application.