

# EP052509BK002-TDS

## COCOON PA-Especial(ESD)

COCOON PA-Especial (ESD) is an antistatic modified nylon material based on PA6, featuring excellent static resistance characteristics, with a volume resistivity of  $10^6$ - $10^7\Omega$ , effectively preventing the generation and accumulation of static charges. It is tough, impact-resistant, easy to print and mold, with a heat distortion temperature of 178°C, and offers excellent long-term heat resistance. This material is specifically developed for industrial applications requiring antistatic protection and is suitable for isolating containers or protective devices for precision electronic components, integrated circuits, hard drives, and other items with electrostatic protection requirements.

### 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>	1.31
Melt Flow Rate	235°C, 2.16kg	ISO 1133	g/10min	8
Mechanical Properties				
Tensile Strength	5mm/min	ISO 527-1	MPa	85
Elongation @ Break	5mm/min	ISO 527-1	%	5
Flexural Strength	2mm/min	ISO 178	MPa	120
Flexural Modulus	2mm/min	ISO 178	MPa	4500
Impact Strength, Notched	1J	ISO 179-1	kJ/m <sup>2</sup>	30

*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	59
Tensile Modulus(X-Y)	50mm/min	ISO 527-1	MPa	2800
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	16
Tensile Modulus(Z)	50mm/min	ISO 527-1	MPa	2500
Flexural Strength	2mm/min	ISO 178	MPa	72
Flexural Modulus	2mm/min	ISO 178	MPa	2500
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m <sup>2</sup>	32
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	160
Electrical Properties				
Volume Resistivity	25°C, 50%RH	IEC 62631-3-1:2016	Ω	10 <sup>6</sup> -10 <sup>7</sup>

*Note: All specimens are printed under the following conditions: nozzle temperature = 275°C, printing speed = 105 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	260-290°C
Build Plate Temp.	80-100°C
Build Plate Material	Glass、PEI、Steel Spring Build Plate
Bottom Layer Printing Temp.	280-300°C
Enclosed-chamber Printing	Yes
Print Speed	60-150mm/s
Drying recommendations	100-120 °C in a hot air dryer for 6-8hours

### 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.

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