

# EP052509NC001-TDS

## COCOON PA-Especial(ESD)

COCOON PA-Especial(ESD) is an antistatic modified nylon material with excellent static resistance performance, its volume resistivity up to  $10^8\Omega$ , with high strength, high toughness, and long-term heat resistance. It also has good processing performance and is easy to print. When used in long-term high-temperature working environments, it maintains good mechanical properties and dimensional stability, and is suitable for industrial parts with anti-static protection requirements, such as shielding casings of electronic equipment and turnover boxes for precision electronic components.

### 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>	1.32
Melt Flow Rate	235°C,2.16kg	ISO 1133	g/10min	5
Mechanical Properties				
Tensile Strength	5mm/min	ISO 527-1	MPa	110
Elongation @ Break	5mm/min	ISO 527-1	%	6
Flexural Strength	2mm/min	ISO 178	MPa	160
Flexural Modulus	2mm/min	ISO 178	MPa	5000
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m <sup>2</sup>	20

*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	53
Tensile Strength(Z)	50mm/min	ISO 527-1	MPa	23
Flexural Strength	2mm/min	ISO 178	MPa	51
Impact Strength, Notched	2.75J	ISO 179-1	kJ/m <sup>2</sup>	35
Electrical Properties				
Volume Resistivity	25°C, 50%RH	IEC 62631-3-1:2016	Ω	10 <sup>8</sup>
Thermal Property				
Heat Deflection Temperature	1.8MPa	ISO 75-1	°C	180

*Note: All specimens are printed under the following conditions: nozzle temperature = 280°C, printing speed = 60 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	40-70mm/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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