

# EP076405NC002-TDS

## COCOON ASA-Fir(FR)

It is a flame-retardant thermoplastic engineering material. The material fulfills flame retardancy according to UL 94 V-0 (@2.0mm), offering unique advantages in flame retardancy, water resistance, weatherability, UV resistance, and thermal stability. This material also boasts great impact strength and interlayer adhesion, making it ideal for applications such as automotive parts, industrial components, outdoor facilities and equipment, architectural decorative items, and large-scale sculptures.

### Part 1 Injection-Molded Specimen Performance

| Testing Items            | Testing Conditions | Testing Methods | Units   | Typical Values |
|--------------------------|--------------------|-----------------|---------|----------------|
| Physical Properties      |                    |                 |         |                |
| Density                  | 23°C               | ISO 1183        | g/cm3   | 1.17           |
| Melt Flow Rate           | 220°C, 10kg        | ISO 1133        | g/10min | 20             |
| Mechanical Properties    |                    |                 |         |                |
| Tensile Strength         | 5mm/min            | ISO 527-1       | MPa     | 42             |
| Elongation @ Break       | 5mm/min            | ISO 527-1       | %       | 15             |
| Flexural Strength        | 2mm/min            | ISO 178         | MPa     | 64             |
| Flexural Modulus         | 2mm/min            | ISO 178         | MPa     | 2200           |
| Impact Strength, Notched | 1J                 | ISO 179-1       | kJ/m2   | 8              |
| 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           | GB/T 1040.2     | MPa   | 42             |
| Tensile Modulus(X-Y)        | 50mm/min           | GB/T 1040.2     | MPa   | 2000           |
| Tensile Strength(Z)         | 50mm/min           | GB/T 1040.2     | MPa   | 20             |
| Tensile Modulus(Z)          | 50mm/min           | GB/T 1040.2     | MPa   | 1600           |
| Flexural Strength           | 2mm/min            | GB/T 9341       | MPa   | 64             |
| Flexural Modulus            | 2mm/min            | GB/T 9341       | MPa   | 2000           |
| Impact Strength, Notched    | 2.75J              | GB/T 1843       | kJ/m2 | 18             |
| Thermal Property            |                    |                 |       |                |
| Heat Deflection Temperature | 0.45MPa            | GB/T 1634       | °C    | 99             |

*Note: All specimens are printed under the following conditions: nozzle temperature = 260°C, printing speed = 130 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          | 240-280°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                 | 60-200mm/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.

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