# AROS SLS PA11 ESD

## PA11-graphene powder for SLS

AROS SLS PA11 ESD is a Polyamide 11 (PA11) powder enhanced by our Aros Graphene® Technology, with electrostatic discharge (ESD) properties.

This unique graphene-engineered powder gives homogeneous properties in all print directions, makes the parts denser than neat PA11, and decreases dusting, amongst other improvements.

## IMPROVED PROCESSABILITY:

2 x less post-processing time
Increased flowability
Powder is anti-static
Decreased dusting
Easy to print

*The world's first graphene engineered SLS powder.*

# AROS SLS PA11 ESD

## PROPERTY ENHANCEMENT

Carbon fiber alternative
Isotropic conductivity
Enables denser parts

## INDUSTRIAL APPLICATIONS

Dedicated electrical connections
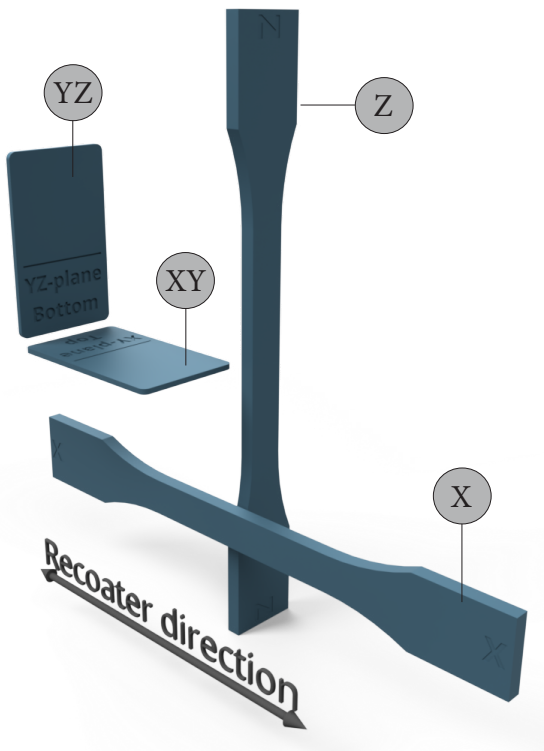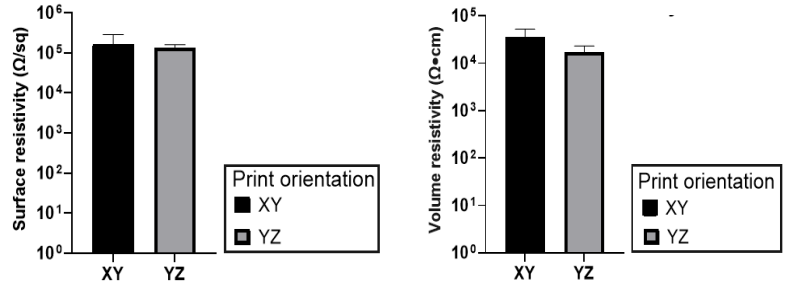ESD shielding of electronics
Line sensors



Diagram displaying orientation of the parts used for electrical and mechanical data evaluation



Surface (LEFT) and Volume (RIGHT) resistivity of printed parts.

### ELECTRICAL PROPERTIES-TYPICAL VALUES

| Properties | Test method | Unit | YZ Plane | XY Plane |
|---|---|---|---|---|
| Surface resistivity | ASTM D4496 | Ω/Sq | $1.4 \pm 0.2 \cdot 10^5$ | $1.6 \pm 10^5$ |
| Volume resistivity | ASTM D4496 | Ω·cm | $1.7 \pm 0.6 \cdot 10^4$ | $3.3 \pm 10^4$ |

### POWDER PROPERTIES-TYPICAL VALUES

| Properties | Test method | Unit | Value |
|---|---|---|---|
| Bulk Density | Internal Method | kg/L | $0.473 \pm 5$ |
| Tap Density | Internal Method | kg/L | $0.593 \pm 7$ |

### PART PROPERTIES-TYPICAL VALUES

| Properties | Test method | Unit | X-Direction | Z-Direction |
|---|---|---|---|---|
| Tensile modulus, 23°C | ISO 527-2/1B | MPa | 1570 | 1680 |
| Tensile modulus, 80°C | ISO 527-2/1B | MPa | 570 | 650 |
| Tensile strength 23°C | ISO 527-2/1B | MPa | 44 | 35 |
| Tensile strength, 80°C | ISO 527-2/1B | MPa | 35 | 24 |
| Strain at break, 23°C | ISO 527-2/1B | % | 15 | 2.6 |
| Strain at break, 80°C | ISO 527-2/1B | % | 14 | 6.8 |

| Properties | Test method | Unit | Average |
|---|---|---|---|
| Density | Internal Method | kg/m³ | $1022 \pm 10$ |

## Graphmatech AB

I sales@graphmatech.com

I graphmatech.com