

# ABS ESD

## ESD-Safe ABS

ESD ABS Carbon Nanotube (CNT) enhanced compounds are used in critical applications that require electrostatic discharge (ESD) protection and a high level of cleanliness. Manufactured with consistency in mind – Production starts with MG-94 Premium ABS (same resin as P430) and then compounded according to a proprietary formulation of multi-wall carbon nanotubes and process / dispersion modifiers – giving you a filament with excellent printing characteristics and consistent ESD properties.

Mechanical Properties	Standard	Value	Unit
<b>Ultimate Tensile Strength</b>	ISO 527	58	MPa
<b>Tensile Modulus</b>	ISO 527	2130	MPa
<b>Elongation at Break</b>	ISO 527	4	%
<b>Flexural Strength</b>	ISO 178	80	MPa
<b>Flexural Modulus</b>	ISO 178	2275	MPa
Electric Properties	Standard	Value	Unit
<b>Hardness</b>			

Thermal Properties	Standard	Value	Unit
<b>HDT @ 0.45 MPa</b>	ISO 75	97	°C
<b>Glass Transition Temp</b>	DSC	105	°C
Physical Properties	Standard	Value	Unit
<b>Density</b>	ISO 1183	1.09	g/cm <sup>3</sup>
Certifications and Tests	Standard	Value	Unit
<b>Flammability (UL 94)</b>			
<b>USP Class VI Certified</b>			

### Characteristics

- Consistent surface resistivity.
- Low additive loading rates.
- Improved retention of impact & elongation.
- Low particulate contamination.
- Minimal contribution to outgassing and ionic contamination.

### Applications

- Semi-con: HDD Components, Wafer Handling, Jigs, Casings, & Connectors.
- Industrial: Conveying, Metering, and Sensing applications.

### Considerations

- Some studies have indicated that increased extruder temperatures can achieve higher levels of conductivity. Likewise, lower extruder temperatures have resulted in lower levels of conductivity. Each printer is set-up differently as well as varied part geometry. Therefore, expect some trial time to understand how ESD ABS filament works in your specific printer / application.

**Printing Skill & Experience:**  Beginner  Intermediate  Advanced  Expert

- Enclosed chamber necessary in order to prevent warping.
- Increase in extruder temperature has shown increase in ESD performance.

### Printer Compatibility

<input type="checkbox"/> 3ntr A2v4	<input type="checkbox"/> 3ntr A4v4	<input checked="" type="checkbox"/> EVO-T	<input checked="" type="checkbox"/> EVO22-T
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Available colors from [Airwolf 3D](#):