



Technical Data Sheet

Acrylonitrile butadiene styrene (ABS)/Carbon Nanotube Matrix (CNT) ESD Grade Conductive Filament

General Information

Conductive acrylonitrile butadiene styrene (ABS) filament (ESD filament) is an eco-friendly alternative to traditional ABS. It offers excellent impact strength like PETG and high 3D printing speeds like PLA, with minimal warpage and strong layer bonds. Ideal for functional parts and prototypes requiring high strength, ABS is perfect for phone cases, protective gear, and sporting goods due to its impact resistance and durability. Widely used in industrial applications, it provides high accuracy, chemical resistance, and withstands humidity and temperature fluctuations. This filament is also ideal for fixtures, tools, packaging, storage containers, and transport trays for electronic components.

Features & Benefits

- 100% virgin material
- High printing speed
- Excellent impact strength
- High optical clarity
- Low odor
- Unmatched layer adhesion

Printer Specifications

Printing Temp: 260°C – 280°C
Bed Temp: 90° – 110°C
Print Speed: 30 – 70 mm/sec

Available in Black Only

Available Sizes:

See website for details.

Quality

All ABC3D filaments are produced using a laser macrometer, ensuring lowest tolerance for the 3D printing industry. Each box contains the same material, size, and color. All filaments are vacuum sealed with desiccants for optimal moisture protection, ensuring top-quality prints. Rest assured, our products are carefully crafted to deliver consistent excellence in every print.

Storage

Store between 17 to 28 °C in a dry area, away from sunlight. Keep sealed in an airtight container, away from humidity.

Physical Properties*	Standard	Unit	Value
Density	ASTM D1505	g/cm ³	1.06±0.02
Mechanical Properties*	Standard	Unit	Value
Tensile modulus	ASTM D638-14	MPa	2010±18
Tensile elongation	ASTM D638-14	%	2.7±1.2
Tensile strength	ASTM D638-14	MPa	39.6±3
Zero-shear viscosity	ASTM D4440-15	Pa.s	2.2×10 ⁵
Electrical Properties*	Standard	Unit	Value
Electrical resistivity	ASTM D257	Ω.cm	1.2×10 ²

* All the physical, mechanical and electrical data belong to compression molded samples.

Print Settings	Unit	Value
Nozzle temperature	°C	260-280
Heated bed temperature	°C	90-110
Print speed	mm/s	30-70
Extrusion width	mm	0.45
Volume flow rate	mm ³ /s	2-3

Disclaimer

The technical data contained on this data sheet is furnished without charge or obligation and accepted at the recipient's sole risk. This data should not be used to establish specifications limits or used alone as the basis of design. The data provided is not intended to substitute any testing that may be required to determine fitness for any specific use.