

Creating Material Change



SynerG Conductive PLA Technical Data Sheet



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Graphene Enhanced Conductive PLA

Haydale’s SynerG graphene-enhanced polylactic acid (PLA) filaments for 3D printing are improving the speed, strength, print quality and accuracy.

- Print electrically conductive components
- Faster and better print quality
- Excellent first layer and z-axis bonding
- Can be customised

Product Information:

Filament diameter
1.75mm

Package size
400g reel

Typical Physical Data*			
Properties	Units	Average Value	Method
Specific gravity at 20°C	g/cm ³	1.22	Internal
Melt flow index (MFI)	g/10 mins	8.87	ASTM D1238, 190°C, 9.8k
Volume electrical resistivity	Ohm.cm	0.6	Internal
Odour	-	Almost odourless	Internal
Water solubility	-	Insoluble in water	Internal

Typical Mechanical Data*			
Properties	Units	Average Value	Method
Tensile modulus at 23°C (filament, diameter 1.75mm)	MPa	4542	Internal using capstan grips
Tensile strength at 23°C** (filament, diameter 1.75mm)	MPa	60	Internal using capstan grips
Tensile elongation at break at 23°C (filament, diameter 1.75mm)	%	6.2	Internal using capstan grips

* Typical properties only, not to be construed as specifications
 ** Based on maximum measured stress

PROCESSING INFORMATION

SynerG PLA can be processed on all FDM/ FFF type 3D printers. SynerG PLA is typically extruded using a nozzle temperature of 200°C and a heated bed temperature of 58°C is recommended for good first layer adhesion in 3D printing. SynerG PLA can be extruded from 170 °C, but processing temperatures must never exceed 220°C.

STORAGE

PLA is a biodegradable thermoplastic polyester and will absorb moisture over time which can affect product performance. To ensure a good shelf life before use the 3D printing filament and pellets are packaged under a controlled vacuum and sealed to prevent moisture ingress. It is recommended that filament and pellets be kept in cool and dry conditions before use in 3D print melt extrusion and processing.

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