

AVEO PPS ESD

PPS-graphene filament for FDM printing

AVEO PPS ESD combines polyphenylene sulfide (PPS) with graphene-enabled conductivity for 3D printing. It provides **chemical resistance, thermal stability and electrostatic discharge (ESD) protection**.

For structural parts, assembly fixtures and protective covers in harsh environments.

Thermal stability: Use temperature 200-220 °C.

Chemical resistance: Resistant to automotive fuels, oils and harsh chemicals.

1.75 mm filament / 1 kg spools

Key Properties

ESD protection Surface resistance: $1.0 \times 10^6 \Omega$
Electrical resistance can be tailored to meet the specific requirements of different applications.

Chemical resistance	Resistant to automotive fuels, oils and harsh chemicals
Dimensional stability	Low moisture absorption and high dimensional stability
Mechanical strength	High stiffness and mechanical strength
Durability	Creep and wear resistance



Printed Example



Surface Detail

Technical Process

Filament Drying Supplied pre-dried and vacuum-sealed. After prolonged exposure to ambient humidity, dry at **120 °C for 4-6 hours** before printing.

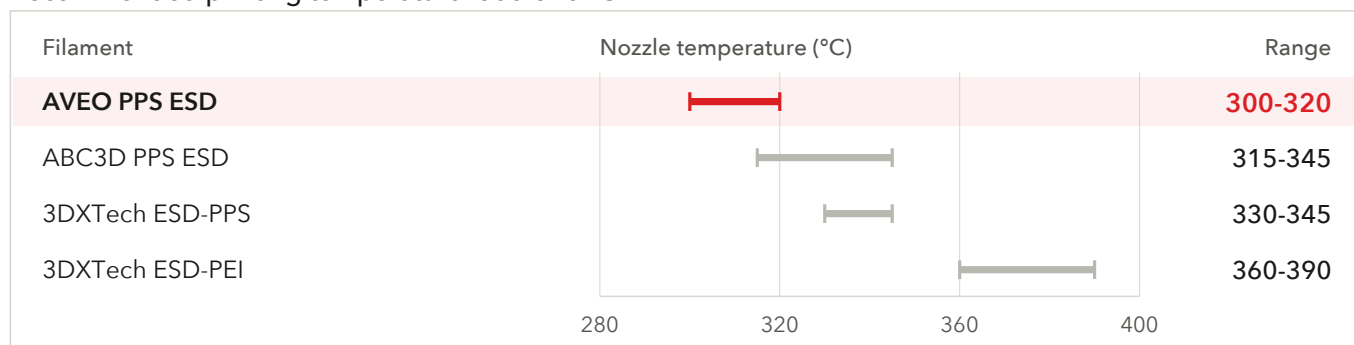
Process Parameters Standard PPS processing parameters can generally be applied. The following settings are recommended for advanced parameters.

Recommended Print Settings	Recommendation	Unit
Nozzle temperature - first layer	300	°C
Nozzle temperature	300-320	°C
Build plate temperature - first layer	110	°C
Build plate temperature	110	°C
Chamber temperature	At least 60, preferably 80	°C
Build plate	Textured with glue	-
Max volumetric flow	5	mm ³ /s
Brim type	Outer and inner	-
Brim width	5	mm
Brim object gap	0	mm

Fan settings	Value	Cooling thresholds	Value
Minimum fan speed	5 %	Initial cooling	0 layers; fan 0
Maximum fan speed	80 %	Enable fan below layer time	80 s
Overhang fan speed	100 %	Slow down below layer time	50 s
		Minimum print speed	20 mm/s

Nozzle Temperature Comparison

Recommended printing temperature: 300-320 °C.



Competitor values as published by the vendor or distributor.

Printing Notes

An enclosure is required for stable printing. Strong bed adhesion is recommended. Higher nozzle temperatures improve layer adhesion and strength; moderate cooling supports surface quality and bonding.

Air filtration is recommended to help avoid headaches, dizziness or respiratory irritation from fumes.

Parameter Definitions

Printing parameters

Nozzle temperature	Recommended temperature range of the printer nozzle during extrusion and deposition of the filament.
Build-plate temperature	Recommended build-plate temperature during printing to promote first-layer adhesion and reduce warping.
Chamber temperature	Recommended air temperature inside the enclosed build chamber during printing.
Print speed Minimum print speed	Recommended linear movement speed of the nozzle while depositing material. Unless stated, this is usually a recommended maximum for stable printing.
Maximum volumetric flow rate	Maximum volume of material that can be extruded through the nozzle per second while maintaining stable extrusion and acceptable print quality, expressed in mm ³ /s.
Part-cooling fan	Recommended part-cooling fan setting during printing, expressed as a percentage of the printer's maximum fan speed.

Material handling and preparations

Drying temperature	Recommended temperature for drying the filament before printing to remove absorbed moisture without damaging or deforming the filament or spool.
Drying time	Recommended duration for which the filament should be dried at the specified drying temperature.
Build-plate surface	Recommended printing surface or build-plate material used to obtain suitable adhesion and part release.
Adhesive requirement	Recommended use of an adhesive glue, release layer, or surface-treatment method on the build plate.
Enclosure requirement	Indicates whether an enclosed or actively heated build chamber is recommended or required for reliable printing.