



**INNOVATE
GLOBAL 3D**
DESIGN YOUR IDEAS

High Performance Industrial FDM Filament



 Ashley Lane, 19/1A, Westmead New
South Wales 2145, Australia

 sales@innovate3dglobal.com

 +61452 392 608

 innovate3dglobal.com

Innovate3D Industrial FDM Materials

ABS series

ABS-SP40

ABS-CF10

ABS-FR0

ABS-WR20

ABS-ESD

ABS-Conductive

Nylon series

Nylon-CF15

Nylon-GF10

Nylon-GF

Nylon6-GF

PC series

PC-CF

PC-ABS

PC-WR

PC-TR

High heat series

PPS-TF

PEEK

PEI 9085

PEI 1010

PPSU

PEKK

Support materials series

Breakaway-80

Aquasol-120



ABS-SP40




Modified ABS material, significantly improved interlayer adhesion, the tensile strength can reach 40MPa
 [Plastic parts for electronic appliances, industrial machinery, etc.]

-  **High Stiffness**
-  **Low warpage**



CF10-ABS

ABS carbon reinforced material, the temperature resistance over 15°C than ABS and the flexural modulus above 3000 MPa
 [Industrial components with high requirements for heat resistance and strength]

- High strength** 
- Temperature resistance** 
- High strength** 



Tensile strength (Mpa)	: 47	• Printing temperature: 220-260 °C
Elongation at break (%)	: 15	
Flexural strength (Mpa)	: 280	• Bed temperature: 80-100 °C
Impact strength (J/m)	: 70	
Heat deflection temperature (°C)	: 80(0.45mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

Tensile strength (Mpa)	: 35	• Printing temperature: 220-260 °C
Elongation at break (%)	: 2.3	
Flexural strength (Mpa)	: 61	• Bed temperature: 80-100 °C
Impact strength (J/m)	: 18	
Heat deflection temperature (°C)	: 91(0.45mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.



FR-ABS

ABS-modified flame retardant material, UL94 V-0 grade flame retardant

[Fire-resistant structural components for mechanical and automotive applications]

ASA+

ABS modified Weather-resistant material, no discoloration in outdoor use over 2000H

[Suitable for outdoor infrastructure, commercial applications, functional prototypes, automotive components , etc.]

 **Good mechanical properties**

 **V-0 grade flame retardant**



Weather resistance 

Excellent surface 



Tensile strength (Mpa) : 35
Elongation at break (%) : 10
Flexural strength (Mpa) : 65
Impact strength (J/m) : 220
Vicat softening temperature (°C) : 101 (10N)

- Printing temperature: 220-260 °C
- Bed temperature: 80-100 °C

Tensile strength (Mpa) : 35
Elongation at break (%) : 15
Flexural strength (Mpa) : 75
Impact strength (J/m) : 230
Vicat softening temperature (°C) : 85(10N)

- Printing temperature: 220-260 °C
- Bed temperature: 80-100 °C

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

ABS-ESD

ABS modified antistatic material, permanent antistatic, resistivity up to $10^6-10^9\Omega/m$
[Components for electromagnetic shielding in electronic appliances]

 **Long lasting anti-static**

 **High strength**



ABS-Conductive

ABS modified conductive materials, good toughness and heat resistance, resistivity of $20 \times 10^3 \Omega/mm^3$ [Automotive interior parts, electronic and electrical housings, components, robust and durable parts]

Good conductivity 

High strength 



Tensile strength (Mpa) : 28

Elongation at break (%) : 3

Flexural strength (Mpa) : 40

Impact strength (J/m) : 99

Heat deflection temperature (°C) : 93 (0.45Mpa)

• Printing temperature:
220-260 °C

• Bed temperature:
80-100 °C

Tensile strength (Mpa) : 25

Elongation at break (%) : 3

Flexural strength (Mpa) : 34

Impact strength (J/m) : 95

Heat deflection temperature (°C) : 91 (0.45Mpa)

• Printing temperature:
220-260 °C


• Bed temperature:
80-100 °C

CF-Nylon6

Nylon carbon fiber reinforced material with 50% higher tensile strength and 20% lower density than nylon
[High strength and high wear-resistant industrial machinery parts]

 **Excellent wear resistance**

 **Light weight**

 **High flexural strength**



GF-Nylon

Nylon glass fiber reinforced material with a tensile strength 20% higher than nylon and a Flexural strength of over 72 MPa
[Heat resistant structural components for automotive applications]

High heat resistance 

Excellent mechanical properties 



Tensile strength (Mpa) : 58

Elongation at break (%) : 8

Flexural strength (Mpa) : 88

Impact strength (J/m) : 45

Heat deflection temperature (°C) : 185 (10N)

• Printing temperature:
220-260 °C

• Bed temperature:
80-100 °C

Tensile strength (Mpa) : 56

Elongation at break (%) : 18

Flexural strength (Mpa) : 71

Impact strength (J/m) : 191




Heat deflection temperature (°C) : 94 (10N)

• Printing temperature:
220-260 °C

• Bed temperature:
80-100 °C

PC-CF

PC carbon fiber reinforced material with excellent strength, rigidity, heat resistance and good chemical resistance [High strength, high heat resistant mechanical components, like drone components]

-  **High Heat Resistance**
-  **Chemical Resistance**
-  **High Strength**



Tensile strength (Mpa)	: 85	• Printing temperature: 220-280 °C
Elongation at break (%)	: 1.5	
Flexural strength (Mpa)	: 125	• Bed temperature: 80-100 °C
Impact strength (J/m)	: 22	
Heat deflection temperature (°C)	: 138 (1.8Mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

PMMA+

Strong weather resistant, transparent PC and PMMA alloy material, passed 85°C, 85% humidity environment and Anti-UV test [Outdoor installations, Infrastructure]



- Weather resistance** 
- Impact resistance** 
- High transparency** 

Tensile strength (Mpa)	: 40	• Printing temperature: 230-260 °C
Elongation at break (%)	: 2.6	
Flexural strength (Mpa)	: 72	• Bed temperature: 100-120 °C
Impact strength (J/m)	: 30	
Heat deflection temperature (°C)	: 90 (1.8Mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

PPSU

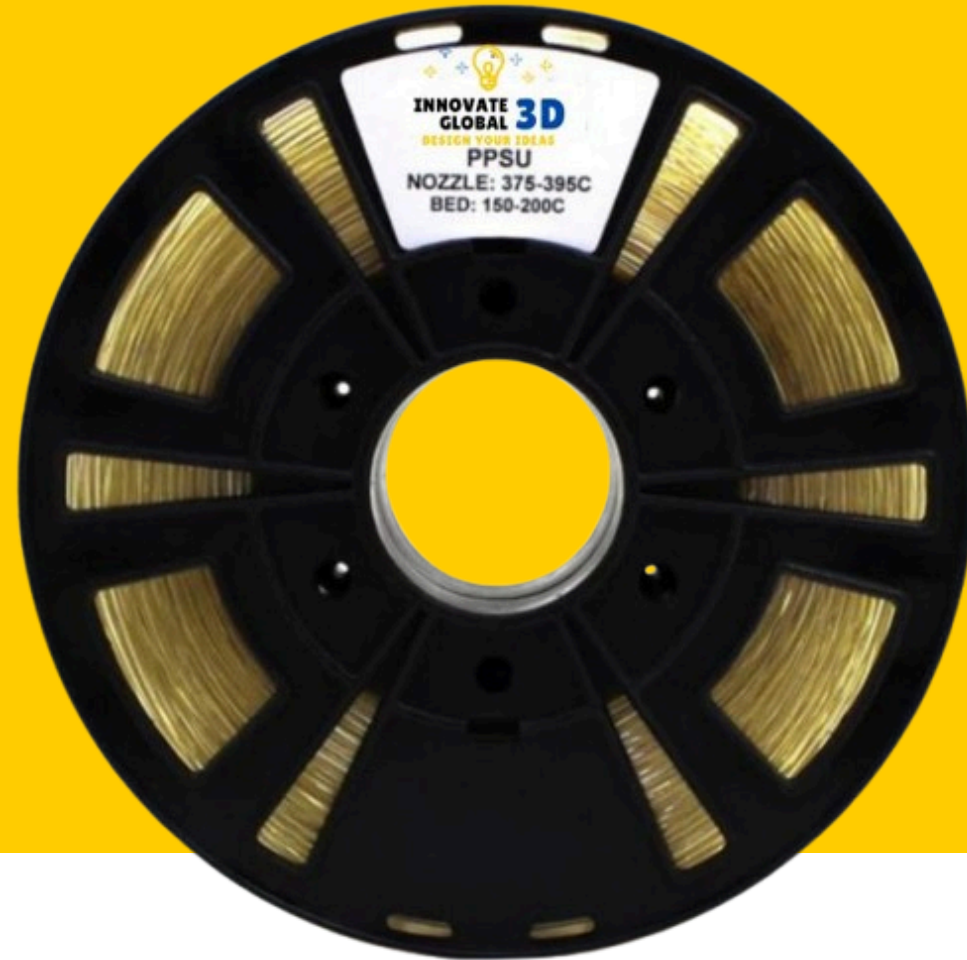
High-temperature aromatic sulfone polymer with electrical insulation and biocompatibility and resistance to environmental stress cracking

[Electrical & Electronics, Equipment Manufacturing, Medical Devices]

 **Excellent heat deflection temperature**

 **Chemical Resistance**

 **Hydrolysis resistance**



Tensile strength (Mpa)	: 72	• Printing temperature: 340-380 °C
Elongation at break (%)	: 6	
Flexural strength (Mpa)	: 90	• Bed temperature: 80-120 °C
Impact strength (J/m)	: 12	
Heat deflection temperature (°C)	: 205 (1.8Mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

PEKK

Semi-crystalline thermoplastic with uniform crystallinity, easier to print compared to PEEK

[aerospace, petrochemical, automotive]

Chemical resistance 

High temperature resistant 

Biocompatibility 




Tensile strength (Mpa)	: 90	• Printing temperature: 360-400 °C
Elongation at break (%)	: 5	
Flexural strength (Mpa)	: 140	• Bed temperature: 90-130 °C
Impact strength (J/m)	: No Break	
Heat deflection temperature (°C)	: 155 (1.8Mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

PEI 9085

Meets FST aviation protection standards, V0 flame retardant, excellent interlayer adhesion.

[electrical/electronic, automotive, aerospace, military]

-  **Good durability**
-  **Impact resistance**
-  **High strength**



Tensile strength (Mpa)	: 65	• Printing temperature: 360-390 °C
Elongation at break (%)	: 5	
Flexural strength (Mpa)	: 95	• Bed temperature: 130-150 °C
Impact strength (J/m)	: 12	
Heat deflection temperature (°C)	: 153 (1.8Mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.

PEI 1010

Amorphous polymers with ultra-high stability and mechanical properties and glass transition temperatures of up to 217°C [Medical, electrical/electronic, automotive, aerospace industries]

Chemical resistance

Inherent flame retardancy

Dimensional stability



Tensile strength (Mpa)	: 85	• Printing temperature: 340-380 °C
Elongation at break (%)	: 25	
Flexural strength (Mpa)	: 165	• Bed temperature: 80-120 °C
Impact strength (J/m)	: 23	
Heat deflection temperature (°C)	: 180 (1.8Mpa)	

These data are presented as guidance only and obtained from Silver Age Test Centre. The exact performance depends on the real printing conditions and the user's printer type.



**INNOVATE
GLOBAL 3D**
DESIGN YOUR IDEAS

High Performance Industrial FDM Filament



-  Ashley Lane, 19/1A, Westmead New South Wales 2145, Australia
-  sales@innovate3dglobal.com
-  +61452 392 608
-  innovate3dglobal.com