

Radel® PPSU AM Filament NT1 HC

Polyphenylsulfone

Radel® PPSU AM Filament NT1 HC offers the best of sulfone polymers, with a superiority in both toughness and impact strength, high temperature capabilities, as well as proven outperformance in chemical resistance relative to both PSU and PEI. It is offered for use in high-performance healthcare applications.

General

Material status	<ul style="list-style-type: none"> Commercial: Active 		
Availability	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe 	<ul style="list-style-type: none"> Latin America North America 	
Features	<ul style="list-style-type: none"> Acid resistant Base resistant Chemical resistant 	<ul style="list-style-type: none"> Flame retardant Good impact resistance Good thermal stability 	<ul style="list-style-type: none"> High heat resistance Ultra high toughness Biocompatibility
Uses	<ul style="list-style-type: none"> Medical devices 	<ul style="list-style-type: none"> Medical/healthcare applications 	
Agency rating	<ul style="list-style-type: none"> ISO 10993 		
RoHS compliance	<ul style="list-style-type: none"> Contact manufacturer 		
Appearance	<ul style="list-style-type: none"> Natural color 		
Form	<ul style="list-style-type: none"> Filament 		
Processing method	<ul style="list-style-type: none"> 3D Printing, Fused Filament Fabrication (FFF) 		

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Property	Typical Value	Unit	Test Method
Density/specific gravity	1.29	g/cm ³	ASTM D792
Tensile modulus	2,000	MPa	ASTM D638
Tensile strength			
at yield	62.0	MPa	ASTM D638
at break	42.0	MPa	ASTM D638
Tensile elongation			
at yield	7.0	%	ASTM D638
at break	21.0	%	ASTM D638
Notched Izod impact	480	J/m	ASTM D256
Glass transition temperature	220	°C	DSC
Diameter – filament	1.75	mm	

Printing conditions for above data table

- Filament drying conditions, minimum temperature 4 h: 150–170 °C
- Extruder temperature: 380–400 °C
- Bed temperature: 180–200 °C
- Printing tool path: cross hatching in the XY plane

Test specimen parameters:

- First layer: 0.3 mm thick
- Subsequent layers: 0.1 mm
- 100 % infill
- 3 shells
- Printing speed: 18 mm/s

Notes:

Typical properties: these are not to be construed as specifications.

www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa

SpecialtyPolymers.Americas@solvay.com | Americas

SpecialtyPolymers.Asia@solvay.com | Asia Pacific



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