

# Radel® MS NT1 AM Filament

## polyphenylsulfone

Radel® MS NT1 AM Filament 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 enables applications in Aerospace, Healthcare, Smart Devices, and Energy Storage.

### General

Material Status	<ul style="list-style-type: none"> <li>Commercial: Active</li> </ul>
Availability	<ul style="list-style-type: none"> <li>Africa &amp; Middle East</li> <li>Asia Pacific</li> <li>Europe</li> <li>Latin America</li> <li>North America</li> </ul>
Features	<ul style="list-style-type: none"> <li>Acid Resistant</li> <li>Base Resistant</li> <li>Chemical Resistant</li> <li>Flame Retardant</li> <li>Good Impact Resistance</li> <li>Good Thermal Stability</li> <li>High Heat Resistance</li> <li>Ultra High Toughness</li> </ul>
Uses	<ul style="list-style-type: none"> <li>Additive Manufacturing (3D Printing)</li> <li>Aerospace Applications</li> <li>Energy Storage</li> <li>Medical/Healthcare Applications</li> <li>Smart Devices</li> </ul>
RoHS Compliance	<ul style="list-style-type: none"> <li>Contact Manufacturer</li> </ul>
Appearance	<ul style="list-style-type: none"> <li>Natural Color</li> </ul>
Forms	<ul style="list-style-type: none"> <li>Filament</li> </ul>
Processing Method	<ul style="list-style-type: none"> <li>3D Printing, Fused Filament Fabrication (FFF)</li> </ul>

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.29		ASTM D792

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	2000	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield	62.0	MPa	
Break	42.0	MPa	
Tensile Elongation			ASTM D638
Yield	7.0	%	
Break	21	%	

Impact	Typical Value	Unit	Test method
Notched Izod Impact	480	J/m	ASTM D256

Thermal	Typical Value	Unit	Test method
Glass Transition Temperature	220	°C	DSC

Additional Information	Typical Value	Unit
Diameter - Filament	1.75	mm

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Printing conditions for the above data table:

- Filament drying conditions, minimum temperature 4h: 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: 0.3mm thick
  - Subsequent layers: 0.1mm
  - 100% infill
  - 3 shells
  - Printing speed: 18 mm/s
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### Notes

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

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