

# Veradel® A-201

## polyethersulfone

Veradel® A-201 is a low melt flow grade of polyethersulfone (PESU). It is transparent and offers high heat deflection temperatures, excellent toughness and dimensional stability, and resistance to steam, boiling water and mineral acids. Other desirable properties include thermal stability, creep resistance and inherent flame resistance.

Veradel® A-201 can be processed by either extrusion or injection molding. A medium flow grade is available as Veradel® A-301. It is suggested for general purpose injection molding.

This grade was formerly marketed as Radel® A PESU

Veradel® A-201 is A-301 are FDA compliant and therefore approved for direct food contact.

- Natural: Veradel® A-201 NT

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Features	• Acid Resistant • Flame Retardant • Food Contact Acceptable • General Purpose • Good Adhesion • Good Chemical Resistance	• Good Creep Resistance • Good Dimensional Stability • Good Thermal Stability • Good Toughness • High Heat Resistance • High Tensile Strength	• Hydrolysis Resistant • Medium Flow • Medium Molecular Weight • Medium Rigidity
Uses	• Appliance Components • Appliances • Automotive Electronics • Batteries	• Business Equipment • Electrical Parts • Electrical/Electronic Applications • Food Service Applications	• Industrial Applications • Microwave Cookware
Agency Ratings	• FDA Food Contact, Unspecified Rating		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• ASTM D6394 SP0212		
Appearance	• Transparent - Slight Yellow		
Forms	• Pellets		
Processing Method	• Compounding	• Extrusion	• Injection Molding

### Physical

	Typical Value	Unit	Test method
Specific Gravity	1.37		ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/2.16 kg)	20	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.60	%	ASTM D955
Water Absorption (24 hr)	0.50	%	ASTM D570
Water Absorption - 30 days	1.9	%	ASTM D570

### Mechanical

	Typical Value	Unit	Test method
Tensile Modulus	2690	MPa	ASTM D638
Tensile Strength	88.9	MPa	ASTM D638
Tensile Elongation (Yield)	6.5	%	ASTM D638
Flexural Modulus	2620	MPa	ASTM D790

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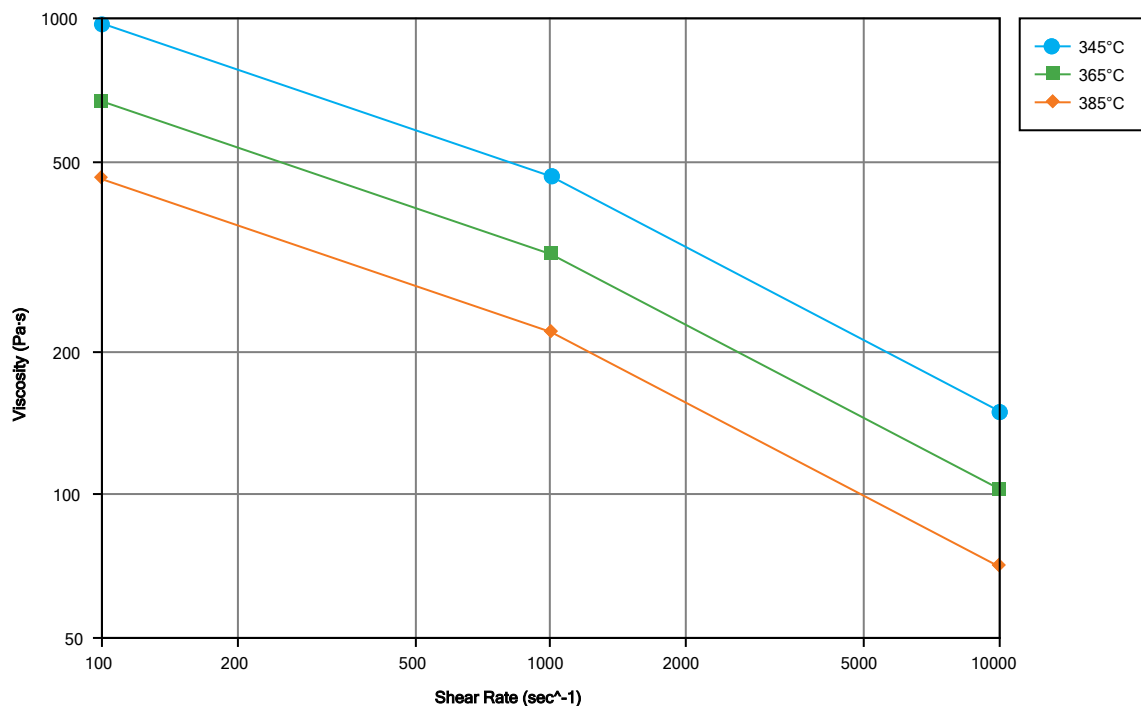
polyethersulfone

<b>Mechanical</b>	<b>Typical Value</b>	<b>Unit</b>	<b>Test method</b>
Flexural Strength	125	MPa	ASTM D790
<b>Impact</b>	<b>Typical Value</b>	<b>Unit</b>	<b>Test method</b>
Notched Izod Impact	53	J/m	ASTM D256
<b>Thermal</b>	<b>Typical Value</b>	<b>Unit</b>	<b>Test method</b>
Deflection Temperature Under Load 1.8 MPa, Unannealed	200	°C	ASTM D648
CLTE - Flow	0.000052	cm/cm/°C	ASTM D696
<b>Electrical</b>	<b>Typical Value</b>	<b>Unit</b>	<b>Test method</b>
Volume Resistivity	1.7E+15	ohm·cm	ASTM D257
Dielectric Strength	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.51		
1 kHz	3.50		
1 MHz	3.54		
Dissipation Factor			ASTM D150
60 Hz	0.0017		
1 kHz	0.0022		
1 MHz	0.0056		
<b>Flammability</b>	<b>Typical Value</b>	<b>Unit</b>	<b>Test method</b>
Flame Rating <sup>1</sup> (1.50 mm)	V-0		UL 94
<b>Injection</b>	<b>Typical Value</b>	<b>Unit</b>	
Drying Temperature	175	°C	
Drying Time	2.5	hr	
Processing (Melt) Temp	345 to 385	°C	
Mold Temperature	135	°C	
Screw Compression Ratio	2.2:1.0		
<b>Extrusion</b>	<b>Typical Value</b>	<b>Unit</b>	
Drying Temperature	175	°C	
Drying Time	2.5	hr	
Cylinder Zone 1 Temp.	335 to 390	°C	
Cylinder Zone 2 Temp.	335 to 390	°C	
Cylinder Zone 3 Temp.	335 to 390	°C	
Cylinder Zone 4 Temp.	335 to 390	°C	
Cylinder Zone 5 Temp.	335 to 390	°C	
Adapter Temperature	325 to 370	°C	
Melt Temperature	345 to 390	°C	
Die Temperature	325 to 370	°C	

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## Viscosity vs. Shear Rate (ISO 11403-2)



### Notes

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

<sup>1</sup> These flammability ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

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