

# Veradel® LTG-3301

## polyethersulfone

Veradel® LTG-3301 polyethersulfone (PESU) offers the ability to directly metalize high-quality reflective surfaces for applications that require high heat deflection, excellent toughness and dimensional stability. Other desirable properties include thermal stability, creep resistance, and low moisture absorption. The resin exhibits superior flow when injection molded.

Potential applications include automotive headlamp reflectors, fog lamp reflectors, park and turn reflectors, and

other applications where excellent surface finish for direct metallization is desired.

Veradel® LTG-3301 resin is available in a variety of colors.

- Veradel® LTG-3000 BK 184 MR (black)
- Veradel® LTG-3301 NT MR (natural)
- Veradel® A-301 BG 903 MR (beige)
- Veradel® LTG-3000 GY 001 MR (gray)

### General

Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• North America
Features	• Creep Resistant • Good Dimensional Stability • Good Surface Finish • Good Thermal Stability	• Good Toughness • High Flow • High Heat Resistance • Low Moisture Absorption
Uses	• Automotive Applications • Automotive Exterior Trim	• Metal Replacement • Reflectors
RoHS Compliance	• RoHS Compliant	
Appearance	• Colors Available	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity <sup>1</sup>			
--	1.37		ASTM D792
23°C	1.37	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) <sup>2</sup> (380°C/2.16 kg)	30	g/10 min	ASTM D1238 ISO 1133
Molding Shrinkage - Flow	0.60	%	ASTM D955
Water Absorption (24 hr)	0.54	%	ASTM D570

Mechanical	Typical Value	Unit	Test method
Tensile Modulus			
--	2650	MPa	ASTM D638
23°C, 4.00 mm <sup>3</sup>	2800	MPa	ISO 527-2
Tensile Stress			
Yield, 23°C, 4.00 mm <sup>4</sup>	88.0	MPa	ISO 527
--	82.7	MPa	ASTM D638
Tensile Elongation			
Yield	6.5	%	ASTM D638
Yield <sup>4</sup>	6.7	%	ISO 527

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Mechanical	Typical Value	Unit	Test method
Flexural Modulus			
--	2900	MPa	ASTM D790
--	2750	MPa	ISO 178
Flexural Strength	111	MPa	ASTM D790 ISO 178
Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength	7.7	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy Unnotched Impact Strength	No Break		ISO 179/1eU
Notched Izod Impact			
--	85	J/m	ASTM D256
--	6.4	kJ/m <sup>2</sup>	ISO 180/A
Unnotched Izod Impact Strength	No Break		ISO 180
Tensile Impact Strength	336	kJ/m <sup>2</sup>	ASTM D1822
Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			
1.8 MPa, Unannealed	204	°C	ASTM D648
1.8 MPa, Annealed, 4.00 mm <sup>5</sup>	213	°C	ISO 75-2/A
Vicat Softening Temperature	217	°C	ISO 306 <sup>6</sup>
CLTE - Flow	4.9E-5	cm/cm/°C	ASTM D696
RTI Elec (0.79 mm)	180	°C	UL 746
RTI Imp (1.6 mm)	180	°C	UL 746
Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.7E+15	ohms·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	1.7E-3		
1 kHz	2.2E-3		
1 MHz	5.6E-3		
Flammability	Typical Value	Unit	Test method
Flame Rating (0.75 mm)	V-0		UL 94

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Injection	Typical Value	Unit
Drying Temperature	177	°C
Drying Time	2.5	hr
Processing (Melt) Temp	343 to 385	°C
Mold Temperature	138 to 163	°C
Injection Rate	Fast	
Screw Compression Ratio	2.2:1.0	

## Notes

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

<sup>1</sup> All colors other than gray. Gray is higher.

<sup>2</sup> All colors other than gray. Gray is lower.

<sup>3</sup> 1 mm/min

<sup>4</sup> 50 mm/min

<sup>5</sup> annealed 1 hour at 200°C

<sup>6</sup> 50°C/h, A (10N)



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