

# Udel® GF-121

## polysulfone

Udel® GF-121 resin is a 20% glass fiber reinforced polysulfone compound. Glass fiber substantially increases the rigidity, tensile strength, creep resistance, dimensional stability and chemical resistance of the polysulfone resin. The high performance properties and attractive price make

these resins particularly effective alternatives to metals in many engineering applications.

White: Udel® GF-121 NT

Black: Udel® GF-121 BK 937

### General

Material Status	• Limited Distribution: Developmental	
Availability	• Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber	
Features	<ul style="list-style-type: none"> <li>• Acid Resistant</li> <li>• Alcohol Resistant</li> <li>• Alkali Resistant</li> <li>• Autoclave Sterilizable</li> <li>• Chemical Resistant</li> <li>• Creep Resistant</li> <li>• E-beam Sterilizable</li> <li>• Ethylene Oxide Sterilizable</li> <li>• Food Contact Acceptable</li> <li>• Good Dimensional Stability</li> <li>• Good Sterilizability</li> </ul>	<ul style="list-style-type: none"> <li>• Good Strength</li> <li>• Heat Sterilizable</li> <li>• High Heat Resistance</li> <li>• High Rigidity</li> <li>• Hydrocarbon Resistant</li> <li>• Hydrolytically Stable</li> <li>• Radiation (Gamma) Resistant</li> <li>• Radiation Sterilizable</li> <li>• Radiotranslucent</li> <li>• Steam Resistant</li> <li>• Steam Sterilizable</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Appliance Components</li> <li>• Appliances</li> <li>• Automotive Electronics</li> <li>• Bobbins</li> <li>• Dental Applications</li> <li>• Electrical Parts</li> <li>• Electrical/Electronic Applications</li> <li>• Fittings</li> <li>• Food Service Applications</li> </ul>	<ul style="list-style-type: none"> <li>• Hospital Goods</li> <li>• Industrial Parts</li> <li>• Medical Devices</li> <li>• Medical/Healthcare Applications</li> <li>• Microwave Cookware</li> <li>• Piping</li> <li>• Plumbing Parts</li> <li>• Surgical Instruments</li> <li>• Valves/Valve Parts</li> </ul>
Agency Ratings	<ul style="list-style-type: none"> <li>• DVGW W270 <sup>1</sup></li> <li>• EU Food Contact, Unspecified Rating <sup>1</sup></li> <li>• FDA Unspecified Rating</li> </ul>	<ul style="list-style-type: none"> <li>• ISO 10993 <sup>1</sup></li> <li>• NSF STD-51 <sup>2</sup></li> <li>• NSF STD-61 <sup>3</sup></li> </ul>
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	• White
Forms	• Pellets	
Processing Method	• Extrusion	• Injection Molding

### Physical

	Typical Value	Unit	Test method
Density / Specific Gravity	1.40		ASTM D792
Melt Mass-Flow Rate (MFR) (343°C/2.16 kg)	6.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.30	%	ASTM D955

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus	6000	MPa	ASTM D638
Tensile Strength	96.5	MPa	ASTM D638
Tensile Elongation (Break)	3.0	%	ASTM D638
Flexural Modulus	5520	MPa	ASTM D790
Flexural Strength	148	MPa	ASTM D790

  

Impact	Typical Value	Unit	Test method
Notched Izod Impact	53	J/m	ASTM D256
Tensile Impact Strength	109	kJ/m <sup>2</sup>	ASTM D1822

  

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	180	°C	ASTM D648

  

Electrical	Typical Value	Unit	Test method
Volume Resistivity	2.0E+16	ohms-cm	ASTM D257
Dielectric Strength	19	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.31		
1 MHz	3.28		
Dissipation Factor			ASTM D150
60 Hz	8.0E-3		
1 MHz	6.0E-3		

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Flammability	Typical Value	Unit	Test method
Flame Rating <sup>4</sup> (3.2 mm)	HB		UL 94

Injection	Typical Value	Unit
Drying Temperature	149 to 163	°C
Drying Time	3.0 to 4.0	hr
Processing (Melt) Temp	343 to 399	°C
Mold Temperature	121 to 163	°C
Injection Rate	Fast	
Back Pressure	0.345 to 0.689	MPa
Screw Compression Ratio	2.0:1.0	

## Notes

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

<sup>1</sup> Pending

<sup>2</sup> Maximum Temperature of Use: 149°C (300°F)

<sup>3</sup> Tested at 82 °C (180 °F) (Commercial Hot)

<sup>4</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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