Acudel® 22000
modified polyphenylsulfone

Acudel® 22000 is a modified polyphenylsulfone. It is a high-heat, high-performance resin formulation exhibiting very good hydrolytic stability, excellent resistance to acids and bases and good resistance to stress cracking under a broad range of chemical environments. In addition, Acudel® 22000 resin exhibits robust toughness and improved notch resistance compared to both Udel® polysulfone and Veradel® polyethersulfone, although slightly lower than that of neat Radel® polyphenylsulfone. In general, the performance profile of Acudel® 22000 resin falls between polysulfone and polyphenylsulfone.

In addition to its high mechanical and thermal performance attributes, Acudel® 22000 resin also offers very good electrical properties over a broad temperature range as well as inherent flame retardancy.

- Natural: Acudel® 22000 NT15
- Black: Acudel® 22000 BK937

General		
Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Features	• Acid Resistant • Base Resistant • Chemical Resistant • Flame Retardant • Good Thermal Stability	• Good Toughness • High ESCR (Stress Crack Resist.) • High Heat Resistance • Hydrolytically Stable
Uses	• Connectors • Fittings	• Piping • Plumbing Parts
Agency Ratings	• NSF STD-51	• NSF STD-61 [1]
RoHS Compliance	• RoHS Compliant	
Automotive Specifications	• ASTM D6394 SP0000A21640	• ASTM D6394 SP0412
Appearance	• Black	• Light Beige
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.28		ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/2.16 kg)	12	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.70	%	ASTM D955
Water Absorption (24 hr)	0.30	%	ASTM D570
Water Absorption - (30 days)	0.90	%	ASTM D570

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus	2690	MPa	ASTM D638
Tensile Strength	77.2	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	6.7	%	
Break	50	%	
Flexural Modulus	2760	MPa	ASTM D790
Flexural Strength (Yield)	108	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	110	J/m	ASTM D256
Tensile Impact Strength	368	kJ/m²	ASTM D1822

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed, 3.18 mm	197	°C	

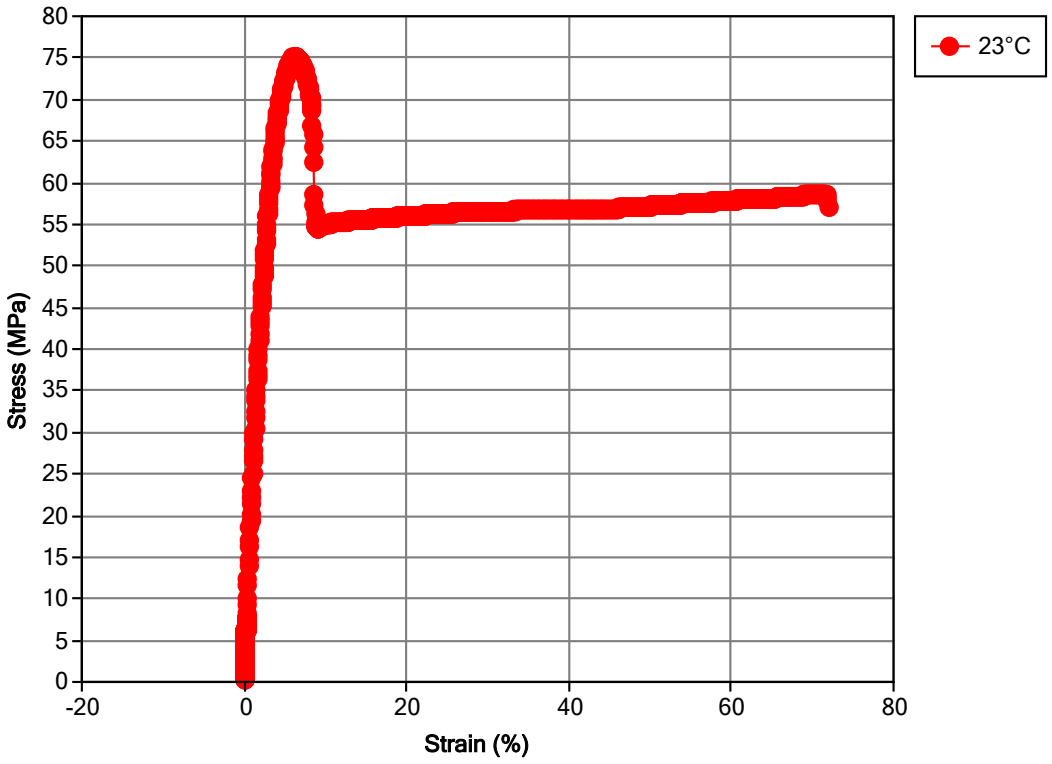
Electrical	Typical Value	Unit	Test method
Volume Resistivity	> 9.0E+15	ohms·cm	ASTM D257
Dielectric Strength (3.18 mm)	19	kV/mm	ASTM D149
Dielectric Constant (1 MHz)	3.40		ASTM D150
Dissipation Factor (1 MHz)	8.0E-3		ASTM D150

Injection	Typical Value	Unit
Drying Temperature	177	°C
Drying Time	2.5	hr
Processing (Melt) Temp	360 to 391	°C
Mold Temperature	138 to 163	°C
Injection Rate	Fast	
Screw Compression Ratio	2.2:1.0	

Injection Notes

Minimum recommended drying conditions are 2.5 hours at 350°F (177°C), or 4 hours at 300°F (149°C).

Isothermal Stress vs. Strain (ISO 11403)



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

[1] Tested at 82 °C (180 °F) (Commercial Hot)

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