AvaSpire® AV-651 NT

PAEK Syensqo

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Melt Flow Index, MFI	**25**	g/10min	ASTM D 1238
Temperature	**400**	°C	-
Load	**2.16**	kg	-
Mold Shrinkage, MD	**0.008**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.011**	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**3200**	MPa	ISO 527
Yield stress	**89**	MPa	ISO 527
Yield strain	**5.7**	%	ISO 527
Strain at break	**40**	%	ISO 527
Flexural modulus, 23°C	**3200**	MPa	ISO 178
Flexural strength	**127**	MPa	ISO 178
Izod impact strength, +23°C	**N**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**6.6**	kJ/m²	ISO 180/1A
ASTM Data			
Tensile Modulus	**3000**	MPa	ASTM D 638
Tensile Strength	**87**	MPa	ASTM D 638
Elongation at Yield	**6.2**	%	ASTM D 638
Elongation at Break	**40**	%	ASTM D 638
Compressive Strength	**112**	MPa	ASTM D 695
Flexural Modulus	**3100**	MPa	ASTM D 790
Flexural Strength	**124**	MPa	ASTM D 790
Rockwell Hardness	**M 94**	-	ASTM D 785
Izod Impact notched, 1/8 in	**69**	J/m	ASTM D 256
Izod Impact unnotched, 1/8 in	**N**	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
ASTM Data			
UL 94 Flame rating	**V-0**	-	UL 94
Thickness tested	**0.8**	mm	-
Coefficient of Thermal Expansion, MD	**47**	E-6/K	ASTM D 696
DTUL @ 264 psi	**190**[ann.]	°C	ASTM D 648
Melting Temperature	**345**	°C	ASTM D 3418
Glass Transition Temperature	**158**	°C	ASTM E 1356

ann.: annealed

Electrical properties	Value	Unit	Test Standard
ASTM Data			
Dielectric Strength, Short Time	**16**	kV/mm	ASTM D 149
Dissipation Factor, 60 Hz	**0.001**	-	ASTM D 150
Dissipation Factor, 1 MHz	**0.004**	-	ASTM D 150
Dielectric Constant, 60 Hz	**3.1**	-	ASTM D 150
Dielectric Constant, 1 MHz	**3.1**	-	ASTM D 150
Surface Resistivity	**1.9E17**	Ohm	ASTM D 257
Volume Resistivity	**5E17**	Ohm*cm	ASTM D 257

Other properties	Value	Unit	Test Standard
Water Absorption, 24hr	**0.2**	%	ASTM D 570
Density	**1290**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**150**	°C	-
Pre-drying - Time	**4**	h	-

Melt temperature	**365 - 390**	°C	-
Mold temperature	**150 - 180**	°C	-
Zone 1	**355**	°C	-
Zone 2	**365**	°C	-
Zone 3	**370**	°C	-
Nozzle temperature	**375**	°C	-

Characteristics

Processing
Injection Molding, Fiber Extrusion, Film Extrusion, Profile Extrusion, Wire/Cable Extrusion, Blow Molding, Thermoforming

Delivery form
Pellets, Natural Color

Special Characteristics
Flame retardant, High impact or impact modified, Heat stabilized or stable to heat, Sterilizable, Ethylene Oxide (EtO) Sterilization, Steam sterilization, Gamma irradiation sterilization, Electron beam (e-beam) sterilization

Features
Ductile, Fatigue Resistance

Chemical Resistance
General Chemical Resistance, Environmental Stress Crack Resistance, Oil Resistance, Radiation Resistance

Certifications
Medical Grade, Biocompatibility ISO 10993, RoHS compliant

Applications
Aircraft and Aerospace, Chemical Process, Electrical and Electronical, Medical

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa