AvaSpire® AV-481
polyaryletherketone

AvaSpire® AV-481 is an unreinforced PAEK (polyaryletherketone) that offers improved ductility and impact strength relative to PEEK while offering similar or superior melt processability to high melt flow PEEK that is available on the market. Chemical resistance and environmental stress cracking resistance of AV-481 are also on par with that of unreinforced PEEK. This product has been specifically formulated for applications requiring an excellent balance of chemical resistance and mechanical toughness along with very high melt flow characteristics to allow filling of very thin and long flow length parts like cable ties. The heat resistance of this grade is also quite high with a heat distortion temperature in excess of 200°C and very good long term oxidative stability at elevated temperatures. This combination of properties makes AV-481 well-suited for applications in automotive, aerospace, electrical/electronics, and other industrial uses.

AvaSpire® AV-481 is an injection molding grade and can be easily processed by typical injection molding methods using standard equipment. The material is available in beige (AV-481 BG15). Because the material is naturally lighter in color than typical PEEK resin, AV-481 provides greater versatility in its ability to be colored.

- Beige: AV-481 BG 15

General		
Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Chemical Resistant • Ductile • Fatigue Resistant • Good Dimensional Stability	• Good Impact Resistance • High Flow • High Heat Resistance
Uses	• Aircraft Applications • Automotive Applications	• Electrical/Electronic Applications • Industrial Applications
RoHS Compliance	• RoHS Compliant	
Appearance	• Beige	
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.34		ASTM D792
Melt Mass-Flow Rate (MFR) (400°C/2.16 kg)	55	g/10 min	ASTM D1238
Water Absorption (24 hr)	0.30	%	ASTM D570

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Mechanical	Typical Value	Unit	Test method
Tensile Modulus	3200	MPa	ASTM D638
Tensile Strength	97.0	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	6.3	%	
Break	> 15	%	
Flexural Modulus	3300	MPa	ASTM D790
Flexural Strength	141	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	64	J/m	ASTM D256
Unnotched Izod Impact	No Break		ASTM D4812
Instrumented Dart Impact	78.0	J	ASTM D3763

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed, 3.20 mm	208	°C	

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity (400°C, 1000 sec^-1)	170	Pa·s	ASTM D3835

Injection	Typical Value	Unit
Drying Temperature	150	°C
Drying Time	4.0	hr
Rear Temperature	355	°C
Middle Temperature	365	°C
Front Temperature	370	°C
Nozzle Temperature	375	°C
Mold Temperature	175 to 205	°C
Injection Rate	Fast	
Screw Compression Ratio	2.5:1.0 to 3.5:1.0	

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

SYENSQO