## Radel® R-7625

## Polyphenylsulfone

Solvay Specialty Polymers

## Message:

Radel® R-7625 polyphenylsulfone resin is a cost-effective solution for aircraft interior applications that offers improved UV resistance versus Radel® R-7535 and Radel® R-7558. The product complies with the FAA regulation 14CFR Part 25 Appendix F, offering vertical burn resistance, very low smoke generation and, through the use of proprietary additives, low heat release values, when tested using the Ohio State University (OSU) rate of heat release method. It also generates low flaming-mode toxic gas emissions.

Radel ® R-7625 resin is available in light colors and is formulated for integrally colored applications.

Available in several custom colors

General Information			
Features	Low smoke		
	Low toxicity		
	Good processing stability		
	Good liquidity		
	Detergent resistance		
	Good toughness		
	Flame retardancy		
Uses	Airplane trim		
	Aircraft applications		
	Aerospace applications		
Agency Ratings	FAA FAR 25.853a		
	FAA FAR 25.853d		
RoHS Compliance	Contact manufacturer		
Appearance	Available colors		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity <sup>1</sup>	1.36	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/2.16			
kg)	17	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.60 - 0.80	%	ASTM D955
Water Absorption (24 hr)	0.30	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2830	MPa	ASTM D638
Tensile Strength	86.2	MPa	ASTM D638
Tensile Elongation (Break)	30	%	ASTM D638
Flexural Modulus	2760	MPa	ASTM D790

Flexural Strength	121	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	69	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	193	°C	ASTM D648
Flammability	Nominal Value	Unit	Test Method
OSU peak heat release rate <sup>2</sup>		kW/m²	FAR 25, AppF
OSU total heat release-2 minutes <sup>3</sup>		kW · min/m²	FAR 25, AppF
Vertical combustion -60 seconds <sup>4</sup>			FAR 25, AppF
Dripping burning time	No drip	sec	FAR 25, AppF
Burning time	0.0	hr	FAR 25, AppF
Length		cm	FAR 25, AppF
Smoke density-Smoke density at 4 minutes <sup>5</sup>			FAR 25, AppF
Injection	Nominal Value	Unit	
Drying Temperature	166 - 177	°C	
Drying Time	4.0	hr	
Rear Temperature	354 - 371	°C	
Middle Temperature	360 - 377	°C	
Front Temperature	366 - 382	°C	
Nozzle Temperature			
· · · b· · · ·	360 - 377	°C	
Processing (Melt) Temp	360 - 377 366 - 388	°C °C	
Processing (Melt) Temp Mold Temperature	360 - 377 366 - 388 107 - 163	°C °C	
Processing (Melt) Temp Mold Temperature Injection Rate	360 - 377 366 - 388 107 - 163 Fast	°C °C °C	
Processing (Melt) Temp Mold Temperature Injection Rate Screw Compression Ratio	360 - 377 366 - 388 107 - 163 Fast 2.0 : 1.0 - 3.0 : 1.0	°C °C	

Drying:

Radel R-7625 resin must be thoroughly dried prior to melt processing. Incomplete drying will result in defects in molded parts ranging from surface streaks to severe bubbling. Pellets can be dried using shallow trays placed in a circulating air oven or in a desiccating hopper dryer. Recommended minimum drying conditions are 4 hours at 149°C (300°F). Drying at 165°C to 177°C (330°F to 350°F) is preferable. Injection Molding:

Radel R-7625 resin can be readily injection molded in most screw injection machines. A general purpose screw with a 2 to 3:1 compression ratio is recommended, as is minimum back pressure. Injection speeds should be as fast as possible, consistent with part appearance requirements. Mold temperatures in the range of 107°C to 163°C (225°F to 325°F) are suggested. Melt temperature should generally range from 336°C to 388°C (690°F to 730°F).

Caution: Exceeding 415°C (780°F) during processing may cause degradation.

NOTE	
1.	Change by resin color
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	test results is not to reflect the
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2.	conditions.

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