Radel® R-7400

Polyphenylsulfone

Solvay Specialty Polymers

Message:

Radel® R-7300 (for light colors) and R-7400 (for darker colors) polyphenylsulfone resins were developed specifically for aircraft interior applications, and through the use of a proprietary flame retardant package, offer low heat release, low smoke generation, and low toxic gas emissions. These resins comply with the FAA regulation 14CFR Part 25.853 Appendix F. In addition, they have excellent impact resistance and ESCR when exposed to fluids typically used by the aerospace industry, reducing the need for annealing or protective films.
Radel® R-7300 and R-7400 resins have excellent flow characteristics, readily filling complex parts with thin walls or long flow lengths.
Chemical Resistance:
One of the outstanding characteristics of Radel® R-7300 and R-7400 resins is their resistance to many commonly used aviation fluids. Three test methods: unstressed immersion, stressed with a 5-inch radius curve, and stressed with a variable radius curve fixture, were employed to evaluate resistance of Radel® resins to Skydrol® LD-4; 1,1,1-trichloroethane; Jet fuel A; methyl ethyl ketone; toluene; isopropanol; and Skydrol® 500B.
Available in various custom colors

General Information			
Features	Low smoke		
	Low toxicity		
	Good processing stability		
	High liquidity		
	Good chemical resistance		
	Detergent resistance		
	Good toughness		
	Flame retardancy		
Uses	Airplane trim		
	Aircraft applications		
	Aerospace applications		
Agency Ratings	FAA FAR 25.853a		
	FAA FAR 25.853d		
	OSU 55/55		
RoHS Compliance	Contact manufacturer		
Appearance	Available colors		
Forms	Particle		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.36	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/2.16 kg)	16	g/10 min	ASTM D1238
Water Absorption (24 hr)	0.30	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus	2790	MPa	ASTM D638
Tensile Strength	75.8	MPa	ASTM D638
Tensile Elongation (Break)	40	%	ASTM D638
Flexural Modulus	2760	MPa	ASTM D790
Flexural Strength	110	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	80	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	182	°C	ASTM D648
Flammability	Nominal Value	Unit	Test Method
OSU peak heat release rate [1]		kW/m^2	FAR 25.853(d)
OSU total heat release-2 minutes [2]		$kW \cdot min/m^2$	FAR 25.853(d)
Smoke Density			ASTM F814
Dm,4 minutes [3]		Ds	ASTM F814
Ds, at 1.5 minutes	1.0	Ds	ASTM F814

Additional Information

Materials intended for aircraft interior parts must meet stringent flammability requirements. Radel R-7300 and R-7400 resins meet or exceed all commercial and regulatory requirements for flammability, smoke density, heat release, and toxic gas emissions.

Injection	Nominal Value	Unit
Drying Temperature	149	°C
Drying Time	4.0	hr
Rear Temperature	354 - 371	°C
Middle Temperature	360 - 377	°C
Front Temperature	366 - 382	°C
Nozzle Temperature	360 - 377	°C
Processing (Melt) Temp	366 - 388	°C
Mold Temperature	107 - 163	°C
Injection Rate	Fast	
Screw Compression Ratio	2.0 : 1.0 - 3.0 : 1.0	

NOTE	
1.	Combustible rating does not refer to the degree of disaster of these or any materials in actual or under conditions.
2.	Combustible rating does not refer to the degree of disaster of these or any materials in actual or under conditions.
3.	Industry requirements: 50-100Ds

Recommended distributors for this material

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