

Radel® R-7159 Precolored Resins

polyphenylsulfone

Radel® R-7159 pre-colored polyphenylsulfone (PPSU) resins have been developed for commercial aircraft interior applications with strict color requirements. The product complies with applicable FAA regulation 14CFR Part 25 Appendix F, offering vertical flammability resistance, very low smoke generation and low heat release values in the Ohio State University (OSU) rate of heat release method. It also generates low flaming-mode toxic gas emissions.

The resin offers good resistance to most fluids found in the aviation industry including cleaning agents and pesticides.

This product is available in pigmented grades to match OEM color standards.

Available grades include:

- White: Radel® R-7159 WH 70913
- White: Radel® R-7159 WH 7363
- Blue: Radel® R-7159 BU 7923
- Gray: Radel® R-7159 GY 714

General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Chemical Resistant • Detergent Resistant • Flame Retardant • Good Processing Stability • Good Toughness	• High Flow • Low Smoke Emission • Low Toxicity • Paintable
Uses	• Aerospace Applications • Aircraft Applications	• Aircraft Interiors
Agency Ratings	• AITM 3.0005 • BSS 7239 • FAA FAR 25.853a	• FAA FAR 25.853d • OSU 55/55
RoHS Compliance	• RoHS Compliant	
Appearance	• Blue • Grey	• White
Forms	• Pellets	
Processing Method	• Injection Molding	

Physical	Typical Value	Unit	Test method
Density / Specific Gravity	1.43		ASTM D792
Melt Mass-Flow Rate (MFR) (380°C/2.16 kg)	19	g/10 min	ASTM D1238

Mechanical	Typical Value	Unit	Test method
Tensile Modulus	> 2410	MPa	ASTM D638
Tensile Strength (Yield)	> 68.9	MPa	ASTM D638
Tensile Elongation ¹ (Break)	> 10	%	ASTM D638
Flexural Modulus	> 2410	MPa	ASTM D790
Flexural Strength	> 103	MPa	ASTM D790

Impact	Typical Value	Unit	Test method
Notched Izod Impact	> 210	J/m	ASTM D256

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Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	200	°C	ASTM D648

Flammability	Typical Value	Unit	Test method
OSU Peak Heat Release Rate ²	< 55.0	kW/m ²	FAR 25, AppF
OSU Total Heat Release - 2 min ²	< 20.0	kW·min/m ²	FAR 25, AppF
Smoke Density - Dmax @ 4 min ²	< 5.0	Ds	FAR 25, AppF
Toxic Gas Emissions ²			BSS 7239/ATS 1000/ABD 0031
CO	< 60	ppm	
HCL	< 1	ppm	
HCN	< 1	ppm	
HF	< 1	ppm	
NO+NO ₂	< 5	ppm	
SO ₂	< 30	ppm	
Vertical Burn - 60 second ²			FAR 25.853
Drip Burn Time	No Drip		
Flame Time	0.0	sec	
Length	< 7.62	cm	

Additional Information

Molded part surface appearance is subjective and is not guaranteed.

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Injection	Typical Value	Unit
Drying Temperature	149 to 177	°C
Drying Time	4.0	hr
Rear Temperature	354 to 371	°C
Middle Temperature	360 to 377	°C
Front Temperature	366 to 382	°C
Nozzle Temperature	360 to 377	°C
Processing (Melt) Temp	366 to 388	°C
Mold Temperature	107 to 163	°C
Injection Rate	Fast	
Screw Compression Ratio	2.0:1.0 to 3.0:1.0	

Notes

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

¹ 51 mm/min

² Flammability test results are not intended to reflect hazards presented by these or any other material under actual fire conditions.

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