



PROFESSIONAL PLASTICS, INC.

Leading Global Supplier of Engineered Plastic Shapes

USA Phone (888) 995-7767 – Asia Phone +65-6266-6193

E-Mail: sales@proplas.com Website: www.professionalplastics.com

Solvay Specialty Polymers Radel® R-7700 Polyphenylsulfone (PPSU)

Radel® R-7700 polyphenylsulfone sheet was developed specifically for aircraft interior applications. Through the use of a proprietary flame retardant package, this resin offers low heat release, low smoke generation and low toxic gas emissions, thereby complying with the FAA regulation 14CFR Part 25.853 Appendix F. In addition, it has excellent impact resistance and meets typical industry requirements for resistance to aerospace fluids, even under stress.

Radel R-7700 is available in pellets and sheet form. - Available in several custom colors

Radel R-7700 sheet can be formed into large complex geometries with relative ease on conventional thermoforming equipment. Please reference the Technical Bulletin Thermoforming Radel R-7700 Sheet for additional information.

Features: Detergent Resistant; Flame Retardant; Good Processing Stability; Good Toughness; Low Smoke Emission; Low Toxicity

Uses: Aerospace Applications; Aircraft Applications; Aircraft Interiors

The Federal Aviation Administration (FAA) has issued stringent regulations covering materials for use in commercial aircraft interiors. As shown in the Heat Release and Smoke Density data above, Radel R-7700 sheet complies with these regulations.

In addition, several airframe manufacturers have an additional requirement that, when these materials burn, any smoke generated contain no more than defined levels of specific toxic gases. Radel R-7700 polyphenylsulfone sheet typically exhibits levels of these gases that are much lower than the maximum levels allowed, see Toxic Gas Emission data above.

Information provide by Solvay Specialty Polymers

Physical Properties	Metric	English	Comments
Specific Gravity	1.34 - 1.42 g/cc	1.34 - 1.42 g/cc	
Water Absorption	0.350 %	0.350 %	24 hrs; ASTM D570
Mechanical Properties	Metric	English	Comments
Tensile Strength	58.6 MPa @Thickness 3.18 mm	8500 psi @Thickness 0.125 in	ASTM D638
Elongation at Break	15.0 % @Thickness 3.18 mm	15.0 % @Thickness 0.125 in	ASTM D638
Tensile Modulus	2.28 GPa @Thickness 3.18 mm	331 ksi @Thickness 0.125 in	ASTM D638
Flexural Modulus	2.34 GPa @Thickness 3.18 mm	339 ksi @Thickness 0.125 in	ASTM D790
Flexural Strength	100 MPa @Thickness 3.18 mm	14500 psi @Thickness 0.125 in	ASTM D790
Izod Impact, Unnotched	NB @Thickness 3.18 mm	NB @Thickness 0.125 in	ASTM D256
Gardner Impact	>= 31.1 J @Thickness 3.18 mm	>= 22.9 ft-lb @Thickness 0.125 in	ASTM D3029
Izod Impact, Notched	1.30 J/cm @Thickness 3.18 mm	2.44 ft-lb/in @Thickness 0.125 in	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	202 °C @Thickness 3.18 mm	396 °F @Thickness 0.125 in	Unannealed; ASTM D648
Descriptive Properties			
Additional Properties	Heat Release - Ohio State University(1.52 to 3.18 mm): < 20 kW·min/m ²		
	Heat Release - Ohio State University(1.52 to 3.18 mm): < 55 kW/m ²		
	Smoke Density - ASTM F814: 1.0 Ds		
	Smoke Density - ASTM F814: 3.0 Ds		
	Toxic Gas Emissions - < 1 ppm		
	Toxic Gas Emissions - < 1 ppm		
	Toxic Gas Emissions - < 1 ppm		
	Toxic Gas Emissions - < 2 ppm		
	Toxic Gas Emissions - 3 ppm		
	Toxic Gas Emissions - 40 ppm		
Agency Ratings	AAMA 303; FAA FAR 25.853a; OSU 55/55		
Appearance	Colors Available		
Forms	Pellets; Sheet		
Processing Method	Extrusion		
	Profile Extrusion		
	Sheet Extrusion		
	Thermoforming		
RoHS Compliance	Contact Manufacturer		

Note: All information is provided without liability based on manufacturer's typical test results. This data should not be considered as the sole basis for specification. Users should always test each material and write specifications on their actual test results in their specific application. Professional Plastics assumes no for any inaccuracy nor do we make any specific material recommendations.



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