

## Radel® R-7700 polyphenylsulfone

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.

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.

Sheets available in the following color:

- Gold: Radel® R-7700 BG8925

Pellets available in the following color:

- Grey: Radel® R-7700 GY734

### General

Material Status	• Commercial: Active	
Availability	• Africa & Middle East • Asia Pacific • Europe	• Latin America • North America
Features	• Detergent Resistant • Flame Retardant • Good Processing Stability	• Good Toughness • Low Smoke Emission • Low Toxicity
Uses	• Aerospace Applications • Aircraft Applications	• Aircraft Interiors
Agency Ratings	• AAMA 303 • FAA FAR 25.853a	• OSU 55/55
RoHS Compliance	• Contact Manufacturer	
Appearance	• Colors Available	
Forms	• Pellets	• Sheet
Processing Method	• Extrusion • Profile Extrusion	• Sheet Extrusion • Thermoforming

Physical	Typical Value Unit	Test method
Density / Specific Gravity	1.34 to 1.42	ASTM D792
Water Absorption (24 hr)	0.35 %	ASTM D570

Mechanical	Typical Value Unit	Test method
Tensile Modulus (3.18 mm)	2280 MPa	ASTM D638
Tensile Strength (3.18 mm)	58.6 MPa	ASTM D638
Tensile Elongation (Break, 3.18 mm)	15 %	ASTM D638
Flexural Modulus (3.18 mm)	2340 MPa	ASTM D790
Flexural Strength (3.18 mm)	100 MPa	ASTM D790

# Radel® R-7700

## polyphenylsulfone

Impact	Typical Value	Unit	Test method
Notched Izod Impact (3.18 mm)	130	J/m	ASTM D256
Unnotched Izod Impact (3.18 mm)	No Break		ASTM D4812
Gardner Impact (3.18 mm)	> 31.1	J	BS 7271

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed, 3.18 mm	202	°C	ASTM D648

Flammability	Typical Value	Unit	Test method
Heat Release			Ohio State University
2 minutes : 1.52 to 3.18 mm <sup>1</sup>	< 20	kW·min/m <sup>2</sup>	
Peak Rate : 1.52 to 3.18 mm <sup>2</sup>	< 55	kW/m <sup>2</sup>	
Smoke Density			ASTM F814
Maximum Specific Optical Density @ 4 min <sup>3</sup>	3.0	Ds	
Specific Optical Density @ 1.5 min <sup>4</sup>	1.0	Ds	
Toxic Gas Emissions			
Carbon Monoxide @ 4 min <sup>5</sup>	40	ppm	
Hydrogen Chloride <sup>6</sup>	< 1	ppm	
Hydrogen Cyanide @ 4 min <sup>7</sup>	< 2	ppm	
Hydrogen Fluoride <sup>8</sup>	< 1	ppm	
Nitrous Gases @ 4 min <sup>9</sup>	< 1	ppm	
Sulfur Oxides @ 4 min <sup>10</sup>	3	ppm	

### Additional Information

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.

# Radel® R-7700

## polyphenylsulfone

---

## Notes

---

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

<sup>1</sup> FAA Requirement, 14CFR PART 25.853 Appendix F: 65 KW-min/m<sup>2</sup>

<sup>2</sup> FAA Requirement, 14CFR PART 25.853 Appendix F: 65 KW/m<sup>2</sup>

<sup>3</sup> Flaming Mode; FAA/Industry Requirement: 200

<sup>4</sup> Flaming Mode

<sup>5</sup> Flaming Mode; BMS Spec Limit = 500 ppm; ATS 1000.001 Spec Limit = 3500 ppm

<sup>6</sup> Flaming Mode; BMS Spec Limit = 60 ppm; ATS 1000.001 Spec Limit = 500 ppm

<sup>7</sup> Flaming Mode; BMS Spec Limit = 60 ppm; ATS 1000.001 Spec Limit = 150 ppm

<sup>8</sup> Flaming Mode; BMS Spec Limit = 60 ppm; ATS 1000.001 Spec Limit = 50 ppm

<sup>9</sup> Flaming Mode; BMS Spec Limit = 60 ppm; ATS 1000.001 Spec Limit = 100 ppm

<sup>10</sup> Flaming Mode; BMS Spec Limit = 30 ppm; ATS 1000.001 Spec Limit = 100 ppm

---

## [www.syensqo.com](http://www.syensqo.com)

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Syensqo nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Syensqo's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Syensqo's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Syensqo or their respective owners.

© 2024 2023 Syensqo. All rights reserved.

