visionary plastics

FOR AIRCRAFT INTERIORS AND MECHANICAL APPLICATIONS

SOLVAY
Advanced Polymers

MORE PLASTICS WITH MORE PERFORMANCE™

version 1.4

See the Difference

Radel® Plastics for Today's Aircraft Interiors

Versatile, super-tough Radel polyphenylsulfone can be processed into a multitude of shapes to give you the look you want—without giving up any of the performance you need.

THE LOOK YOU WANT. THE PERFORMANCE YOU NEED.

Injection moldable grades are specially formulated for structural and decorative applications in commercial aircraft interiors. These high-performance polymers meet existing and emerging safety requirements for the industry and are in compliance with stringent FAA regulations requiring low heat release, low smoke generation and low toxic gas emissions.

FIRST-CLASS PERFORMANCE

Radel R-7300, R-7400 and R-7700 have delivered top performance to aircraft interior applications for over 15 years. These premium resins offer exceptional toughness and impact strength and are highly resistant to aggressive cleaning agents. They exceed OSU 65/65 and FAR 25.853 (a & b) regulations and provide molded-in color to eliminate painting. Injection molding and extrusion grades are available.

BREAKTHROUGH THIN-WALL TECHNOLOGY

Radel R-7159 offers a high melt flow with remarkable toughness that exceeds OSU 65/65 heat release requirements. Molders can produce large, thin-walled parts with thickness below 1.6 mm (0.063 in) without compromising impact strength.

LOWER COST SOLUTIONS

Radel R-7558 and R-7535 grades open the door to more cost-sensitive applications that require toughness and durability, delivering years of service life in high-contact passenger areas. They exceed OSU 65/65 heat release requirements and are well-suited for interior applications.

Typical Properties		RADEL R 7300, 7400	RADEL R 7700*	RADEL R 7159 NT50	RADEL R 5000, 5100	RADEL R 7558, 7535
		Premium	Premium	Thin Walls	Toughness	Lower Cost
Processibility Flow at High Shear Rates		High Flow	Low Flow	High Flow	Medium Flow	Medium Flow
Painted or Non-Painted Applications		Non-painted	Both	Best for Painted	Both	Both
Tensile Strength	**MPa**	75.8	71.7	68.9	69.6	72.5
	kpsi	11.0	10.4	10.0	10.1	10.5
Izod Impact, Notched	**J/m**	80	133	585	690	160
	ft-lb/in	1.5	2.5	11.0	13.0	3.0
OSU Peak Heat Release FAR 25.853(d)		Pass	Pass	Pass	—	Pass
NBA Smoke Density FAR 25.853(d)		Pass	Pass	Pass	Pass	Pass
60-Second Vertical Burn FAR 25.853(a)		Pass	Pass	Pass	Pass	Pass
Toxic Gas Emission ABD 0031 & BSS 7239		Pass	Pass	Pass	Pass	Pass

*Radel R-7700 is available in sheet or resin form.

THERMOFORMING

BOEING 777 FLIGHT DECK DRIP TRAY

The high melt strength of Radel® allows you to thermoform a full sheet into large parts with deep draws without excessive thinning or breaking.

INJECTION MOLDING

PMA COMPONENT

Cost-effective PMA (Part Manufacturer Approval) parts can offer economic solutions.

BOEING 777 PASSENGER SERVICE UNIT

High-flow Radel grades allow you to make thin-wall PSUs for cosmetic applications.

BOEING VIDEO SHROUD

High-visibility monitor housings may avoid costly secondary painting operations.

EXTRUSION

EXTRUDED PROFILES FOR INTERIOR MOLDING

Customizable extruded profiles offer tailor-made solutions for aircraft interiors.

EXTRUDED TUBING FOR BEHIND THE WALL

Radel can be extruded into flexible or structural tubing for behind-the-wall applications.

REPLACE METALS BEHIND-THE-WALL

Torlon polyamide-imide provides unstoppable performance in some of the most severe environments—including high-temperature, high-moisture and high-wear conditions that are too severe for other injection moldable thermoplastics. Torlon offers extraordinary strength and stiffness at temperatures up to 500°F (260°C) and very low creep, for replacing metals such as aluminum.

VARIOUS AIRCRAFT PARTS

Torlon components deliver exceptional performance in aggressive environments.

TORLON PAI Typical Properties	ASTM Methods	Units	TORLON 4203L	TORLON 5030	TORLON 7130
Heat Distortion Temperature @ 264 Psi	D648	℃ ℉	278 532	282 539	282 540
CLTE	D593	ppm/℃ ppm/℉	30 17	16 9	9 5
Tensile Strength	D1708	MPa kpsi	192 27.8	205 29.7	203 29.4
Tensile Elongation	D1708	%	15	7	6
Flexual Strength	D790	MPa kpsi	241 34.9	333 48.3	350 50.7
Flexural Modulus	D790	GPa kpsi	5.0 730	11.7 1700	19.9 2880

Visit www.solvayadvancedpolymers.com to learn more.

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