



# Radel<sup>®</sup> R-7535

## polyphenylsulfone

Radel R-7535 polyphenylsulfone resin was developed specifically for aircraft interior applications. This product complies with the FAA regulation 14CFR Part 25 Appendix F, offering vertical burn resistance, very low smoke generation and, through the use of proprietary additives, low heat release values by the Ohio State University (OSU) rate of heat release method. IT also generates low flaming-mode toxic gas emissions. This

resin offers reliable toughness and good resistance to most fluids found in the aviation industry, as well as exceptional hydrolytic stability and high heat deflection temperature. Parts can be fabricated from Radel R-7535 using conventional injection molding equipment. Radel R-7535 is formulated for darker, integrally colored applications where there is low UV exposure. Radel R-7535 was formerly known as PXM-98099.

### General

|                   |   |
|-------------------|---|
| Material Status   | • Commercial: Active  |
| Availability      | • Asia Pacific • Europe • North America   |
| Features          | • Good Toughness • Low Smoke Emission<br>• Hydrolytically Stable • Low Toxicity |
| Uses              | • Aerospace Applications • Aircraft Applications • Aircraft Interiors           |
| Agency Ratings    | • FAA 14 CFR Part 25 App. F   |
| RoHS Compliance   | • Contact Manufacturer  |
| Forms             | • Pellets   |
| Processing Method | • Injection Molding   |

### Physical

|   | Typical Value | Unit              | Test Method |
|---|---------------|-------------------|-------------|
| Specific Gravity                          | 1.35          | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (380°C/2.16 kg) | 18            | g/10 min          | ASTM D1238  |
| Molding Shrinkage - Flow                  | 0.60 to 0.80  | %                 | ASTM D955   |
| Water Absorption (24 hr)                  | 0.36          | %                 | ASTM D570   |

### Mechanical

|                            | Typical Value | Unit | Test Method |
|----------------------------|---------------|------|-------------|
| Tensile Modulus            | 2340          | MPa  | ASTM D638   |
| Tensile Strength           | 72.4          | MPa  | ASTM D638   |
| Tensile Elongation (Break) | 40            | %    | ASTM D638   |
| Flexural Modulus           | 2410          | MPa  | ASTM D790   |
| Flexural Strength          | 100           | MPa  | ASTM D790   |

### Impact

|                     | Typical Value | Unit | Test Method |
|---------------------|---------------|------|-------------|
| Notched Izod Impact | 160           | J/m  | ASTM D256   |

### Thermal

|  | Typical Value | Unit | Test Method |
|--|---------------|------|-------------|
| Deflection Temperature Under Load<br>1.8 MPa, Unannealed | 196           | °C   | ASTM D648   |

### Flammability

|   | Typical Value | Unit                  | Test Method  |
|---|---------------|-----------------------|--------------|
| OSU Peak Heat Release Rate <sup>1</sup>     | < 55          | kW/m <sup>2</sup>     | FAR 25, AppF |
| OSU Total Heat Release - 2 min <sup>1</sup> | < 20          | kW·min/m <sup>2</sup> | FAR 25, AppF |
| Smoke Density - Dmax @ 4 min <sup>1</sup>   | < 5           | Ds                    | FAR 25, AppF |
| Vertical Burn - 60 second <sup>1</sup>      |               |                       | FAR 25, AppF |
| Drip Burn Time                              | No Drip       | sec                   |              |
| Flame Time                                  | 0.00          | sec                   |              |

| Flammability | Typical Value | Unit | Test Method |
|--------------|---------------|------|-------------|
| Length       | < 7.62        | cm   |             |

  

| Injection               | Typical Value      | Unit |
|-------------------------|--------------------|------|
| Drying Temperature      | 166 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   |
| Screw Compression Ratio | 2.0:1.0 to 3.0:1.0 |      |

**Notes**

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

<sup>1</sup> Flammability test results are not intended to reflect hazards presented by these or any other material under actual fire conditions.

For assistance with an emergency involving products of Solvay Advanced Polymers, such as a spill, leak, fire, or explosion, call day or night:

#### Emergency Health Information

USA +1.800.621.4590

International +1.770.772.8577

#### Emergency Spill Information

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China +86.10.5100.3039

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For additional product information, technical assistance, and Material Safety Data Sheets (MSDS), call:

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Property values for individual batches will vary within specification limits. Unless otherwise noted, values shown are typical for uncolored resin; colorants may alter values. For Preliminary Data Sheets, values are typical of limited production and specifications are not yet established.

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