

AvaSpire® AV-848

polyaryletherketone

AvaSpire® AV-848 is a high-temperature, polyaryletherketone (PAEK) that offers several key performance advantages over comparable grades of PEEK above 150°C, including better dimensional

stability, lower CLTE from 150°C to 240°C, and lower modulus for greater flexibility at room temperature.

- Natural: AvaSpire® AV-848 NT

General

| | | |
|-------------------|---|---|
| Material Status | • Commercial: Active | |
| Availability | <ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe | <ul style="list-style-type: none"> • Latin America • North America |
| Features | <ul style="list-style-type: none"> • Chemical Resistant • Ductile • Fatigue Resistant • Flame Retardant | <ul style="list-style-type: none"> • Good Dimensional Stability • Good Impact Resistance • High Heat Resistance |
| Uses | • Oil/Gas Applications | • Seals |
| RoHS Compliance | • Contact Manufacturer | |
| Appearance | • Natural Color | |
| Forms | • Pellets | |
| Processing Method | <ul style="list-style-type: none"> • Extrusion Blow Molding • Fiber (Spinning) Extrusion • Film Extrusion • Injection Blow Molding • Injection Molding | <ul style="list-style-type: none"> • Machining • Profile Extrusion • Thermoforming • Wire & Cable Extrusion |

| Physical | Typical Value | Unit | Test method |
|----------------------------|---------------|------|-------------|
| Density / Specific Gravity | 1.32 | | ASTM D792 |
| Water Absorption (24 hr) | 0.50 | % | ASTM D570 |

| Mechanical | Typical Value | Unit | Test method |
|-------------------------------|---------------|------|-------------|
| Tensile Modulus ¹ | 3100 | MPa | ASTM D638 |
| Tensile Strength ¹ | 94.0 | MPa | ASTM D638 |
| Tensile Elongation | | | ASTM D638 |
| Yield ¹ | 6.7 | % | |
| Break ² | 75 | % | |
| Break ¹ | 35 | % | |
| Flexural Modulus | 3300 | MPa | ASTM D790 |
| Flexural Strength | 134 | MPa | ASTM D790 |
| Compressive Strength | 118 | MPa | ASTM D695 |
| Shear Strength | 82.0 | MPa | ASTM D732 |

AvaSpire® AV-848

polyaryletherketone

| Impact | Typical Value | Unit | Test method |
|-----------------------|---------------|------|-------------|
| Notched Izod Impact | 75 | J/m | ASTM D256 |
| Unnotched Izod Impact | No Break | | ASTM D4812 |

| Thermal | Typical Value | Unit | Test method |
|--|---------------|---------|-------------|
| Deflection Temperature Under Load 1.8 MPa, Annealed | 252 | °C | ASTM D648 |
| Glass Transition Temperature | 158 | °C | ASTM D3418 |
| Peak Melting Temperature | 340 | °C | ASTM D3418 |
| Specific Heat | | | DSC |
| 50°C | 1650 | J/kg/°C | |
| 200°C | 1660 | J/kg/°C | |
| Thermal Conductivity | 0.22 | W/m/K | ASTM E1530 |

| Electrical | Typical Value | Unit | Test method |
|---------------------------|---------------|-------|-------------|
| Dielectric Strength | | | ASTM D149 |
| 0.0500 mm, Amorphous Film | 180 | kV/mm | |
| Dielectric Constant | | | ASTM D150 |
| 60 Hz | 3.21 | | |
| 1 kHz | 3.23 | | |
| 1 MHz | 3.18 | | |
| Dissipation Factor | | | ASTM D150 |
| 60 Hz | 2.0E-3 | | |
| 1 kHz | 1.0E-3 | | |
| 1 MHz | 6.0E-3 | | |

| Fill Analysis | Typical Value | Unit | Test method |
|-----------------------------|---------------|------|-------------|
| Melt Viscosity ³ | 500 | Pa·s | ASTM D3835 |

| Injection | Typical Value | Unit |
|-------------------------|--------------------|------|
| Drying Temperature | 149 | °C |
| Drying Time | 4.0 | hr |
| Rear Temperature | 366 | °C |
| Middle Temperature | 371 | °C |
| Front Temperature | 377 | °C |
| Nozzle Temperature | 382 | °C |
| Processing (Melt) Temp | 382 to 404 | °C |
| Mold Temperature | 166 to 193 | °C |
| Injection Rate | Fast | |
| Screw Compression Ratio | 2.0:1.0 to 3.0:1.0 | |

Injection Notes

Back Pressure: Minimum

AvaSpire® AV-848

polyaryletherketone

Notes

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

¹ 50 mm/min

² 5.1 mm/min

³ @400°C/1000 sec⁻¹

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.

