

Ryton® R-4-240NA

Syensqo - Polyphenylene Sulfide

General Information

Product Description

Ryton® R-4-240NA and R-4-240BL 40% glass fiber reinforced polyphenylene sulfide compounds provide enhanced mechanical strength and toughness compared to other polyphenylene sulfide compounds.

General

| | |
|------------------------|-------------------------------------|
| Filler / Reinforcement | • Glass Fiber, 40% Filler by Weight |
| Features | • Good Strength • Good Toughness |
| Uses | • Automotive Applications |
| RoHS Compliance | • RoHS Compliant |
| Appearance | • Natural Color |
| Forms | • Pellets |
| Processing Method | • Injection Molding |

Properties ¹

| Physical | Nominal Value | Unit | Test Method |
|--------------------------------------------|---------------|-----------------------|-------------|
| Density / Specific Gravity | 1.66 | | ASTM D792 |
| Molding Shrinkage - Flow (0.126 in) | 2.0E-3 | in/in | |
| Molding Shrinkage - Across Flow (0.126 in) | 5.0E-3 | in/in | |
| Water Absorption (24 hr, 73°F) | 0.020 | % | ASTM D570 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Strength | 25000 | psi | ASTM D638 |
| Tensile Stress | 26800 | psi | ISO 527-2 |
| Tensile Elongation (Break) | 1.9 | % | ASTM D638 |
| Tensile Strain (Break) | 2.0 | % | ISO 527-2 |
| Flexural Modulus | 2.00E+6 | psi | ASTM D790 |
| Flexural Modulus | 2.03E+6 | psi | ISO 178 |
| Flexural Strength | 38000 | psi | ASTM D790 |
| Flexural Stress | 39900 | psi | ISO 178 |
| Compressive Strength | 38400 | psi | ASTM D695 |
| Poisson's Ratio | 0.39 | | ISO 527 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact (0.125 in) | 1.7 | ft·lb/in | ASTM D256 |
| Notched Izod Impact Strength | 4.8 | ft·lb/in ² | ISO 180/A |
| Unnotched Izod Impact (0.125 in) | 15 | ft·lb/in | ASTM D4812 |
| Unnotched Izod Impact Strength | 21 | ft·lb/in ² | ISO 180 |
| Hardness | Nominal Value | Unit | Test Method |
| Rockwell Hardness | | | ASTM D785 |
| M-Scale | | 99 | |
| R-Scale | | 120 | |

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| Thermal | Nominal Value | Unit | Test Method |
|----------------------------------------------------------|------------------|----------------------|-------------|
| Deflection Temperature Under Load 264 psi, Unannealed | 509 | °F | ASTM D648 |
| CLTE - Flow -58 to 122°F 212 to 392°F | 1.1E-5 8.3E-6 | in/in/°F in/in/°F | ASTM E831 |
| CLTE - Transverse -58 to 122°F 212 to 392°F | 2.2E-5 5.0E-5 | in/in/°F in/in/°F | ASTM E831 |
| Thermal Conductivity | 2.2 | Btu·in/hr/ft²/°F | |
| UL Temperature Rating | 392 to 428 | °F | UL 746B |
| Electrical | Nominal Value | Unit | Test Method |
| Surface Resistivity | 1.0E+16 | ohms | ASTM D257 |
| Volume Resistivity | 1.0E+16 | ohms·cm | ASTM D257 |
| Dielectric Strength | 560 | V/mil | ASTM D149 |
| Dielectric Constant 77°F, 1 kHz 77°F, 1 MHz | 3.90 4.00 | | ASTM D150 |
| Dissipation Factor 77°F, 1 kHz 77°F, 1 MHz | 2.0E-3 2.0E-3 | | ASTM D150 |
| Arc Resistance | 130 | sec | ASTM D495 |
| Comparative Tracking Index (CTI) | 175 | V | IEC 60112 |
| Comparative Tracking Index (CTI) | PLC 4 | | UL 746A |
| Insulation Resistance ² (194°F) | 1.0E+12 | ohms | |
| Flammability | Nominal Value | Unit | Test Method |
| Flame Rating (0.06 in) | V-0 5VA | | UL 94 |
| Oxygen Index | 54 | % | ASTM D2863 |

Notes

¹ Typical properties: these are not to be construed as specifications.

² 95%RH, 48 hr