STATIC CONTROL PLASTICS

# SEMITRON® ESD 420/ESD 420V

Static Dissipative PolyEtherImide (PEI) / Static Dissipative ULTEM

*** SEMITRON® is the registered trademark of*

**QUADRANT**

## PRODUCT CAPABILITIES:

· Sheet : 3/8" - 2"
· Rod: 3/8" - 1.25" (custom)

## PRODUCT COLORS:

● Black

## ADVANTAGES:

· Thermally Stable To Temperatures Of 420°F (215°C)
· High Mechanical Strength
· Easily Machined To Tight Tolerances
· UL94 V-O Rated

## APPLICATIONS INCLUDE:

· Disk Drive Assembly Fixtures
· Semiconductor/Electronic Components
· Telecommunication Hardware
· Automative Equipment

| GENERAL PROPERTIES | ASTM or UL Test | SEMITRON® ESD420 Typical Values | SEMITRON® ESD420V Typical Values |
|---|---|---|---|
| **PHYSICAL** | | | |
| Specific Gravity (g/cm$^3$) | D792 | 1.34 | 1.51 |
| Water Absorption, 24 hrs (%) | D570 | 0.5 | 0.21 |
| **MECHANICAL** | | | |
| Tensile Strength (psi) | D638 | 11,500 | 10,000 |
| Tensile Modulus (psi) | D638 | 650,000 | 910,000 |
| Tensile Elongation at Yield (%) | D638 | 2 | 1.5 |
| Flexural Strength (psi) | D790 | 14,500 | 15,800 |
| Flexural Modulus (psi) | D790 | 650,000 | 910,000 |
| Compressive Strength (psi) | D695 | 23,800 | 22,300 |
| Compressive Modulus (psi) | D695 | 370,000 | 545,000 |
| Hardness, Rockwell | D785 | M118 | M110 |
| IZOD Notched Impact (ft-lb/in) | D256 | 1 | 0.5 |
| **THERMAL** | | | |
| Coeff. of Thermal Expansion (x 10$^{-5}$ in./in./°F) | E831 | 1.95 | 1.5 |
| Heat Deflection Temp (°F / °C) @ 264 psi | D648 | 410 / 210 | 420 / 216 |
| Glass Transition Temp (°F / °C) | D3418 | 410 / 210 | 420 / 216 |
| Max Operating Temp (°F / °C) | – | 340 / 171 | 340 / 171 |
| Thermal Conductivity (BTU-in/ft$^2$-hr-°F) | F433 | 1.51 | – |
| Flammability Rating | UL-94 | V-O | V-O |
| **ELECTRICAL** | | | |
| Dielectric Strength (V/mil) short time, @ 1/8" thk | D149 | – | – |
| Dissipation Factor at 1 MHz | D150 | – | – |
| Surface Resistivity (ohm/sq) at 50% RH | EOS/ESD S11.11 | $10^6$ - $10^9$ | $10^6$ - $10^9$ |

*NOTE: The information contained here in is typical values intended for reference only. They should NOT be used as a basis for design specifications or quality control.*