



# Stat-Tech™ AS-15CF/000

## Acrylonitrile Butadiene Styrene

### Key Characteristics

#### Product Description

Stat-Tech™ Electrically Conductive Compounds are specifically engineered to provide anti-static, ESD and RFI/EMI shielding performance for critical electronic equipment applications. These compounds combine the performance of select engineering resins with reinforcing additives such as carbon powder, carbon fiber, nickel-coated carbon fiber and stainless steel fiber, for low-to-high levels of conductivity depending upon application requirements.

#### General

|                        |  |  |                               |
|------------------------|--|--|-------------------------------|
| Material Status        | • Commercial: Active   |  |                               |
| Regional Availability  | • Africa & Middle East<br>• Asia Pacific                       | • Europe<br>• North America                                  | • South America               |
| Filler / Reinforcement | • Carbon Fiber Reinforcement, 15% Filler by Weight             |  |                               |
| Features               | • Electrically Conductive<br>• Electromagnetic Shielding (EMI) | • ESD Protection<br>• Radio Frequency Shielding (RFI)        |                               |
| Uses                   | • Aerospace Applications<br>• Automotive Under the Hood        | • Business Equipment<br>• Electrical/Electronic Applications | • Housings<br>• Printer Parts |
| RoHS Compliance        | • RoHS Compliant   |  |                               |
| Forms                  | • Pellets  |  |                               |
| Processing Method      | • Injection Molding  |  |                               |

### Technical Properties <sup>1</sup>

| Physical  | Typical Value (English) | Typical Value (SI)     | Test Method |
|---|-------------------------|------------------------|-------------|
| Specific Gravity                                  | 1.11                    | 1.11 g/cm <sup>3</sup> | ASTM D792   |
| Molding Shrinkage - Flow                          | 0.0015 to 0.0020 in/in  | 0.15 to 0.20 %         | ASTM D955   |
| Water Absorption (24 hr, 0.125 in (3.18 mm))      | 0.15 %                  | 0.15 %                 | ASTM D570   |
| Mechanical  | Typical Value (English) | Typical Value (SI)     | Test Method |
| Tensile Modulus <sup>2</sup>                      | 575000 psi              | 3960 MPa               | ASTM D638   |
| Tensile Strength <sup>2</sup> (Yield)             | 14800 psi               | 102 MPa                | ASTM D638   |
| Tensile Elongation <sup>2</sup> (Break)           | 2.5 to 4.0 %            | 2.5 to 4.0 %           | ASTM D638   |
| Flexural Modulus                                  | 1.10E+6 psi             | 7580 MPa               | ASTM D790   |
| Flexural Strength                                 | 20500 psi               | 141 MPa                | ASTM D790   |
| Impact  | Typical Value (English) | Typical Value (SI)     | Test Method |
| Notched Izod Impact                               |                         |                        | ASTM D256A  |
| 73°F (23°C), 0.250 in (6.35 mm), Injection Molded | 1.4 ft-lb/in            | 76 J/m                 |             |
| Thermal   | Typical Value (English) | Typical Value (SI)     | Test Method |
| Deflection Temperature Under Load                 |                         |                        | ASTM D648   |
| 66 psi (0.45 MPa), Unannealed, 0.250 in (6.35 mm) | 185 °F                  | 85.0 °C                |             |
| Deflection Temperature Under Load                 |                         |                        | ASTM D648   |
| 264 psi (1.8 MPa), Unannealed, 0.250 in (6.35 mm) | 167 °F                  | 75.0 °C                |             |
| Electrical  | Typical Value (English) | Typical Value (SI)     | Test Method |
| Surface Resistivity                               | 1.0E+2 to 5.0E+4 ohm    | 1.0E+2 to 5.0E+4 ohm   | ASTM D257   |

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| Electrical         | Typical Value (English) | Typical Value (SI)      | Test Method |
|--------------------|-------------------------|-------------------------|-------------|
| Volume Resistivity | 1.0E+2 to 5.0E+4 ohm-cm | 1.0E+2 to 5.0E+4 ohm-cm | ASTM D257   |
| Flammability       | Typical Value (English) | Typical Value (SI)      | Test Method |
| Flame Rating       | HB                      | HB                      | UL 94       |

### Processing Information

| Injection              | Typical Value (English) | Typical Value (SI) |
|------------------------|-------------------------|--------------------|
| Drying Temperature     | 176 to 185 °F           | 80.0 to 85.0 °C    |
| Drying Time            | 2.0 hr                  | 2.0 hr             |
| Processing (Melt) Temp | 430 to 480 °F           | 221 to 249 °C      |
| Mold Temperature       | 149 to 185 °F           | 65.0 to 85.0 °C    |

### Notes

<sup>1</sup> Typical values are not to be construed as specifications.

<sup>2</sup> Type I, 0.20 in/min (5.1 mm/min)

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