



## Edgetek™ AS-20GF/000

### Acrylonitrile Butadiene Styrene

#### Key Characteristics

##### Product Description

The Edgetek® Engineering Thermoplastic Compounds portfolio covers a broad range of standard and custom-formulated high performance materials. This portfolio includes high-temperature materials for elevated service temperature environments, high-modulus / structural materials for load-bearing and high-strength applications and flame-retardant products. These compounds are based on select engineering thermoplastic resins that are compounded with reinforcing additives such as carbon fiber, glass fiber and glass beads.

##### General

|                        |                                                                                |
|------------------------|--------------------------------------------------------------------------------|
| Material Status        | • Commercial: Active                                                           |
| Regional Availability  | • Africa & Middle East • Europe • Asia Pacific • Latin America • North America |
| Filler / Reinforcement | • Glass Fiber, 20% Filler by Weight                                            |
| RoHS Compliance        | • RoHS Compliant                                                               |
| Forms                  | • Pellets                                                                      |

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

| Physical                                          | Typical Value (English) | Typical Value (SI) | Test Method |
|---------------------------------------------------|-------------------------|--------------------|-------------|
| Specific Gravity                                  | 1.18                    | 1.18               | ASTM D792   |
| Molding Shrinkage - Flow                          | 2.0E-3 to 3.0E-3 in/in  | 0.20 to 0.30 %     | ASTM D955   |
| Water Absorption (24 hr)                          | 0.050 %                 | 0.050 %            | ASTM D570   |
| Mechanical                                        | Typical Value (English) | Typical Value (SI) | Test Method |
| Tensile Strength <sup>2</sup> (Break)             | 10300 psi               | 70.7 MPa           | ASTM D638   |
| Tensile Elongation <sup>2</sup> (Break)           | 6.0 %                   | 6.0 %              | ASTM D638   |
| Flexural Modulus                                  | 500000 psi              | 3450 MPa           | ASTM D790   |
| Flexural Strength                                 | 17000 psi               | 117 MPa            | ASTM D790   |
| Impact                                            | Typical Value (English) | Typical Value (SI) | Test Method |
| Notched Izod Impact                               |                         |                    |             |
| 73°F (23°C), 0.125 in (3.18 mm)                   | 1.1 ft-lb/in            | 61 J/m             | ASTM D256   |
| 73°F (23°C), 0.250 in (6.35 mm), Injection Molded | 1.1 ft-lb/in            | 59 J/m             | ASTM D256A  |
| Hardness                                          | Typical Value (English) | Typical Value (SI) | Test Method |
| Rockwell Hardness (R-Scale)                       | 107                     | 107                | ASTM D785   |
| Thermal                                           | Typical Value (English) | Typical Value (SI) | Test Method |
| Deflection Temperature Under Load                 |                         |                    | ASTM D648   |
| 66 psi (0.45 MPa), Annealed, 0.125 in (3.18 mm)   | 210 °F                  | 98.9 °C            |             |
| Deflection Temperature Under Load                 |                         |                    | ASTM D648   |
| 264 psi (1.8 MPa), Annealed, 0.125 in (3.18 mm)   | 196 °F                  | 91.1 °C            |             |
| CLTE - Flow                                       | 2.0E-5 in/in/°F         | 3.6E-5 cm/cm/°C    | ASTM D696   |
| Thermal Conductivity                              | 1.4 Btu·in/hr/ft²/°F    | 0.20 W/m/K         | ASTM C177   |
| Electrical                                        | Typical Value (English) | Typical Value (SI) | Test Method |
| Surface Resistivity                               | 1.0E+14 ohms            | 1.0E+14 ohms       | ASTM D257   |
| Volume Resistivity                                | 1.0E+14 ohms·cm         | 1.0E+14 ohms·cm    | ASTM D257   |
| Flammability                                      | Typical Value (English) | Typical Value (SI) | Test Method |
| Flame Rating                                      | HB                      | HB                 | UL 94       |

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## 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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