# 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<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Filler / Reinforcement | • Glass Fiber, 20% Filler by Weight | | |
| RoHS Compliance | • RoHS Compliant | | |
| Forms | • Pellets | | |

### Technical Properties [1]

| 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 [2] (Break) | 10300 psi | 70.7 MPa | ASTM D638 |
| Tensile Elongation [2] (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 |

## 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

[1] Typical values are not to be construed as specifications.

[2] Type I, 0.20 in/min (5.1 mm/min)

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