

## Vydyne® STAT A 20 FC BK

Ascend Performance Materials Operations LLC - Polyamide 66

### General Information

#### Product Description

Vydyne STAT A 20 FC BK is standard flow, 20% carbon-fiber reinforced PA66 resin. This product shows high stiffness and strength. It is also electrically conductive.

#### General

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Material Status        | • Commercial: Active                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Availability           | • Asia Pacific • Europe • North America                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Filler / Reinforcement | • Carbon Fiber, 20% Filler by Weight                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Additive               | • Lubricant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Features               | <ul style="list-style-type: none"> <li>• Bromine Free</li> <li>• Chemical Resistant</li> <li>• General Purpose</li> <li>• Good Dimensional Stability</li> <li>• Good Electrical Properties</li> <li>• Good Processability</li> <li>• Good Rigidity</li> <li>• Good Stiffness</li> <li>• Good Strength</li> <li>• Good Tensile Strength</li> <li>• Halogen Free</li> <li>• Homopolymer</li> <li>• Lubricated</li> <li>• Medium Viscosity</li> <li>• Non-Corrosive</li> <li>• Oil Resistant</li> </ul> |
| Agency Ratings         | • ISO 1043 PA66 20CF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Appearance             | • Black                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Forms                  | • Pellets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Processing Method      | • Injection Molding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Resin ID               | • PA66-CF20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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

| Physical                                                | Nominal Value | Unit                  | Test Method |
|---------------------------------------------------------|---------------|-----------------------|-------------|
| Density                                                 | 1.22          | g/cm <sup>3</sup>     | ISO 1183    |
| Molding Shrinkage                                       |               |                       | ISO 294-4   |
| Across Flow : 73°F, 0.0787 in                           | 0.40          | %                     |             |
| Flow : 73°F, 0.0787 in                                  | 0.20          | %                     |             |
| Water Absorption (Equilibrium, 73°F, 50% RH)            | 2.1           | %                     | ISO 62      |
| Mechanical                                              | Nominal Value | Unit                  | Test Method |
| Tensile Modulus (73°F)                                  | 1.89E+6       | psi                   | ISO 527-1   |
| Tensile Stress (Break, 73°F)                            | 23200         | psi                   | ISO 527-2   |
| Tensile Strain (Break, 73°F)                            | 2.0           | %                     | ISO 527-2   |
| Impact                                                  | Nominal Value | Unit                  | Test Method |
| Notched Izod Impact Strength (73°F)                     | 3.8           | ft·lb/in <sup>2</sup> | ISO 180/1A  |
| Thermal                                                 | Nominal Value | Unit                  | Test Method |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 491           | °F                    | ISO 75-2/B  |
| Deflection Temperature Under Load (264 psi, Unannealed) | 473           | °F                    | ISO 75-2/A  |
| Melting Temperature                                     | 500           | °F                    | ISO 11357-3 |
| Electrical                                              | Nominal Value | Unit                  | Test Method |
| Volume Resistivity (0.0394 in)                          | 1.0E+3        | ohms·cm               | IEC 60093   |
| Flammability                                            | Nominal Value | Unit                  | Test Method |
| Flame Rating                                            |               |                       | UL 94       |
| 0.031 in                                                | HB            |                       |             |
| 0.06 in                                                 | HB            |                       |             |
| 0.13 in                                                 | HB            |                       |             |

### Processing Information

| Injection          | Nominal Value | Unit |
|--------------------|---------------|------|
| Drying Temperature | 176 to 230    | °F   |
| Drying Time        | 3.0 to 4.0    | hr   |



|                        |               |
|------------------------|---------------|
| Rear Temperature       | 518 to 563 °F |
| Middle Temperature     | 527 to 563 °F |
| Front Temperature      | 536 to 572 °F |
| Nozzle Temperature     | 536 to 572 °F |
| Processing (Melt) Temp | 536 to 563 °F |
| Mold Temperature       | 158 to 194 °F |

Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

