

## Technical Data Sheet

### *Polyfort* TPP40AC45BK-BKBLK



Polypropylene, Unspecified (PP, Unspecified)

#### Product Description

Meets/Exceeds Ford Engineering Specification ESA-M4D166-A. Primary end use is for fan shrouds and battery covers.

|                             |                              |
|-----------------------------|------------------------------|
| <b>Processing Method</b>    | Injection Molding            |
| <b>Attribute</b>            | Heat Stabilized; Homopolymer |
| <b>Forms</b>                | Pellets                      |
| <b>Appearance</b>           | Black                        |
| <b>Additive</b>             | Heat Stabilizer              |
| <b>Filler/Reinforcement</b> | Talc, 40%                    |

| Typical Properties                                     | Nominal Value | Units             | Test Method |
|--------------------------------------------------------|---------------|-------------------|-------------|
| <b>Physical</b>                                        |               |                   |             |
| Melt Flow Rate, (230 °C/2.16 kg)                       | 5.6           | g/10 min          | ASTM D1238  |
| Density - Specific Gravity                             | 1.28          | g/cm <sup>3</sup> | ASTM D792   |
| <b>Mechanical</b>                                      |               |                   |             |
| Tensile Strength, (23 °C)                              | 31.7          | MPa               | ASTM D638   |
| Tensile Elongation at Yield                            | 4             | %                 | ASTM D638   |
| Flexural Strength at Yield                             | 52.7          | MPa               | ASTM D790   |
| Flexural Modulus                                       | 3800          | MPa               | ASTM D790   |
| <b>Impact</b>                                          |               |                   |             |
| Unnotched Izod Impact, (23 °C)                         | 240           | J/m               | ASTM D4812  |
| Notched Izod Impact, (23 °C)                           | 27            | J/m               | ASTM D256   |
| <b>Hardness</b>                                        |               |                   |             |
| Durometer Hardness, (Shore D)                          | 74            |                   | ASTM D2240  |
| <b>Thermal</b>                                         |               |                   |             |
| Deflection Temperature Under Load Unannealed (264 psi) | 80            | °C                | ASTM D648   |
| Deflection Temperature Under Load Unannealed (66 psi)  | 131           | °C                | ASTM D648   |

| Injection Parameters    | Nominal Value  | Units              |
|-------------------------|----------------|--------------------|
| Drying Time             | 2.0 to 3.0     | hr                 |
| Drying Temperature      | 80             | °C                 |
| Clamp Tonnage           | 2.8 to 4.1     | kN/cm <sup>2</sup> |
| Nozzle Temperature      | 216 to 218     | °C                 |
| Screw Speed             | 100 to 150     | rpm                |
| Processing (Melt) Temp  | 220 to 260     | °C                 |
| Front Temperature       | 213 to 216     | °C                 |
| Screw L/D Ratio         | 20.0-1.0       |                    |
| Screw Compression Ratio | 2.0-1.0        |                    |
| Middle Temperature      | 210 to 213     | °C                 |
| Rear Temperature        | 204 to 210     | °C                 |
| Back Pressure           | 0.138 to 0.345 | MPa                |
| Mold Temperature        | 30 to 60       | °C                 |