



**Product Data Sheet &  
General Processing Conditions**

**VLF 81009  
Polybutylene Terephthalate (PBT)  
Long Glass Fiber  
Preliminary Datasheet**

**PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS**

| PERMANENCE                                   | English               | SI Metric     | ASTM TEST |
|----------------------------------------------|-----------------------|---------------|-----------|
| Primary Additive                             | 50 %                  | 50 %          |           |
| Specific Gravity                             | 1.72                  | 1.72          | D 792     |
| Molding Shrinkage<br>1/8 in (3.2 mm) section | 0.0010 - 0.0030 in/in | 0.10 - 0.30 % | D 955     |

**MECHANICAL**

|                                                          |                            |           |        |
|----------------------------------------------------------|----------------------------|-----------|--------|
| Impact Strength, Izod<br>notched 1/8 in (3.2 mm) section | 5.0 ft-lbs/in              | 267 J/m   | D 256  |
| unnotched 1/8 in (3.2 mm) section                        | 10.0 ft-lbs/in             | 534 J/m   | D 4812 |
| Tensile Strength                                         | 16725 psi                  | 115 MPa   | D 638  |
| Tensile Elongation                                       | 1.0 %                      | 1.0 %     | D 638  |
| Tensile Modulus                                          | 2.35 x 10 <sup>6</sup> psi | 16203 MPa | D 638  |
| Flexural Strength                                        | 26100 psi                  | 180 MPa   | D 790  |
| Flexural Modulus                                         | 2.14 x 10 <sup>6</sup> psi | 14755 MPa | D 790  |

**THERMAL**

|                                                |              |             |       |
|------------------------------------------------|--------------|-------------|-------|
| Deflection Temperature<br>@ 264 psi (1820 kPa) | 400 °F       | 204 °C      | D 648 |
| Ignition Resistance*<br>Flammability**         | HB @ 1/16 in | HB @ 1.5 mm | D 635 |

**PROPERTY NOTES**

Data herein is typical and not to be construed as specifications.

Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

\* This rating is not intended to reflect hazards of this or any other material under actual fire conditions.

\*\* Values per RTP Company testing.

**GENERAL PROCESSING FOR INJECTION MOLDING**

|                    | English           | SI Metric      |
|--------------------|-------------------|----------------|
| Injection Pressure | 10000 - 15000 psi | 69 - 103 MPa   |
| Melt Temperature   | 460 - 520 °F      | 238 - 271 °C   |
| Mold Temperature   | 175 - 225 °F      | 79 - 107 °C    |
| Drying             | 4 hrs @ 250 °F    | 4 hrs @ 121 °C |
| Moisture Content   | 0.03 %            | 0.03 %         |
| Dew Point          | -20 °F            | -29 °C         |

**PROCESSING NOTES**

Use a reverse barrel profile. To maximize fiber length, the following injection barrel, screw, and tip designs should be followed. L/D ratio 16/1 - 22/1, Compression ratio 2:1, Flight depth 0.200 in (5 mm) minimum, in feed section, Screw diameter 0.65 - 0.80 in (16.5 - 20 mm) minimum, Compression section length 12 - 13 diameters, Check ring valve assembly - free flow type no restrictions, Nozzle orifice 0.250 in (6 mm) diameter. Feed throat from hopper to machine must have sufficient opening to prevent bridging of long pellet composition.