



# POLIFIL® GFPP DATA SHEET

DOING THE NEEDFUL SINCE 1973

## Glass-Reinforced Polypropylene

**Polifil® GFPP** series compounds are homopolymer polypropylene resins reinforced with glass fibers. They provide high impact with increased strength, stiffness, surface hardness, and higher continuous temperature. Other benefits include reduced distortion under long-term stress. These compounds are used in appliances, electrical components, automotive and utility products. Standard processing techniques are applicable. Use this information as a guide to aid you in selecting the proper resin for your application. TPG will custom compound and fine-tune our formulations for your application.

| PHYSICAL                               | ASTM/<br>Method | Polifil®<br>GFPP-10 | Polifil®<br>GFPP-20 | Polifil®<br>GFPP-30 | Polifil®<br>GFPP-40 |
|----------------------------------------|-----------------|---------------------|---------------------|---------------------|---------------------|
| Reinforcement content (%)              | TPG WI          | 10                  | 20                  | 30                  | 40                  |
| Specific gravity                       | D 792           | 0.98                | 1.04                | 1.13                | 1.22                |
| Melt flow 230/2.16 (g/10 min)          | D 1238          | 4-10*               | 4-10*               | 4-10*               | 4-10*               |
| Water absorption, 24 hours (%)         | D 570           | nil                 | nil                 | nil                 | nil                 |
| Mold shrinkage – 1/8" specimen (in/in) | D 955           | 0.005               | 0.003               | 0.003               | 0.002               |

### MECHANICAL @ 73°F

|                                   |        |       |       |        |        |
|-----------------------------------|--------|-------|-------|--------|--------|
| Tensile strength (psi)            | D 638  | 5,700 | 6,500 | 7,100  | 7,800  |
| Elongation @ yield (%)            | D 638  | 3.0   | 3.0   | 3.0    | 2.0    |
| Elongation @ break (%)            | D 638  | 6.0   | 4.0   | 4.0    | 3.0    |
| Tensile modulus (kpsi)            | D 638  | 295   | 405   | 520    | 630    |
| Flexural modulus, tangent (kpsi)  | D 790  | 340   | 436   | 620    | 800    |
| Flexural strength (psi)           | D 790  | 7,400 | 8,200 | 10,500 | 11,400 |
| Izod impact, notched (ft-lbs/in)  | D 256  | 1.0   | 1.2   | 1.2    | 1.2    |
| Gardner impact, 1/2" tup (in-lbs) | D 5420 | 8     | 6     | 4      | 4      |
| Rockwell hardness (R-scale)       | D 785  | 85    | 90    | 96     | 102    |

### THERMAL

|                                     |       |     |     |     |     |
|-------------------------------------|-------|-----|-----|-----|-----|
| Deflection temperature, 66psi (°F)  | D 648 | 285 | 300 | 310 | 315 |
| Deflection temperature, 264psi (°F) | D 648 | 255 | 270 | 290 | 300 |

*\*melt flow may be specified*

The Plastics Group of America

