

# INSTRUC PBTGF20

Polybutylene Terephthalate

Infinity LTL Engineered Compounds

Message:

Instruc glass and carbon fiber reinforced, mineral and process additive filled structural compounds - Offered in all Infinity base resins  
Provide significant improvements in strength, stiffness, creep resistance, fatigue endurance and impact & dimensional stability  
Increased thermal HDTUL and long term heat resistance

| General Information                                     |                                  |                    |             |
|---------------------------------------------------------|----------------------------------|--------------------|-------------|
| Filler / Reinforcement                                  | Glass Fiber,20% Filler by Weight |                    |             |
| Features                                                | Fatigue Resistant                |                    |             |
|                                                         | Good Creep Resistance            |                    |             |
|                                                         | Good Dimensional Stability       |                    |             |
|                                                         | Good Heat Aging Resistance       |                    |             |
|                                                         | Good Impact Resistance           |                    |             |
|                                                         | High Stiffness                   |                    |             |
|                                                         | High Strength                    |                    |             |
|                                                         | Medium Heat Resistance           |                    |             |
|                                                         |                                  |                    |             |
|                                                         |                                  |                    |             |
|                                                         |                                  |                    |             |
|                                                         |                                  |                    |             |
|                                                         |                                  |                    |             |
|                                                         |                                  |                    |             |
| Uses                                                    | Structural Parts                 |                    |             |
| Physical                                                | Nominal Value                    | Unit               | Test Method |
| Specific Gravity                                        | 1.45                             | g/cm <sup>3</sup>  | ASTM D792   |
| Specific Volume                                         | 0.690                            | cm <sup>3</sup> /g |             |
| Molding Shrinkage - Flow                                | 0.20 to 0.60                     | %                  | ASTM D955   |
| Water Absorption (24 hr)                                | 0.080                            | %                  | ASTM D570   |
| Hardness                                                | Nominal Value                    | Unit               | Test Method |
| Rockwell Hardness (M-Scale)                             | 82                               |                    | ASTM D785   |
| Mechanical                                              | Nominal Value                    | Unit               | Test Method |
| Tensile Strength (Yield)                                | 107                              | MPa                | ASTM D638   |
| Tensile Elongation (Yield)                              | 3.0 to 5.0                       | %                  | ASTM D638   |
| Flexural Modulus                                        | 5650                             | MPa                | ASTM D790   |
| Flexural Strength                                       | 162                              | MPa                | ASTM D790   |
| Impact                                                  | Nominal Value                    | Unit               | Test Method |
| Notched Izod Impact (3.18 mm)                           | 80                               | J/m                | ASTM D256   |
| Unnotched Izod Impact (3.18 mm)                         | 640                              | J/m                | ASTM D256   |
| Thermal                                                 | Nominal Value                    | Unit               | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 204                              | °C                 | ASTM D648   |
| CLTE - Flow                                             | 2.5E-5                           | cm/cm/°C           | ASTM D696   |
| Electrical                                              | Nominal Value                    | Unit               | Test Method |

|                        |                |      |             |
|------------------------|----------------|------|-------------|
| Surface Resistivity    | 1.0E+17        | ohms | ASTM D257   |
| Flammability           | Nominal Value  | Unit | Test Method |
| Flame Rating (1.59 mm) | HB             |      | UL 94       |
| Injection              | Nominal Value  | Unit |             |
| Drying Temperature     | 110            | °C   |             |
| Drying Time            | 4.0            | hr   |             |
| Processing (Melt) Temp | 221 to 260     | °C   |             |
| Mold Temperature       | 107            | °C   |             |
| Back Pressure          | 0.345 to 0.689 | MPa  |             |
| Screw Speed            | 40 to 70       | rpm  |             |
| Vent Depth             | 0.038 to 0.076 | mm   |             |

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