

# Generic PET - Glass Fiber

Polyethylene Terephthalate

Generic

Message:

This data represents typical values that have been calculated from all products classified as: Generic PET - Glass Fiber  
This information is provided for comparative purposes only.

| General Information       |                                 |                   |             |
|---------------------------|---------------------------------|-------------------|-------------|
| Filler / Reinforcement    | Glass fiber reinforced material |                   |             |
| Physical                  | Nominal Value                   | Unit              | Test Method |
| Specific Gravity          |                                 |                   |             |
| --                        | 1.44 - 1.71                     | g/cm <sup>3</sup> | ASTM D792   |
| 23°C                      | 1.38 - 1.78                     | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage         |                                 |                   |             |
| Flow: 23°C                | 0.17 - 0.53                     | %                 | ASTM D955   |
| Transverse flow: 23°C     | 0.54 - 1.1                      | %                 | ASTM D955   |
| 23°C                      | 0.20 - 1.0                      | %                 | ISO 294-4   |
| Water Absorption          |                                 |                   |             |
| 23°C, 24 hr               | 0.044 - 0.061                   | %                 | ASTM D570   |
| 23°C, 24 hr               | 0.040 - 0.60                    | %                 | ISO 62      |
| Saturated, 23°C           | 0.23 - 0.91                     | %                 | ISO 62      |
| Equilibrium, 23°C         | 0.045 - 0.20                    | %                 | ASTM D570   |
| Equilibrium, 23°C, 50% RH | 0.18 - 0.21                     | %                 | ISO 62      |
| Hardness                  | Nominal Value                   | Unit              | Test Method |
| Rockwell Hardness         |                                 |                   |             |
| 23°C                      | 116 - 122                       |                   | ASTM D785   |
| 23°C                      | 99 - 123                        |                   | ISO 2039-2  |
| Mechanical                | Nominal Value                   | Unit              | Test Method |
| Tensile Modulus           |                                 |                   |             |
| 23°C                      | 4200 - 16700                    | MPa               | ASTM D638   |
| 23°C                      | 4500 - 19200                    | MPa               | ISO 527-2   |
| Tensile Strength          |                                 |                   |             |
| Yield, 23°C               | 80.0 - 176                      | MPa               | ASTM D638   |
| Yield, 23°C               | 125 - 161                       | MPa               | ISO 527-2   |
| Fracture, 23°C            | 96.3 - 197                      | MPa               | ASTM D638   |
| Fracture, 23°C            | 78.4 - 210                      | MPa               | ISO 527-2   |
| 23°C                      | 0.866 - 195                     | MPa               | ASTM D638   |
| Tensile Elongation        |                                 |                   |             |
| Yield, 23°C               | 2.0 - 4.0                       | %                 | ASTM D638   |
| Yield, 23°C               | 2.0                             | %                 | ISO 527-2   |

|                                         |                 |                   |             |
|-----------------------------------------|-----------------|-------------------|-------------|
| Fracture, 23°C                          | 2.0 - 3.4       | %                 | ASTM D638   |
| Fracture, 23°C                          | 1.4 - 3.2       | %                 | ISO 527-2   |
| Flexural Modulus                        |                 |                   |             |
| 23°C                                    | 5790 - 13800    | MPa               | ASTM D790   |
| 23°C                                    | 3900 - 12300    | MPa               | ISO 178     |
| Flexural Strength                       |                 |                   |             |
| 23°C                                    | 1.64 - 290      | MPa               | ASTM D790   |
| 23°C                                    | 129 - 271       | MPa               | ISO 178     |
| Yield, 23°C                             | 148 - 223       | MPa               | ASTM D790   |
| Fracture, 23°C                          | 170 - 222       | MPa               | ASTM D790   |
| Compressive Strength (23°C)             | 136 - 235       | MPa               | ASTM D695   |
| Impact                                  | Nominal Value   | Unit              | Test Method |
| Charpy Notched Impact Strength (23°C)   | 5.9 - 11        | kJ/m <sup>2</sup> | ISO 179     |
| Charpy Unnotched Impact Strength (23°C) | 29 - 65         | kJ/m <sup>2</sup> | ISO 179     |
| Notched Izod Impact                     |                 |                   |             |
| 23°C                                    | 59 - 120        | J/m               | ASTM D256   |
| 23°C                                    | 5.9 - 10        | kJ/m <sup>2</sup> | ISO 180     |
| Notched Izod Impact (23°C)              | 5.00 - 6.05     | kJ/m <sup>2</sup> | ASTM D256   |
| Unnotched Izod Impact                   |                 |                   |             |
| 23°C                                    | 260 - 970       | J/m               | ASTM D256   |
| 23°C                                    | 29 - 46         | kJ/m <sup>2</sup> | ISO 180     |
| Thermal                                 | Nominal Value   | Unit              | Test Method |
| Deflection Temperature Under Load       |                 |                   |             |
| 0.45 MPa, not annealed                  | 229 - 251       | °C                | ASTM D648   |
| 0.45 MPa, not annealed                  | 219 - 252       | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                   | 209 - 233       | °C                | ASTM D648   |
| 1.8 MPa, not annealed                   | 199 - 241       | °C                | ISO 75-2/A  |
| Continuous Use Temperature              | 110 - 150       | °C                | ASTM D794   |
| Vicat Softening Temperature             |                 |                   |             |
| --                                      | 234 - 241       | °C                | ASTM D1525  |
| --                                      | 215 - 241       | °C                | ISO 306     |
| Melting Temperature                     |                 |                   |             |
| --                                      | 245 - 256       | °C                | ISO 3146    |
| --                                      | 250 - 256       | °C                | ISO 11357-3 |
| --                                      | 245 - 255       | °C                | ASTM D3418  |
| Linear thermal expansion coefficient    |                 |                   |             |
| Flow                                    | 1.9E-5 - 4.5E-5 | cm/cm/°C          | ASTM D696   |
| Flow                                    | 4.0E-6 - 5.8E-5 | cm/cm/°C          | ASTM E831   |
| Flow                                    | 4.0E-6 - 3.4E-5 | cm/cm/°C          | ISO 11359-2 |
| Lateral                                 | 3.1E-5 - 1.1E-4 | cm/cm/°C          | ASTM E831   |
| Lateral                                 | 3.5E-5 - 1.2E-4 | cm/cm/°C          | ISO 11359-2 |
| Thermal Conductivity (23°C)             | 0.27 - 1.7      | W/m/K             | ASTM C177   |

|                                |                      |             |                      |
|--------------------------------|----------------------|-------------|----------------------|
| RTI Elec                       | 139 - 155            | °C          | UL 746               |
| RTI Imp                        | 75.0 - 155           | °C          | UL 746               |
| RTI                            | 75.0 - 155           | °C          | UL 746               |
| <b>Electrical</b>              | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>   |
| Surface Resistivity            |                      |             |                      |
| --                             | 1.0E+13 - 1.0E+14    | ohms        | ASTM D257            |
| --                             | 7.6E+13 - 1.1E+15    | ohms        | IEC 60093            |
| Volume Resistivity (23°C)      | 1.0E+13 - 2.5E+16    | ohms·cm     | ASTM D257, IEC 60093 |
| Dielectric Strength            |                      |             |                      |
| 23°C                           | 19 - 34              | kV/mm       | ASTM D149            |
| 23°C                           | 21 - 34              | kV/mm       | IEC 60243-1          |
| Dielectric Constant            |                      |             |                      |
| 23°C                           | 3.00 - 4.02          |             | ASTM D150            |
| 23°C                           | 3.66                 |             | IEC 60250            |
| Dissipation Factor             |                      |             |                      |
| 23°C                           | 4.9E-3 - 0.022       |             | ASTM D150            |
| 23°C                           | 1.0E-3 - 0.020       |             | IEC 60250            |
| Arc Resistance                 | 96.0 - 128           | sec         | ASTM D495            |
| Comparative Tracking Index     | 195 - 251            | V           | IEC 60112            |
| <b>Flammability</b>            | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b>   |
| Glow Wire Flammability Index   | 743 - 960            | °C          | IEC 60695-2-12       |
| Glow Wire Ignition Temperature | 650 - 968            | °C          | IEC 60695-2-13       |
| Oxygen Index                   |                      |             |                      |
| --                             | 24 - 32              | %           | ASTM D2863           |
| --                             | 19 - 36              | %           | ISO 4589-2           |
| <b>Injection</b>               | <b>Nominal Value</b> | <b>Unit</b> |                      |
| Drying Temperature             | 119 - 131            | °C          |                      |
| Drying Time                    | 3.0 - 7.0            | hr          |                      |
| Dew Point                      | -40.0 - -39.4        | °C          |                      |
| Suggested Max Moisture         | 0.020 - 0.021        | %           |                      |
| Suggested Max Regrind          | 22                   | %           |                      |
| Hopper Temperature             | 35.0 - 60.0          | °C          |                      |
| Rear Temperature               | 245 - 284            | °C          |                      |
| Middle Temperature             | 255 - 283            | °C          |                      |
| Front Temperature              | 265 - 283            | °C          |                      |
| Nozzle Temperature             | 254 - 325            | °C          |                      |
| Processing (Melt) Temp         | 274 - 290            | °C          |                      |
| Mold Temperature               | 60.0 - 136           | °C          |                      |
| Injection Pressure             | 8.00 - 86.7          | MPa         |                      |
| Holding Pressure               | 78.9 - 80.0          | MPa         |                      |
| Back Pressure                  | 0.0862 - 7.50        | MPa         |                      |
| Screw Speed                    | 43 - 94              | rpm         |                      |

#### Injection instructions

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