

# Toraycon® 5151G

Polybutylene Terephthalate

Toray Resin Company

## Message:

Toraycon® 5151G is a Polybutylene Terephthalate (PBT) product filled with 40% glass bead. It is available in Asia Pacific, Europe, or North America.

Characteristics include:

Flame Rated

Warp Resistant

| General Information                              |                                 |                   |                 |
|--------------------------------------------------|---------------------------------|-------------------|-----------------|
| UL YellowCard                                    | E41797-233507                   |                   |                 |
| Filler / Reinforcement                           | Glass Bead,40% Filler by Weight |                   |                 |
| Features                                         | Low Warpage                     |                   |                 |
| Part Marking Code                                | >PBT-I-GB40<                    |                   |                 |
| Physical                                         | Nominal Value                   | Unit              | Test Method     |
| Density (23°C)                                   | 1.59                            | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage                                |                                 |                   | Internal Method |
| Across Flow : 3.00 mm <sup>1</sup>               | 1.9                             | %                 |                 |
| Flow : 3.00 mm <sup>2</sup>                      | 1.4                             | %                 |                 |
| Water Absorption (23°C, 24 hr)                   | 0.070                           | %                 | ISO 62          |
| Hardness                                         | Nominal Value                   | Unit              | Test Method     |
| Rockwell Hardness (M-Scale, 23°C)                | 70                              |                   | ISO 2039-2      |
| Mechanical                                       | Nominal Value                   | Unit              | Test Method     |
| Tensile Modulus (23°C)                           | 5000                            | MPa               | ISO 527-2       |
| Tensile Stress (23°C)                            | 55.0                            | MPa               | ISO 527-2       |
| Tensile Strain (Break, 23°C)                     | 4.0                             | %                 | ISO 527-2       |
| Flexural Modulus (23°C)                          | 4500                            | MPa               | ISO 178         |
| Flexural Stress (23°C)                           | 97.0                            | MPa               | ISO 178         |
| Coefficient of Friction <sup>3</sup>             | 0.18                            |                   |                 |
| Coefficient of Friction - vs. Metal <sup>4</sup> | 0.140                           |                   | Suzuki Method   |
| Bar Flow Length <sup>5</sup> (250°C, 1.00 mm)    | 6.40                            | cm                | Internal Method |
| Impact                                           | Nominal Value                   | Unit              | Test Method     |
| Charpy Notched Impact Strength (23°C)            | 2.5                             | kJ/m <sup>2</sup> | ISO 179         |
| Charpy Unnotched Impact Strength (23°C)          | 45                              | kJ/m <sup>2</sup> | ISO 179         |
| Thermal                                          | Nominal Value                   | Unit              | Test Method     |
| Heat Deflection Temperature                      |                                 |                   |                 |
| 0.45 MPa, Unannealed                             | 185                             | °C                | ISO 75-2/B      |
| 1.8 MPa, Unannealed                              | 95.0                            | °C                | ISO 75-2/A      |
| CLTE - Flow (-30 to 100°C)                       | 9.5E-5                          | cm/cm/°C          | ISO 11359-2     |
| Electrical                                       | Nominal Value                   | Unit              | Test Method     |
| Volume Resistivity                               | 3.0E+16                         | ohms · cm         | IEC 60093       |

|                                  |                     |       |             |
|----------------------------------|---------------------|-------|-------------|
| Electric Strength                | 19                  | kV/mm | IEC 60243-1 |
| Dielectric Constant <sup>6</sup> |                     |       | IEC 60250   |
| 23°C, 50 Hz                      | 3.50                |       |             |
| 23°C, 1 kHz                      | 3.50                |       |             |
| Dissipation Factor <sup>7</sup>  |                     |       | IEC 60250   |
| 23°C, 50 Hz                      | 2.0E-3              |       |             |
| 23°C, 1 MHz                      | 0.020               |       |             |
| Arc Resistance <sup>8</sup>      | 110                 | sec   | IEC 60950   |
| Flammability                     | Nominal Value       | Unit  | Test Method |
| Flame Rating (0.794 mm)          | HB                  |       | UL 94       |
| NOTE                             |                     |       |             |
| 1.                               | 80x80x3             |       |             |
| 2.                               | 80x80x3mm           |       |             |
| 3.                               | vs. Metal           |       |             |
| 4.                               | Without Lubrication |       |             |
| 5.                               | 93 MPa              |       |             |
| 6.                               | 60% RH              |       |             |
| 7.                               | 60% RH              |       |             |
| 8.                               | Tungsten Electrode  |       |             |

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