

# Tufpet PBT G2815

Polybutylene Terephthalate  
Mitsubishi Rayon America Inc.

Message:

Tufpet PBT G2815 is a Polybutylene Terephthalate (PBT) material filled with 15% glass fiber. It is available in North America for injection molding. Important attributes of Tufpet PBT G2815 are:

Flame Rated  
Flame Retardant  
Chemical Resistant  
Good Dimensional Stability  
Good Processability

| General Information               |                                  |       |             |
|-----------------------------------|----------------------------------|-------|-------------|
| Filler / Reinforcement            | Glass Fiber,15% Filler by Weight |       |             |
| Additive                          | Flame Retardant                  |       |             |
| Features                          | Flame Retardant                  |       |             |
|                                   | Good Chemical Resistance         |       |             |
|                                   | Good Dimensional Stability       |       |             |
|                                   | Good Electrical Properties       |       |             |
|                                   | Good Moldability                 |       |             |
|                                   | High Gloss                       |       |             |
|                                   | High Heat Resistance             |       |             |
|                                   | Low to No Water Absorption       |       |             |
|                                   | Non-Blooming                     |       |             |
| Forms                             | Pellets                          |       |             |
| Processing Method                 | Injection Molding                |       |             |
| Physical                          | Nominal Value                    | Unit  | Test Method |
| Specific Gravity                  | 1.56                             | g/cm³ | ASTM D792   |
| Molding Shrinkage - Flow          | 0.30 to 1.5                      | %     | ASTM D955   |
| Hardness                          | Nominal Value                    | Unit  | Test Method |
| Rockwell Hardness (R-Scale)       | 119                              |       | ASTM D785   |
| Mechanical                        | Nominal Value                    | Unit  | Test Method |
| Tensile Strength                  | 98.1                             | MPa   | ASTM D638   |
| Tensile Elongation (Break)        | 3.4                              | %     | ASTM D638   |
| Flexural Modulus                  | 6370                             | MPa   | ASTM D790   |
| Flexural Strength                 | 157                              | MPa   | ASTM D790   |
| Impact                            | Nominal Value                    | Unit  | Test Method |
| Notched Izod Impact               | 49                               | J/m   | ASTM D256   |
| Unnotched Izod Impact             | 230                              | J/m   | ASTM D256   |
| Thermal                           | Nominal Value                    | Unit  | Test Method |
| Deflection Temperature Under Load |                                  |       | ASTM D648   |

|                      |                      |             |                    |
|----------------------|----------------------|-------------|--------------------|
| 0.45 MPa, Unannealed | 215                  | °C          |                    |
| 1.8 MPa, Unannealed  | 200                  | °C          |                    |
| Specific Heat        | 1550                 | J/kg/°C     | ASTM C351          |
| Thermal Conductivity | 0.29                 | W/m/K       | ASTM C177          |
| RTI Elec             |                      |             | UL 746             |
| 0.790 mm             | 130                  | °C          |                    |
| 1.57 mm              | 130                  | °C          |                    |
| 3.18 mm              | 130                  | °C          |                    |
| RTI Imp              |                      |             | UL 746             |
| 0.790 mm             | 120                  | °C          |                    |
| 1.57 mm              | 120                  | °C          |                    |
| 3.18 mm              | 120                  | °C          |                    |
| RTI Str              |                      |             | UL 746             |
| 0.790 mm             | 120                  | °C          |                    |
| 1.57 mm              | 120                  | °C          |                    |
| 3.18 mm              | 120                  | °C          |                    |
| <b>Electrical</b>    | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Dielectric Strength  | 23                   | kV/mm       | ASTM D149          |
| Arc Resistance       | 23.0                 | sec         | ASTM D495          |
| <b>Flammability</b>  | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Flame Rating         |                      |             | UL 94              |
| 0.790 mm             | V-0                  |             |                    |
| 1.57 mm              | V-0                  |             |                    |
| 3.18 mm              | V-0                  |             |                    |
| <b>Injection</b>     | <b>Nominal Value</b> | <b>Unit</b> |                    |
| Drying Temperature   | 140                  | °C          |                    |
| Drying Time          | 2.0                  | hr          |                    |
| Rear Temperature     | 230 to 260           | °C          |                    |
| Middle Temperature   | 230 to 260           | °C          |                    |
| Front Temperature    | 230 to 260           | °C          |                    |
| Mold Temperature     | 40.0 to 100          | °C          |                    |
| Injection Pressure   | 81.4                 | MPa         |                    |
| Screw Speed          | 80                   | rpm         |                    |

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