

## NOVADURAN™ 5010G15EF

Mitsubishi Engineering-Plastics Corp - Polybutylene Terephthalate

### General Information

#### Product Description

GF-reinforced / HB equivalent per in-house testing, High Flow, GF 15%

#### General

|                        |                                                                                                                                                                                        |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filler / Reinforcement | • Glass Fiber, 15% Filler by Weight                                                                                                                                                    |
| Features               | • High Flow                                                                                                                                                                            |
| Uses                   | <ul style="list-style-type: none"> <li>• Automotive Applications</li> <li>• Automotive Electronics</li> <li>• Electrical/Electronic Applications</li> <li>• General Purpose</li> </ul> |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                   | Nominal Value | Unit                   | Test Method     |
|--------------------------------------------|---------------|------------------------|-----------------|
| Density                                    | 1.41          | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Volume-Flow Rate (MVR) (250°C/5.0 kg) | 90            | cm <sup>3</sup> /10min | ISO 1133        |
| Molding Shrinkage                          |               |                        | Internal Method |
| Across Flow : 2.00 mm                      | 1.3           | %                      |                 |
| Flow : 2.00 mm                             | 0.50          | %                      |                 |
| Water Absorption (Saturation, 23°C)        | 0.080         | %                      | ISO 62          |
| Mechanical                                 | Nominal Value | Unit                   | Test Method     |
| Tensile Modulus                            | 5500          | MPa                    | ISO 527-1/1     |
| Tensile Stress (Break)                     | 100           | MPa                    | ISO 527-2/5     |
| Tensile Strain (Break)                     | 3.0           | %                      | ISO 527-2/5     |
| Flexural Modulus <sup>2</sup>              | 5300          | MPa                    | ISO 178         |
| Flexural Stress <sup>2</sup>               | 150           | MPa                    | ISO 178         |
| Impact                                     | Nominal Value | Unit                   | Test Method     |
| Charpy Notched Impact Strength (23°C)      | 7.0           | kJ/m <sup>2</sup>      | ISO 179         |
| Charpy Unnotched Impact Strength (23°C)    | 30            | kJ/m <sup>2</sup>      | ISO 179         |
| Thermal                                    | Nominal Value | Unit                   | Test Method     |
| Deflection Temperature Under Load          |               |                        |                 |
| 0.45 MPa, Annealed                         | 210           | °C                     | ISO 75-2/B      |
| 1.8 MPa, Annealed                          | 190           | °C                     | ISO 75-2/A      |
| Melting Temperature                        | 224           | °C                     | ISO 11357-3     |
| CLTE                                       |               |                        | ISO 11359-2     |
| Flow : -30 to 35°C                         | 3.0E-5        | cm/cm/°C               |                 |
| Flow : -30 to 120°C                        | 2.7E-5        | cm/cm/°C               |                 |
| Flow : 35 to 120°C                         | 3.0E-5        | cm/cm/°C               |                 |
| Transverse : -30 to 35°C                   | 8.5E-5        | cm/cm/°C               |                 |
| Transverse : -30 to 120°C                  | 1.2E-4        | cm/cm/°C               |                 |
| Transverse : 35 to 120°C                   | 1.4E-4        | cm/cm/°C               |                 |

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| Electrical                  | Nominal Value | Unit    | Test Method |
|-----------------------------|---------------|---------|-------------|
| Surface Resistivity         | 1.0E+15       | ohms    | IEC 60093   |
| Volume Resistivity          | 1.0E+16       | ohms·cm | IEC 60093   |
| Electric Strength           |               |         | IEC 60243-1 |
| 1.00 mm                     | 24            | kV/mm   |             |
| 2.00 mm                     | 21            | kV/mm   |             |
| Dielectric Constant (1 MHz) | 3.20          |         | IEC 60250   |
| Dissipation Factor (1 MHz)  | 0.020         |         | IEC 60250   |

## Processing Information

| Injection                          | Nominal Value | Unit |
|------------------------------------|---------------|------|
| Drying Temperature - Hot Air Dryer | 120           | °C   |
| Drying Time - Hot Air Dryer        | 5.0 to 8.0    | hr   |
| Rear Temperature                   | 250 to 270    | °C   |
| Middle Temperature                 | 250 to 270    | °C   |
| Front Temperature                  | 250 to 270    | °C   |
| Nozzle Temperature                 | 270           | °C   |
| Mold Temperature                   | 60 to 100     | °C   |
| Injection Pressure                 | 20.0 to 150   | MPa  |
| Injection Rate                     | Moderate-Fast |      |
| Screw Speed                        | 80 to 150     | rpm  |

## Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 2.0 mm/min

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