

# NOVADURAN® 5010GN1-15-8S

Polybutylene Terephthalate

Mitsubishi Engineering-Plastics Corp

## Message:

NOVADURAN® 5010GN1-15-8S is a Polybutylene Terephthalate (PBT) material filled with 15% glass fiber. It is available in Asia Pacific, Europe, or North America for injection molding.

Important attributes of NOVADURAN® 5010GN1-15-8S are:

Flame Rated

Flame Retardant

Good Toughness

| General Information                     |                                   |                   |             |
|-----------------------------------------|-----------------------------------|-------------------|-------------|
| Filler / Reinforcement                  | Glass Fiber, 15% Filler by Weight |                   |             |
| Additive                                | Flame Retardant                   |                   |             |
| Features                                | Flame Retardant                   |                   |             |
|                                         | Good Toughness                    |                   |             |
| Forms                                   | Pellets                           |                   |             |
| Processing Method                       | Injection Molding                 |                   |             |
| Physical                                | Nominal Value                     | Unit              | Test Method |
| Density                                 | 1.52                              | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                       |                                   |                   |             |
| Across Flow : 2.00 mm                   | 1.4                               | %                 |             |
| Flow : 2.00 mm                          | 0.60                              | %                 |             |
| Water Absorption (Saturation, 23°C)     | 0.070                             | %                 |             |
| Mechanical                              | Nominal Value                     | Unit              | Test Method |
| Tensile Modulus                         | 6300                              | MPa               | ISO 527-2   |
| Tensile Stress (Break)                  | 100                               | MPa               | ISO 527-2   |
| Tensile Strain (Break)                  | 3.0                               | %                 | ISO 527-2   |
| Flexural Modulus                        | 5400                              | MPa               | ISO 178     |
| Flexural Stress                         | 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 |
| Heat Deflection Temperature             |                                   |                   |             |
| 0.45 MPa, Unannealed                    | 215                               | °C                | ISO 75-2/B  |
| 1.8 MPa, Unannealed                     | 195                               | °C                | ISO 75-2/A  |
| Melting Temperature                     | 224                               | °C                | ISO 11357-3 |
| CLTE                                    |                                   |                   | ISO 11359-2 |
| Flow : -30 to 50°C                      | 2.0E-5                            | cm/cm/°C          |             |
| Flow : -30 to 120°C                     | 1.0E-5                            | cm/cm/°C          |             |

| Flow : 50 to 120°C               | 1.0E-5        | cm/cm/°C |             |
|----------------------------------|---------------|----------|-------------|
| Transverse : -30 to 50°C         | 9.0E-5        | cm/cm/°C |             |
| Transverse : -30 to 120°C        | 1.1E-4        | cm/cm/°C |             |
| Transverse : 50 to 120°C         | 1.3E-4        | cm/cm/°C |             |
| Electrical                       | Nominal Value | Unit     | Test Method |
| Surface Resistivity              | 6.0E+15       | ohms     | IEC 60093   |
| Volume Resistivity               | 4.0E+16       | ohms·cm  | IEC 60093   |
| Electric Strength (1.00 mm)      | 23            | kV/mm    | IEC 60243-1 |
| Relative Permittivity (1 MHz)    | 3.70          |          | IEC 60250   |
| Dissipation Factor (1 MHz)       | 0.017         |          | IEC 60250   |
| Comparative Tracking Index (CTI) | PLC 3         |          | UL 746      |
| Flammability                     | Nominal Value | Unit     | Test Method |
| Flame Rating (0.710 mm)          | V-0           |          | UL 94       |
| Injection                        | Nominal Value | Unit     |             |
| Drying Temperature               | 120           | °C       |             |
| Drying Time                      | 5.0 to 8.0    | hr       |             |
| Rear Temperature                 | 235           | °C       |             |
| Middle Temperature               | 240           | °C       |             |
| Front Temperature                | 255           | °C       |             |
| Nozzle Temperature               | 250           | °C       |             |
| Mold Temperature                 | 80.0 to 100   | °C       |             |
| Injection Pressure               | 20.0 to 150   | MPa      |             |
| Screw Speed                      | 80 to 120     | rpm      |             |

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