# Mitsubishi Engineering-Plastics Corp.

## NOVADURAN™ 5010TR XA

**Mitsubishi Engineering-Plastics Corp - Polybutylene Terephthalate**

| General Information | | |
|---|---|---|
| **Product Description** | | |
| Un-reinforced / HB, Impact strength | | |
| **General** | | |
| Features | • Good Impact Resistance | |
| Uses | • Automotive Applications<br>• Automotive Electronics | • Electrical/Electronic Applications<br>• General Purpose |

| ASTM & ISO Properties [1] | | | |
|---|---|---|---|
| **Physical** | **Nominal Value** | **Unit** | **Test Method** |
| Density | 1.27 | g/cm³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg) | 19 | cm³/10min | ISO 1133 |
| Molding Shrinkage | | | Internal Method |
| Across Flow : 2.00 mm | 1.8 | % | |
| Flow : 2.00 mm | 1.9 | % | |
| Water Absorption (Saturation, 23°C) | 0.10 | % | ISO 62 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus | 2500 | MPa | ISO 527-1/1 |
| Tensile Stress (Yield) | 51.0 | MPa | ISO 527-2/50 |
| Tensile Strain | | | ISO 527-2/50 |
| Yield | 4.4 | % | |
| Break | > 200 | % | |
| Flexural Modulus [2] | 2250 | MPa | ISO 178 |
| Flexural Stress [2] | 77.0 | MPa | ISO 178 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength (23°C) | 7.0 | kJ/m² | ISO 179 |
| Charpy Unnotched Impact Strength (23°C) | No Break | | ISO 179 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load | | | |
| 0.45 MPa, Annealed | 160 | °C | ISO 75-2/B |
| 1.8 MPa, Annealed | 65.0 | °C | ISO 75-2/A |
| Melting Temperature | 224 | °C | ISO 11357-3 |
| CLTE | | | ISO 11359-2 |
| Flow : -30 to 35°C | 8.0E-5 | cm/cm/°C | |
| Flow : -30 to 120°C | 1.2E-4 | cm/cm/°C | |
| Flow : 35 to 120°C | 1.4E-4 | cm/cm/°C | |
| Transverse : -30 to 35°C | 8.8E-5 | cm/cm/°C | |
| Transverse : -30 to 120°C | 1.2E-4 | cm/cm/°C | |
| Transverse : 35 to 120°C | 1.5E-4 | cm/cm/°C | |
| RTI Elec (0.75 mm) | 75.0 | °C | UL 746B |

# NOVADURAN™ 5010TR XA

## Mitsubishi Engineering-Plastics Corp - Polybutylene Terephthalate

| Thermal | Nominal Value | Unit | Test Method |
|---|---|---|---|
| RTI Imp (0.75 mm) | 75.0 | °C | UL 746B |
| RTI Str (0.75 mm) | 75.0 | °C | UL 746B |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Surface Resistivity | 5.0E+15 | ohms | IEC 60093 |
| Volume Resistivity | 1.0E+16 | ohms·cm | IEC 60093 |
| Electric Strength | | | IEC 60243-1 |
| 1.00 mm | 22 | kV/mm | |
| 2.00 mm | 17 | kV/mm | |
| Dielectric Constant (1 MHz) | 3.30 | | IEC 60250 |
| Dissipation Factor (1 MHz) | 0.025 | | IEC 60250 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Flame Rating (0.75 mm) | HB | | UL 94 |

## 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 | 240 to 260 | °C |
| Middle Temperature | 240 to 260 | °C |
| Front Temperature | 240 to 260 | °C |
| Nozzle Temperature | 260 | °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

[1] Typical properties: these are not to be construed as specifications.

[2] 2.0 mm/min