

## NOVADURAN™ 5710N1TX

Mitsubishi Engineering-Plastics Corp - Polybutylene Terephthalate

### General Information

#### Product Description

Un-reinforced / 5VA Flame Retardant / Toughness, Low Warpage / UL746C f1 Weather Resistant (UV & water)

#### General

|          |                                                                                                           |                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Features | <ul style="list-style-type: none"> <li>Flame Retardant</li> <li>Good Impact Resistance</li> </ul>         | <ul style="list-style-type: none"> <li>Good Weather Resistance</li> <li>Low Warpage</li> </ul>                |
| Uses     | <ul style="list-style-type: none"> <li>Automotive Applications</li> <li>Automotive Electronics</li> </ul> | <ul style="list-style-type: none"> <li>Electrical/Electronic Applications</li> <li>General Purpose</li> </ul> |

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

| Physical                                   | Nominal Value | Unit                   | Test Method     |
|--------------------------------------------|---------------|------------------------|-----------------|
| Density                                    | 1.32          | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Volume-Flow Rate (MVR) (250°C/5.0 kg) | 12            | cm <sup>3</sup> /10min | ISO 1133        |
| Molding Shrinkage                          |               |                        | Internal Method |
| Across Flow : 2.00 mm                      | 0.90          | %                      |                 |
| Flow : 2.00 mm                             | 0.90          | %                      |                 |
| Water Absorption (Saturation, 23°C)        | 0.070         | %                      | ISO 62          |
| Outdoor Suitability                        | f1            |                        | UL 746C         |
| Mechanical                                 | Nominal Value | Unit                   | Test Method     |
| Tensile Modulus                            | 2300          | MPa                    | ISO 527-1/1     |
| Tensile Stress (Yield)                     | 55.0          | MPa                    | ISO 527-2/50    |
| Tensile Strain (Break)                     | 90            | %                      | ISO 527-2/50    |
| Flexural Modulus <sup>2</sup>              | 2400          | MPa                    | ISO 178         |
| Flexural Stress <sup>2</sup>               | 84.0          | MPa                    | ISO 178         |
| Impact                                     | Nominal Value | Unit                   | Test Method     |
| Charpy Notched Impact Strength (23°C)      | 54            | kJ/m <sup>2</sup>      | 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                         | 128           | °C                     | ISO 75-2/B      |
| 1.8 MPa, Annealed                          | 106           | °C                     | ISO 75-2/A      |
| Melting Temperature                        | 224           | °C                     | ISO 11357-3     |
| RTI Elec (1.5 mm)                          | 75.0          | °C                     | UL 746B         |
| RTI Imp (1.5 mm)                           | 75.0          | °C                     | UL 746B         |
| RTI Str (1.5 mm)                           | 75.0          | °C                     | UL 746B         |
| Electrical                                 | Nominal Value | Unit                   | Test Method     |
| Surface Resistivity                        | 1.0E+16       | ohms                   | IEC 60093       |
| Volume Resistivity                         | 1.0E+16       | ohms·cm                | IEC 60093       |
| Comparative Tracking Index (CTI)           | PLC 0         |                        | UL 746A         |

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| Flammability | Nominal Value | Unit | Test Method |
|--------------|---------------|------|-------------|
| Flame Rating |               |      | UL 94       |
| 1.5 mm       |               | V-0  |             |
|              | •             | V-0  |             |
| 3.0 mm       |               | 5VA  |             |
|              | •             |      |             |

| 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 120     | 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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