

# NOVADURAN®

Polybutylene Terephthalate Resin

|                                                        |                      |                     |                        | GF Reinforced Flame Retardant |
|--------------------------------------------------------|----------------------|---------------------|------------------------|-------------------------------|
| Properties                                             | Test Method          | Terms               | Units                  | 5010GN6-30TM4E                |
|                                                        |                      |                     |                        | Steam Resistant               |
|                                                        |                      |                     |                        | GF                            |
|                                                        |                      |                     |                        | 30                            |
| Physical properties                                    |                      |                     |                        |                               |
| Density                                                | ISO 1183             | -                   | g/cm <sup>3</sup>      | 1.61                          |
| Water absorption                                       | -                    | 23degC, Underwater  | %                      | 0.08                          |
| Rheological properties                                 |                      |                     |                        |                               |
| Melt Mass-flow Rate                                    | ISO 1133             | Temperature<br>Load | g/10min                | 17                            |
| Melt Volume-flow Rate                                  |                      |                     | cm <sup>3</sup> /10min | 14                            |
|                                                        |                      |                     | degC                   | 250                           |
|                                                        |                      |                     | kg                     | 2.16                          |
| Moulding shrinkage (1mmt)                              | -                    | MD                  | %                      | 0.3                           |
|                                                        |                      | TD                  | %                      | 0.8                           |
| Moulding shrinkage (3mmt)                              | -                    | MD                  | %                      | 0.3                           |
|                                                        |                      | TD                  | %                      | 1.2                           |
| Mechanical properties                                  |                      |                     |                        |                               |
| Tensile modulus                                        | ISO 527-1<br>, 527-2 | -                   | MPa                    | 9500                          |
| Yield stress                                           |                      |                     |                        | -                             |
| Yield strain                                           |                      |                     | %                      | -                             |
| Nominal strain at break                                |                      |                     |                        | -                             |
| Stress at 50% strain                                   |                      |                     | MPa                    | -                             |
| Stress at break                                        |                      |                     | %                      | 120                           |
| Strain at break                                        |                      |                     | %                      | 2.2                           |
| Flexural strength                                      | ISO 178              | -                   | MPa                    | 190                           |
| Flexural modulus                                       |                      |                     |                        | 8900                          |
| Charpy impact strength                                 | ISO 179-1<br>, 179-2 | 23 degC             | kJ/m <sup>2</sup>      | 59                            |
| Charpy notched impact strength                         |                      | 23 degC             | kJ/m <sup>2</sup>      | 9                             |
| Thermal properties                                     |                      |                     |                        |                               |
| Melting temperature                                    | ISO 11357-3          |                     | degC                   | 224                           |
| Temperature of deflection<br>under load                | ISO 75-1<br>, 75-2   | 1.80MPa<br>0.45MPa  | degC                   | 205<br>220                    |
| Coefficient of Linear thermal expansion                | ISO 11359-2          | MD<br>TD            | 1/degC                 | 3.E-05<br>6.E-05              |
| Flammability                                           | UL94                 | 0.4mmt              | -                      | -                             |
| Flammability                                           | UL94                 | 0.8mmt              | -                      | V-0                           |
| Flammability                                           | UL94                 | 1.6mmt              | -                      | V-0                           |
| Flammability                                           | UL94                 | 3.2mmt              | -                      | V-0                           |
| GWFI(Glow-wire flammability test method for materials) | IEC 60695-2-12       | 3.0mmt              | -                      | equal to 960degC              |
| GWIT(Glow-wire ignitability test method for materials) | IEC 60695-2-13       | 3.0mmt              | -                      | equal to 725degC              |
| Electrical properties                                  |                      |                     |                        |                               |
| Relative permittivity                                  | IEC 60250            | 1MHz                | -                      | 4.0                           |
| Dissipation factor                                     | IEC 60250            | 1MHz                | -                      | 0.020                         |
| Volume resistivity                                     | IEC 60093            | -                   | ohm-m                  | 1.E+13                        |
| Surface resistivity                                    | IEC 60093            | -                   | ohm                    | 1.E+15                        |
| Electric strength                                      | IEC 60243-1          | 1mmt                | MV/m                   | 23                            |
|                                                        |                      | 2mmt                |                        | -                             |
|                                                        |                      | 3mmt                |                        | -                             |
| Comparative tracking index                             | UL746A               | -                   | -                      | -                             |
|                                                        |                      |                     |                        |                               |

The listed properties are portrayed as general information only and are not product specifications.

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