

# ESTOPLAST EP 40002NN01

Polybutylene Terephthalate

Ester Industries Ltd.

## Message:

Polybutylene Terephthalate - Unreinforced Halogen and Phosphorus free Flame Retardant, Impact modified and improved break resistance

Automotive: Plug and socket Connectors, CFL Parts, Sensors and E&E parts

Electrical & Electronic: Bobbins, E-motor components, Lightings and Lamp fittings

| General Information               |                                    |                   |             |
|-----------------------------------|------------------------------------|-------------------|-------------|
| Additive                          | Impact modifier                    |                   |             |
|                                   | Flame retardancy                   |                   |             |
| Features                          | Impact modification                |                   |             |
|                                   | Phosphorus content, low (to none)  |                   |             |
|                                   | Halogen-free                       |                   |             |
|                                   | Flame retardancy                   |                   |             |
| Uses                              | Lighting Applications              |                   |             |
|                                   | Plug                               |                   |             |
|                                   | Electrical/Electronic Applications |                   |             |
|                                   | Connector                          |                   |             |
|                                   | Application in Automobile Field    |                   |             |
|                                   | spool                              |                   |             |
| RoHS Compliance                   | RoHS compliance                    |                   |             |
| Appearance                        | Natural color                      |                   |             |
| Forms                             | Particle                           |                   |             |
| Processing Method                 | Injection molding                  |                   |             |
| Physical                          | Nominal Value                      | Unit              | Test Method |
| Specific Gravity                  | 1.37                               | g/cm <sup>3</sup> | ASTM D792   |
| Water Absorption                  |                                    |                   | ISO 62      |
| Saturated, 23°C                   | 0.30                               | %                 | ISO 62      |
| Equilibrium, 23°C, 50% RH         | 0.15                               | %                 | ISO 62      |
| Mechanical                        | Nominal Value                      | Unit              | Test Method |
| Tensile Strength (Yield)          | 42.0                               | MPa               | ASTM D638   |
| Tensile Elongation (Break)        | 10                                 | %                 | ASTM D638   |
| Flexural Strength                 | 80.0                               | MPa               | ASTM D790   |
| Impact                            | Nominal Value                      | Unit              | Test Method |
| Notched Izod Impact (23°C)        | 52                                 | J/m               | ASTM D256A  |
| Thermal                           | Nominal Value                      | Unit              | Test Method |
| Deflection Temperature Under Load |                                    |                   | ASTM D648   |

|                                       |                      |             |                    |
|---------------------------------------|----------------------|-------------|--------------------|
| 0.45 MPa, not annealed                | 165                  | °C          | ASTM D648          |
| 1.8 MPa, not annealed                 | 60.0                 | °C          | ASTM D648          |
| <b>Electrical</b>                     | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Volume Resistivity                    | 1.0E+15              | ohms·cm     | IEC 60093          |
| Comparative Tracking Index            | 600                  | V           | IEC 60112          |
| <b>Flammability</b>                   | <b>Nominal Value</b> | <b>Unit</b> | <b>Test Method</b> |
| Flame Rating (1.5 mm)                 | V-0                  |             | UL 94              |
| Glow Wire Flammability Index (3.0 mm) | 960                  | °C          | IEC 60695-2-12     |
| <b>Injection</b>                      | <b>Nominal Value</b> | <b>Unit</b> |                    |
| Drying Temperature                    | 110 - 120            | °C          |                    |
| Drying Time                           | 3.0 - 4.0            | hr          |                    |
| Rear Temperature                      | 235 - 240            | °C          |                    |
| Middle Temperature                    | 250 - 260            | °C          |                    |
| Nozzle Temperature                    | 250 - 260            | °C          |                    |
| Processing (Melt) Temp                | 240 - 250            | °C          |                    |
| Mold Temperature                      | 100 - 120            | °C          |                    |

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