

# PELPRENE™ S9001

Thermoplastic Polyester Elastomer

TOYOBO America, Inc.

Message:

PELPRENE™S9001 is a thermoplastic polyester elastomer (TPEE) product. It is available in North America.

- Features include:
- flame retardant/rated flame
  - Copolymer
  - good weather resistance
  - Heat resistance

| General Information                                     |                            |                   |             |
|---------------------------------------------------------|----------------------------|-------------------|-------------|
| UL YellowCard                                           | E51743-242543              |                   |             |
| Features                                                | Copolymer                  |                   |             |
|                                                         | Good heat aging resistance |                   |             |
|                                                         | Good weather resistance    |                   |             |
|                                                         | General                    |                   |             |
| Uses                                                    | General                    |                   |             |
| Forms                                                   | Particle                   |                   |             |
| Physical                                                | Nominal Value              | Unit              | Test Method |
| Specific Gravity                                        | 1.29                       | g/cm <sup>3</sup> | ASTM D792   |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)               | 10                         | g/10 min          | ASTM D1238  |
| Molding Shrinkage - Flow (2.00 mm)                      | 1.8                        | %                 | ASTM D955   |
| Water Absorption (Equilibrium, 23°C, 65% RH)            | 0.28                       | %                 | ASTM D570   |
| Hardness                                                | Nominal Value              | Unit              | Test Method |
| Durometer Hardness (Shore D)                            | 78                         |                   | ASTM D2240  |
| Mechanical                                              | Nominal Value              | Unit              | Test Method |
| Tensile Strength (Yield)                                | 49.0                       | MPa               | ASTM D638   |
| Tensile Elongation (Break)                              | 400                        | %                 | ASTM D638   |
| Flexural Modulus                                        | 882                        | MPa               | ASTM D790   |
| Compressive Modulus                                     | 39.2                       | MPa               | ASTM D695   |
| Taber Abrasion Resistance (1000 Cycles)                 | 6.00                       | mg                | ASTM D1044  |
| Elastomers                                              | Nominal Value              | Unit              | Test Method |
| Tensile Stress (50% Strain)                             | 44.1                       | MPa               | ASTM D412   |
| Tear Strength                                           | 250                        | kN/m              | ASTM D624   |
| Impact                                                  | Nominal Value              | Unit              | Test Method |
| Notched Izod Impact                                     | 59                         | J/m               | ASTM D256   |
| Thermal                                                 | Nominal Value              | Unit              | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 146                        | °C                | ASTM D648   |

|                             |               |          |             |
|-----------------------------|---------------|----------|-------------|
| Brittleness Temperature     | -50.0         | °C       | ASTM D746   |
| Vicat Softening Temperature | 207           | °C       | ASTM D1525  |
| Melting Temperature         | 223           | °C       | DSC         |
| CLTE - Flow                 | 1.4E-4        | cm/cm/°C | ASTM D696   |
| Electrical                  | Nominal Value | Unit     | Test Method |
| Volume Resistivity          | 7.0E+15       | ohms·cm  | ASTM D257   |
| Dielectric Strength         | 30            | kV/mm    | ASTM D149   |
| Flammability                | Nominal Value | Unit     | Test Method |
| Flame Rating                | HB            |          | UL 94       |
| Additional Information      |               |          |             |

Hardness, JIS k6301, A scale: 9910% Compression Modulus, ASTM D695: 39.2 MPa Coefficient of Linear Thermal Expansion, TMA: 14e-5 1/K

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