

## Toyobo Pelprene™ S-1001 Polyester TPE

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyester, TP , Polyester Thermoplastic Elastomer

### Material Notes:

**Key Feature:** Pelprene S type Pelprene™ can be processed into a wide variety of articles from ultra-small precision parts to sheets by injection, extrusion, and blow molding. The 'S' type is a block copolymer consisting of an aromatic polyester as the hard segment and an aliphatic polyester as the soft one. It has physical properties similar to the 'P' type and excellent heat aging and weather resistance. Information provided by Toyobo Co., Ltd

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Toyobo-Pelprene-S-1001-Polyester-TPE.php](http://www.lookpolymers.com/polymer_Toyobo-Pelprene-S-1001-Polyester-TPE.php)

Physical Properties	Metric	English	Comments
Density	1.21 g/cc	0.0437 lb/in <sup>3</sup>	ASTM D792
Moisture Absorption at Equilibrium	0.40 %	0.40 %	25°C; 65%RH
Linear Mold Shrinkage	0.012 cm/cm @Thickness 2.00 mm	0.012 in/in @Thickness 0.0787 in	
Melt Flow	18 g/10 min @Temperature 190 °C	18 g/10 min @Temperature 374 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	96	96	ASTM D2240
Hardness, Shore D	48	48	ASTM D2240
Tensile Strength, Ultimate	30.0 MPa	4350 psi	ASTM D638
Elongation at Break	730 %	730 %	ASTM D638
50% Modulus	0.0108 GPa	1.57 ksi	ASMT D638
Flexural Modulus	0.125 GPa	18.1 ksi	ASTM D790
Compressive Modulus	0.0100 GPa	1.45 ksi	10% Compression Modulus; ASTM D695
Resilience	63	63	JIS K6301
Izod Impact, Notched	NB	NB	ASTM D256
Tear Strength	118 kN/m	673 pli	ASTM D624
Taber Abrasion, mg/1000 Cycles	15	15	CS-17 wheel; ASTM D1044
Compression Set	60 %	60 %	70°C; 22 hrs; JIS K6301

Mechanical Properties	@Temperature 70.0 °C Metric	@Temperature 158 °F English	Comments
<b>Thermal Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
CTE, linear	190 µm/m-°C @Temperature 20.0 °C	106 µin/in-°F @Temperature 68.0 °F	TMA
Melting Point	200 °C	392 °F	DSC
Deflection Temperature at 1.8 MPa (264 psi)	68.0 °C	154 °F	ASTM D648
Vicat Softening Point	172 °C	342 °F	ASTM D1525
Brittleness Temperature	-65.0 °C	-85.0 °F	JIS K6301
Flammability, UL94	HB	HB	
<b>Electrical Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Electrical Resistivity	2.00e+12 ohm-cm	2.00e+12 ohm-cm	ASTM D257
Dielectric Strength	25.0 kV/mm	635 kV/in	JIS K2111

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