

## ExxonMobil Santoprene® 101-73 Thermoplastic Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Vulcanizate Elastomer (TPV)

### Material Notes:

A soft, black, versatile thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material combines good physical properties and chemical resistance for use in a wide range of applications. This grade of Santoprene TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding, extrusion or blow molding. It is polyolefin based and completely recyclable. Key Features: UL listed: file #QMFZ2.E80017, Plastics - Component; file #QMFZ8.E80017, Plastics Certified For Canada - Component. Although not NSF certified, this product has a Material Supplier Form on file with NSF to facilitate its evaluation for use in applications requiring NSF certification. Recommended for applications requiring excellent flex fatigue resistance. Excellent ozone resistance. EU and China RoHS compliant. Applications: Automotive - Air Induction System Ducts, Boots and Bellows for Steering and Suspension, Plugs, Bumpers, Grommets, Clips, Seals, Gaskets and Weather Seals Consumer - Electronic and Floor Care Industrial - Seals and Gaskets Tubing Uses: Appliance Components Consumer Applications Gaskets Automotive Applications Diaphragms Seals Automotive Under the Hood Electrical Parts Tubing Availability: Africa & Middle East, Europe, North America, Asia Pacific, Latin America and South America Information provided by ExxonMobil Chemical

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[http://www.lookpolymers.com/polymer\\_ExxonMobil-Santoprene-101-73-Thermoplastic-Elastomer.php](http://www.lookpolymers.com/polymer_ExxonMobil-Santoprene-101-73-Thermoplastic-Elastomer.php)

| Physical Properties | Metric     | English    | Comments        |
|---------------------|------------|------------|-----------------|
| Specific Gravity    | 0.970 g/cc | 0.970 g/cc | 23°C; ASTM D792 |

| Mechanical Properties     | Metric        | English       | Comments                        |
|---------------------------|---------------|---------------|---------------------------------|
| Hardness, Shore A         | 78            | 78            | 2mm/ 15 sec; ISO 868            |
|                           | 85            | 85            | Air at 302°F, 168 hr; ASTM D573 |
| Tensile Strength at Break | 8.74 MPa      | 1270 psi      | Air at 302°F, 168 hr; ASTM D573 |
|                           | 8.83 MPa      | 1280 psi      | Across Flow; ASTM D412          |
| Tensile Stress            | 3.60 MPa      | 522 psi       | Across Flow; ASTM D412          |
|                           | @Strain 100 % | @Strain 100 % |                                 |
| Elongation at Break       | 475 %         | 475 %         | Air at 302°F, 168 hr; ASTM D573 |
|                           | 490 %         | 490 %         | Across Flow; ASTM D412          |
| Tear Strength             | 27.0 kN/m     | 154 pli       | 73°C, Die C; ASTM D624          |
| Compression Set           | 28 %          | 28 %          | 158°F, 22 hr; ASTM D395         |
|                           | 37 %          | 37 %          | 257°F, 70 hr; ASTM D395         |

| Thermal Properties | Metric | English | Comments |
|--------------------|--------|---------|----------|
|--------------------|--------|---------|----------|

| Thermal Properties             | Metric             | English              | Comments  |
|--------------------------------|--------------------|----------------------|-----------|
| Brittleness Temperature        | -60.0 °C           | -76.0 °F             | ASTM D746 |
| UL RTI, Electrical             | 90.0 °C            | 194 °F               | UL 746    |
| UL RTI, Mechanical with Impact | 90.0 °C            | 194 °F               | UL 746    |
|                                | @Thickness 1.00 mm | @Thickness 0.0394 in |           |
|                                | 90.0 °C            | 194 °F               | UL 746    |
|                                | @Thickness 1.50 mm | @Thickness 0.0591 in |           |
|                                | 95.0 °C            | 203 °F               | UL 746    |
|                                | @Thickness 3.00 mm | @Thickness 0.118 in  |           |
| Flammability, UL94             | HB                 | HB                   |           |
|                                | @Thickness 1.00 mm | @Thickness 0.0394 in |           |
|                                | HB                 | HB                   |           |
|                                | @Thickness 1.50 mm | @Thickness 0.0591 in |           |
|                                | HB                 | HB                   |           |
|                                | @Thickness 3.00 mm | @Thickness 0.118 in  |           |

| Electrical Properties | Metric     | English   | Comments           |
|-----------------------|------------|-----------|--------------------|
| Dielectric Constant   | 2.5        | 2.5       | 1.98 mm; ASTM D150 |
| Dielectric Strength   | 26.8 kV/mm | 680 kV/in | 2.03 mm; ASTM D149 |

| Processing Properties     | Metric         | English       | Comments   |
|---------------------------|----------------|---------------|------------|
| Processing Temperature    | 175 - 230 °C   | 347 - 446 °F  |            |
| Rear Barrel Temperature   | 177 °C         | 350 °F        |            |
| Middle Barrel Temperature | 182 °C         | 360 °F        |            |
| Front Barrel Temperature  | 188 °C         | 370 °F        |            |
| Nozzle Temperature        | 193 - 227 °C   | 380 - 440 °F  |            |
| Die Temperature           | 204 °C         | 400 °F        | Extrusion  |
| Melt Temperature          | 202 °C         | 395 °F        | Extrusion  |
|                           | 199 - 232 °C   | 390 - 450 °F  | Processing |
| Mold Temperature          | 10.0 - 51.7 °C | 50.0 - 125 °F | Processing |

| <b>Drying Temperature<br/>Processing Properties</b> | <b>82.2 °C<br/>Metric</b> | <b>180 °F<br/>English</b> | <b>Comments</b> |
|---|---------------------------|---------------------------|-----------------|
| Dry Time  | 3 hour                    | 3 hour                    |                 |
| Moisture Content                                    | 0.080 %                   | 0.080 %                   |                 |
| Back Pressure                                       | 0.345 - 0.689 MPa         | 50.0 - 100 psi            | Processing      |
|   | 5.00 - 20.0 MPa           | 725 - 2900 psi            | Extrusion       |
| Clamp Pressure                                      | 41.4 - 68.9 MPa           | 6000 - 10000 psi          |                 |
| Vent Depth  | 0.00254 cm                | 0.00100 in                |                 |
| Cushion   | 0.317 - 0.635 cm          | 0.125 - 0.250 in          |                 |
| Screw Speed   | 100 - 200 rpm             | 100 - 200 rpm             |                 |

| <b>Descriptive Properties</b> | <b>Value</b> | <b>Comments</b> |
|-------------------------------|--------------|-----------------|
| Color                         | Black        |                 |
| Form                          | Pellets      |                 |
| Injection Rate                | Fast         |                 |
| Maximum Re grind %            | 20           |                 |
| Screw Compression Ratio       | 2:1 - 2.5:1  |                 |
| Screw L/D Ratio               | 16:1 - 20:1  |                 |

## Contact Songhan Plastic Technology Co.,Ltd.

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