

Overview of materials for Styrenic TPE

Categories: [Polymer](#); [Thermoplastic](#); [Polystyrene \(PS\)](#); [Styrenic TPE](#)

Material Notes: This property data is a summary of similar materials in the MatWeb database for the category "Styrenic TPE". Each property range of values reported is minimum and maximum values of appropriate MatWeb entries. The comments report the average value, and number of data points used to calculate the average. The values are not necessarily typical of any specific grade, especially less common values and those that can be most affected by additives or processing methods.

Vendors: [Click here](#) to view all available suppliers for this material.

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| Physical Properties | Metric | English | Comments |
|-----------------------|------------------------|------------------------------------|---|
| Density | 0.930 - 1.68 g/cc | 0.0336 - 0.0607 lb/in ³ | Average value: 1.06 g/cc Grade Count:35 |
| Water Absorption | 0.0500 % | 0.0500 % | Average value: 0.0500 % Grade Count:10 |
| Viscosity | 22.8 - 4500 cP | 22.8 - 4500 cP | Average value: 1590 cP Grade Count:4 |
| Viscosity Measure | 8.20 - 25.0 cSt | 8.20 - 25.0 cSt | Average value: 17.4 cSt Grade Count:16 |
| Linear Mold Shrinkage | 0.00600 - 0.0250 cm/cm | 0.00600 - 0.0250 in/in | Average value: 0.0182 cm/cm Grade Count:13 |
| Melt Flow | 1.00 - 84.0 g/10 min | 1.00 - 84.0 g/10 min | Average value: 26.2 g/10 min Grade Count:27 |

| Chemical Properties | Metric | English | Comments |
|---------------------|---------------|---------------|--------------------------------------|
| Styrene Content | 22.0 - 40.0 % | 22.0 - 40.0 % | Average value: 29.8 % Grade Count:10 |
| Butadiene Content | 60.0 - 78.0 % | 60.0 - 78.0 % | Average value: 70.2 % Grade Count:10 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------------------|------------------|--|
| Hardness, Shore A | 45.0 - 91.0 | 45.0 - 91.0 | Average value: 66.6 Grade Count:40 |
| Tensile Strength, Ultimate | 0.345 - 80.0 MPa | 50.0 - 11600 psi | Average value: 11.6 MPa Grade Count:42 |
| Elongation at Break | 3.80 - 900 % | 3.80 - 900 % | Average value: 495 % Grade Count:42 |
| Modulus of Elasticity | 0.00380 - 0.0680 GPa | 0.551 - 9.86 ksi | Average value: 0.0170 GPa Grade Count:17 |
| Flex Crack Resistance | 35000 - 132000 | 35000 - 132000 | Average value: 79400 Grade Count:4 |
| Tear Strength | 20.0 - 29.4 kN/m | 114 - 168 pli | Average value: 24.9 kN/m Grade Count:9 |

| Electrical Properties | Metric | English | Comments |
|------------------------|-------------------------|-------------------------|---|
| Electrical Resistivity | 0.100 - 1.00e+16 ohm-cm | 0.100 - 1.00e+16 ohm-cm | Average value: 7.69e+15 ohm-cm Grade Count:13 |

| Thermal Properties | Metric | English | Comments |
|-------------------------|------------------|------------------|---------------------------------------|
| Brittleness Temperature | -60.0 - -57.0 °C | -76.0 - -70.6 °F | Average value: -59.0 °C Grade Count:4 |
| Flammability, UL94 | HB - V-0 | HB - V-0 | Grade Count:5 |
| Oxygen Index | 26.0 - 29.0 % | 26.0 - 29.0 % | Average value: 28.0 % Grade Count:4 |

| Processing Properties | Metric | English | Comments |
|---------------------------|-------------------|-----------------|--|
| Processing Temperature | 171 - 210 °C | 340 - 410 °F | Average value: 188 °C Grade Count:17 |
| Feed Temperature | 166 - 188 °C | 330 - 370 °F | Average value: 177 °C Grade Count:4 |
| Rear Barrel Temperature | 171 - 193 °C | 340 - 380 °F | Average value: 182 °C Grade Count:4 |
| Middle Barrel Temperature | 177 - 199 °C | 350 - 390 °F | Average value: 188 °C Grade Count:4 |
| Front Barrel Temperature | 182 - 204 °C | 360 - 400 °F | Average value: 193 °C Grade Count:4 |
| Nozzle Temperature | 188 - 210 °C | 370 - 410 °F | Average value: 199 °C Grade Count:4 |
| Die Temperature | 190 - 210 °C | 374 - 410 °F | Average value: 200 °C Grade Count:4 |
| Head Temperature | 182 - 204 °C | 360 - 400 °F | Average value: 193 °C Grade Count:4 |
| Mold Temperature | 15.6 - 65.6 °C | 60.0 - 150 °F | Average value: 31.0 °C Grade Count:17 |
| Injection Pressure | 1.38 - 103 MPa | 200 - 15000 psi | Average value: 66.9 MPa Grade Count:17 |
| Back Pressure | 0.172 - 0.345 MPa | 25.0 - 50.0 psi | Average value: 0.259 MPa Grade Count:4 |
| Cushion | 0.381 - 2.54 cm | 0.150 - 1.00 in | Average value: 1.46 cm Grade Count:4 |
| Screw Speed | 50.0 - 100 rpm | 50.0 - 100 rpm | Average value: 75.0 rpm Grade Count:4 |

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.