

# SANTOPRENE® 121-75M200

## SANTOPRENE®

A soft, black, UV resistant thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material is specially formulated with high flow properties and excellent aesthetics for use in injection molded parts such as automotive glass encapsulation. This grade of Santoprene® TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding. It is polyolefin based and recyclable within the manufacturing stream.

### Key Features

- Designed for fast, easy injection molding, especially for complex part geometries
- Designed to be injected at lower molding temperatures or at lower injection pressures
- Designed with higher gloss to allow for a wider range of gloss tailoring via mold surface
- Recommended for applications requiring superior part surface appearance with minimal to no flow defects or tiger stripes

### Product information

|                      |       |           |
|----------------------|-------|-----------|
| Resin Identification | TPV   | ISO 1043  |
| Part Marking Code    | >TPV< | ISO 11469 |

### Rheological properties

|                              |                      |                 |
|------------------------------|----------------------|-----------------|
| Moulding shrinkage, parallel | 1.3 <sup>[1]</sup> % | ISO 294-4, 2577 |
| Moulding shrinkage, normal   | 0.9 <sup>[1]</sup> % | ISO 294-4, 2577 |

[1]: 2.0 mm thickness, min. 24 hours after molding, per test method TPE-X0080

### Typical mechanical properties

|  |          |                        |
|--|----------|------------------------|
| Tensile stress at 100% elongation, perpendicular | 3.14 MPa | ISO 37                 |
| Tensile stress at break, perpendicular           | 5.77 MPa | ISO 527-1/-2 or ISO 37 |
| Elongation at break, perpendicular               | 423 %    | ISO 527-1/-2 or ISO 37 |
| Shore A hardness, 15s                            | 76       | ISO 48-4 / ISO 868     |
| Compression set, 70 °C, 24h                      | 36 %     | ISO 815                |
| Compression set, 125 °C, 70h                     | 64 %     | ISO 815                |
| Tear strength, normal                            | 23 kN/m  | ISO 34-1               |

### Flammability

|                              |             |                      |
|------------------------------|-------------|----------------------|
| FMVSS Class                  | B           | ISO 3795 (FMVSS 302) |
| Burning rate, Thickness 2 mm | 43.9 mm/min | ISO 3795 (FMVSS 302) |

### Physical/Other properties

|         |                       |          |
|---------|-----------------------|----------|
| Density | 950 kg/m <sup>3</sup> | ISO 1183 |
|---------|-----------------------|----------|

### Injection

|                                 |         |
|---------------------------------|---------|
| Drying Recommended              | yes     |
| Drying Temperature              | 80 °C   |
| Drying Time, Dehumidified Dryer | ≥3 h    |
| Processing Moisture Content     | ≤0.08 % |
| Melt Temperature Optimum        | 210 °C  |
| Min. melt temperature           | 195 °C  |
| Max. melt temperature           | 230 °C  |
| Mold Temperature Optimum        | 35 °C   |

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Min. mould temperature 10 °C  
Max. mould temperature 60 °C

### Characteristics

|                         |   |
|-------------------------|---|
| Processing              | Injection Moulding, Multi Injection Moulding    |
| Delivery form           | Pellets   |
| Special characteristics | U.V. stabilised or stable to weather, High Flow |

### Additional information

Injection molding Holding pressure should be about 50 to 75% of the actual injection pressure.  
A high screw RPM (100 to 200) is recommended.  
Back pressure is not always needed, however, a back pressure of 0.3 to 0.7 MPa may be used to ensure a homogeneous melt and maintain a consistent shot size.  
A higher back pressure is normally employed when using masterbatches.

### Processing Notes

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Desiccant drying for 3 hours at 80 °C (180 °F) is recommended. Santoprene® TPV has a wide temperature processing window from 175 to 230 °C (350 to 450 °F) and is incompatible with acetal and PVC.

Santoprene® TPV has a relatively high melt viscosity at low shear rates. Viscosity decreases as the shear rate increases.  
Increasing temperature has little effect on TPV melt viscosity. Smaller gates and higher shear rates keep melt viscosity low and improve melt flow. Please also refer to the injection molding guide.

### Automotive

| OEM            | STANDARD                       | ADDITIONAL INFORMATION                          |
|----------------|--------------------------------|---|
| Ford           | WSS-M9P9-D2                    | SANTOPRENE121-75M200_WSS-M9P9-D2_2022-08-17.pdf |
| Geely          | Q/JLY J7110166C-2024           |   |
| General Motors | GMW15812P-TPV(EPDM+PP)-Type 7M | N/A   |
| Li Auto        | Q/LiA5310057                   |   |
| Mercedes-Benz  | DBL5562                        |   |
| VW Group       | VW 50123                       |   |
| VW Group       | VW TL 527 03                   |   |

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