



# SANTOPRENE® 121-87

## **SANTOPRENE®**

A hard, black, UV resistant 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, blow molding, thermoforming or vacuum forming. It is polyolefin based and recyclable within the manufacturing stream.

## **Key Features**

- · Recommended for applications requiring excellent flex fatigue resistance
- Excellent ozone resistance
- Designed for improved UV resistance

#### **Product information**

Resin Identification Part Marking Code	TPV >TPV<	ISO 1043 ISO 11469
Typical mechanical properties		
Tensile stress at 100% elongation, perpendicular Tensile stress at break, perpendicular Elongation at break, perpendicular Brittleness Temperature Low temperature brittleness Shore A hardness, 15s Compression set, 23°C, 24h	6.8 MPa 15.2 MPa 600 % -58 °C -58 °C 93 28 %	ISO 37 ISO 527-1/-2 or ISO 37 ISO 527-1/-2 or ISO 37 ASTM D 746 ISO 812 ISO 48-4 / ISO 868 ISO 815
Compression set, 125°C, 70h	65 %	ISO 815
Specific Application Suitability Continuous Upper Temperature Resistance, 1000h	135 °C	SAE J2236
Flammability		
FMVSS Class Burning rate, Thickness 2 mm	B 27.5 mm/min	ISO 3795 (FMVSS 302) ISO 3795 (FMVSS 302)
Electrical properties Relative permittivity, 60Hz	2.7	IEC 62631-2-1
	L.I	120 02001 2 1
Physical/Other properties  Density	970 kg/m³	ISO 1183
Injection		
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Max. regrind level	yes 80 °C ≥3 h ≤0.08 % 20 %	
Melt Temperature Optimum	215 °C	

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Min. melt temperature	200	°C
Max. melt temperature	230	°C
Mold Temperature Optimum	30	°C
Min. mould temperature	10	°C
Max. mould temperature	50	°C

#### Extrusion

Drying Temperature	82	°C
Drying Time, Dehumidified Dryer	3	h
Melt Temperature Range	204	°C

#### Characteristics

Processing Injection Moulding, Multi Injection Moulding, Extrusion, Sheet Extrusion,

Coextrusion, Blow Moulding, Thermoforming

Delivery form Pellets

Special characteristics U.V. stabilised or stable to weather

### Additional information

Non Standard Data

Property Name	Condition	Value	Unit	Standard
Change in Tensile Strength	135°C, 1008h	-3	%	ISO 188
Change in Tensile Strain at Break	135°C, 1008h	-14	%	ISO 188
Change in Shore A Hardness	135°C, 1008h	1	-	ISO 188

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 Processing Notes

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.

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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-M2D382-B1

Geely Q/JLY J7110166C-2024

General Motors GMW15812P-TPV(EPDM+PP)-Type 8E N/A

Hyundai MS220-05 Type N

 IVECO
 IVECO 5244
 EMP90

 Li Auto
 Q/LiA5310057
 2021 (V2)

Mercedes-Benz DBL5562

Renault FRM 18-27-145, No Spec, Special Part

Approval, See Your CE Account Manager.

 Stellantis
 55248\_02 EMP90
 01378\_15\_01963;MS-AR-100 EGV

 Stellantis
 B62 0300 / 61/31/U4/52/212E/C1/J7/K3/M5/Q
 01378\_15\_01963;MS-AR-100 EGV

VW Group 3/R2/T7T1 21/Z9

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