

# SANTOPRENE<sup>®</sup> 201-55W255

### **SANTOPRENE®**

A soft, colorable thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. This material is designed for use in residential washing machine and dishwasher applications and contains a stabilization system for protection against copper and other metal-catalyzed degradation. This grade of Santoprene<sup>TM</sup> TPV is shear-dependent and can be processed on conventional thermoplastics equipment for injection molding or extrusion. It is polyolefin based and recyclable within the manufacturing stream.

#### **Key Features**

• Property retention in presence of typical dishwasher and washing machine detergents

Product information			
Resin Identification	TPV		ISO 1043
Part Marking Code	>TPV<		ISO 11469
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular	1.9	MPa	ISO 37
Tensile stress at break, perpendicular	5.1	MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	450	%	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	60		ISO 48-4 / ISO 868
Compression set, 23°C, 24h	16		ISO 815
Compression set, 70°C, 24h	35		ISO 815
Compression set, 100°C, 24h	42	%	ISO 815
Flammability			
FMVSS Class	В		ISO 3795 (FMVSS 302)
Burning rate, Thickness 2 mm	34.8	mm/min	ISO 3795 (FMVSS 302)
Physical/Other properties			
Density	960	kg/m³	ISO 1183
Injection			
Drying Recommended	yes		
Drying Temperature		°C	
Drying Time, Dehumidified Dryer	≥3	h	
Processing Moisture Content	≤0.08		
Melt Temperature Optimum	200		
Min. melt temperature	185		
Max. melt temperature	220		
Mold Temperature Optimum		°C	
Min. mould temperature		°C °C	
Max. mould temperature	50		

#### Characteristics

Processing	Injection Moulding, Multi Injection Moulding, Extrusion, Sheet Extrusion, Coextrusion
Delivery form	Pellets

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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** 

#### **Processing Notes**

refer to the injection molding guide.

Desiccant drying for 3 hours at  $80 \degree C$  ( $180 \degree F$ ) is recommended. Santoprene® TPV has a wide temperature processing window from 175 to  $230 \degree C$  (350 to  $450 \degree F$ ) 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

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