

# SANTOPRENE<sup>®</sup> 8281-45MED

### **SANTOPRENE®**

A soft, colorable, specialty, non-hygroscopic thermoplastic vulcanizate (TPV) in the thermoplastic elastomer (TPE) family. It is designed for use in medical and healthcare applications. 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**

- Biocompatibility in tests corresponding to USP Class VI/ISO 10993
- A representative grade undergoes annual testing for cytotoxicity and heavy metals
- Drug master file maintained with the FDA

#### Product information

Resin Identification	TPV		ISO 1043
Part Marking Code	>TPV<		ISO 11469
Typical mechanical properties			
Tensile stress at 100% elongation, perpendicular	1.3	MPa	ISO 37
Tensile stress at break, perpendicular	3.6	MPa	ISO 527-1/-2 or ISO 37
Elongation at break, perpendicular	440	%	ISO 527-1/-2 or ISO 37
Shore A hardness, 15s	49		ISO 48-4 / ISO 868
Compression set, 23°C	21	%	ISO 815
Time	168	h	
Compression set, 70°C, 24h	22	%	ISO 815
Compression set, 125°C, 24h	30	%	ISO 815
Physical/Other properties			
Density	910	kg/m³	ISO 1183
Injection			
Drying Recommended	yes		
Drying Temperature		°C	
Drying Time, Dehumidified Dryer	≥3		
Processing Moisture Content	≤0.08	%	
Max. regrind level	20	%	
Melt Temperature Optimum	200	°C	
Min. melt temperature	185	°C	
Max. melt temperature	215	°C	
Mold Temperature Optimum	35	°C	
Min. mould temperature	20	°C	
Max. mould temperature	50	°C	
Characteristics			

Processing	Multi Injection Moulding
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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