

Wacker Silicones Geniomer® 140 Silicone TPE

Category : Polymer , Thermoplastic , Elastomer, TPE , Silicone, Thermoplastic

Material Notes:

SLM TPSE 140 is a silicone copolymer containing over 90% siloxane. Geniomer® is a two phase block copolymer made up of a soft polydimethylsiloxane (PDSM) phase and a hard aliphatic isocyanate phase. On account of its structure and the high siloxane content, the material is highly flexible and combines excellent transparency with good mechanical properties. SLM TPSE 140 contains neither plasticizers nor reinforcing fillers. It can be processed using standard thermoplastic processing techniques. The high siloxane content prevents impairment of the elastomeric properties at low temperatures. SLM TPSE 140 can be coated with solvent-based paints, some of which may require the use of a suitable primer. Severe mechanical deformation of the elastomer may cause cracks in the coating due to the limited flexibility of the paint. Suggested applications: Production of industrial elastomeric components Processing aid for plastics extrusion Production of transparent film Hydrophobic, breathable textile coatings Flexible composites and bonded joints Information provided by Wacker Silicones.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Wacker-Silicones-Geniomer-140-Silicone-TPE.php

Physical Properties	Metric	English	Comments
Density	0.980 - 1.00 g/cc	0.0354 - 0.0361 lb/in³	
Water Absorption at Saturation	<= 0.30 %	<= 0.30 %	By Thermogravimetry
Viscosity	1.50e+7 - 2.00e+7 cP	1.50e+7 - 2.00e+7 cP	Melt; Oscillating cone-plate
	@Shear Rate 1.00 1/s, Temperature 150 °C	@Shear Rate 1.00 1/s, Temperature 302 °F	
	3.50e+7 - 4.50e+7 cP	3.50e+7 - 4.50e+7 cP	Melt; Oscillating cone-plate
	@Shear Rate 1.00 1/s, Temperature 110 °C	@Shear Rate 1.00 1/s, Temperature 230 °F	
Melt Flow	0.80 - 1.3 g/10 min	0.80 - 1.3 g/10 min	
	@Load 2.16 kg, Temperature 170 °C	@Load 4.76 lb, Temperature 338 °F	
	1.5 - 3.5 g/10 min	1.5 - 3.5 g/10 min	
	@Load 2.16 kg, Temperature 180 °C	@Load 4.76 lb, Temperature 356 °F	
	25 - 35 g/10 min	25 - 35 g/10 min	
	@Load 10.0 kg, Temperature 180 °C	@Load 22.0 lb, Temperature 356 °F	
High Load Melt Index	140 - 180 g/10 min	140 - 180 g/10 min	
	@Load 21.6 kg, Temperature 180 °C	@Load 47.6 lb, Temperature 356 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	45 - 60	45 - 60	DIN 53505
Tensile Strength at Break	4.50 - 6.00 MPa	653 - 870 psi	DIN 53504 S2
Elongation at Break	>= 400 %	>= 400 %	DIN 53504 S2
50% Modulus	0.000800 - 0.00150 GPa	0.116 - 0.218 ksi	DIN 53504 S2
100% Modulus	0.00120 - 0.00200 GPa	0.174 - 0.290 ksi	DIN 53504 S2
Tear Strength	25.0 - 30.0 kN/m	143 - 171 pli	Die B; ASTM 624
Compression Set	22 %	22 %	at -18°C; ISO 815
	51 %	51 %	5°C; ISO 815
	75 %	75 %	23°C; ISO 815
	94 %	94 %	40°C; ISO 815

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.50 - 1.60 J/g-°C	0.359 - 0.382 BTU/lb-°F	DSC
	2.00 - 2.40 J/g-°C	0.478 - 0.574 BTU/lb-°F	DSC
	@Temperature 200 °C	@Temperature 392 °F	

Optical Properties	Metric	English	Comments
Refractive Index	1.42 - 1.425	1.42 - 1.425	
Transmission, Visible	90 %	90 %	Transparent; thickness not quantified

Processing Properties	Metric	English	Comments
Processing Temperature	185 - 230 °C	365 - 446 °F	Metering Zone
Feed Temperature	30.0 °C	86.0 °F	
Mold Temperature	20.0 - 40.0 °C	68.0 - 104 °F	
Injection Pressure	2.00 - 50.0 MPa	290 - 7250 psi	Melt Pressure

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