

Multibase TPSiV™ 1180-50D Thermoplastic Silicone Vulcanizate

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Vulcanizate Elastomer (TPV) , Nylon , Silicone, Thermoplastic

Material Notes:

These materials are a novel family of TPV products based on cross-linked silicone rubber dispersed into various engineering thermoplastics. The dispersion of the silicone internal phase is produced by dynamic "vulcanization" or cross-linking of silicone polymers within the thermoplastic organic phase and results in a stable droplet type morphology as shown in the TEM micrograph. TPSiV™ combines the elastomeric performance of silicone rubber with the melt re-processability and thermal and chemical resistance of engineering thermoplastics. Nylon based TPSiV™ (1180-50D) has found use as the jacketing material in automotive brake cables due to its excellent temperature and chemical resistance. Information provided by Multibase, a Dow Corning Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Multibase-TPSiV-1180-50D-Thermoplastic-Silicone-Vulcanizate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.09 g/cc	1.09 g/cc	ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	52	52	10 sec; ASTM D2240
Tensile Strength at Break	24.0 MPa	3480 psi	ASTM D412
Elongation at Break	200 %	200 %	ASTM D412
Tear Strength	24.5 kN/m	140 pli	ASTM D412

Thermal Properties	Metric	English	Comments
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Dielectric Constant	4.04	4.04	ASTM D150
Dielectric Strength	22.4 kV/mm	569 kV/in	ASTM D149
	22.4 kV/mm @Frequency 100 Hz	569 kV/in @Frequency 100 Hz	ASTM D149

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	230 °C	446 °F	
Middle Barrel Temperature	240 °C	464 °F	
Front Barrel Temperature	250 °C	482 °F	

Processing Properties	Metric	English	Comments
Zone 1	210 °C	410 °F	
Zone 2	220 °C	428 °F	
Zone 3	220 °C	428 °F	
Zone 4	220 °C	428 °F	
Zone 5	220 °C	428 °F	
Die Temperature	230 °C	446 °F	
Melt Temperature	235 °C	455 °F	
Mold Temperature	10.0 - 30.0 °C	50.0 - 86.0 °F	
Drying Temperature	80.0 °C	176 °F	
Dry Time	2 - 4 hour	2 - 4 hour	

Descriptive Properties	Value	Comments
Injection Rate	Fast	

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