

Multibase TPSiV™ 3011-50A Thermoplastic Silicone Vulcanizate

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Vulcanizate Elastomer (TPV) , Polyurethane, TP , 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. Thermoplastic polyurethane based TPSiV™ (3010, 3011, 3111, 3040, 3340 grades) combine the benefits of excellent abrasion resistance from the polyurethane as well as the lower coefficient of friction and improved temperature properties from the silicone rubber. TPSiV™ 3011-50A / 60A / 70A / 85A: General purpose grades designed for both injection molding and extrusion applications. Plasticizer free (except the 50A product), which results in excellent bonding via 2-shot molding or co-extrusion to PC, ABS, PU, and PVC. They display good tensile and tear strength. Information provided by Multibase, a Dow Corning Company

Order this product through the following link:

http://www.lookpolymers.com/polymer_Multibase-TPSiV-3011-50A-Thermoplastic-Silicone-Vulcanizate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	58	58	10 sec; ASTM D2240
Tensile Strength at Break	11.0 MPa	1600 psi	ASTM D412
Elongation at Break	680 %	680 %	ASTM D412
Tear Strength	40.3 kN/m	230 pli	ASTM D412
Taber Abrasion, mg/1000 Cycles	60	60	ASTM D1044
Compression Set	18 %	18 %	
	@Temperature 22.8 °C, Time 79200 sec	@Temperature 73.0 °F, Time 22.0 hour	
	84 %	84 %	
	@Temperature 120 °C, Time 79200 sec	@Temperature 248 °F, Time 22.0 hour	
Tensile Set	10 %	10 %	1; ASTM D412
	34 %	34 %	3; ASTM D412
	60 %	60 %	At Break; ASTM D412
	60 %	60 %	ASTM D412

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	180 °C	356 °F	
Middle Barrel Temperature	190 °C	374 °F	
Front Barrel Temperature	200 °C	392 °F	
Nozzle Temperature	205 °C	401 °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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