

## Multibase TPSiV™ 3111-70A 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™ 3111-70A: Designed for good stability in water contact applications and other aqueous solutions. Plasticizer free, and is currently being used in both NSF61 and FDA (Section 177.2600: 'Rubber articles intended for repeated use') applications. Information provided by Multibase, a Dow Corning Company

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Multibase-TPSiV-3111-70A-Thermoplastic-Silicone-Vulcanizate.php](http://www.lookpolymers.com/polymer_Multibase-TPSiV-3111-70A-Thermoplastic-Silicone-Vulcanizate.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	ASTM D792

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	70	70	10 sec; ASTM D2240
Tensile Strength at Break	15.0 MPa	2180 psi	ASTM D412
Elongation at Break	600 %	600 %	ASTM D412
Tear Strength	45.6 kN/m	260 pli	ASTM D412
Taber Abrasion, mg/1000 Cycles	35	35	ASTM D1044
Compression Set	20 % @Temperature 22.8 °C, Time 79200 sec	20 % @Temperature 73.0 °F, Time 22.0 hour	

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	

<small>Drying Temperature</small> Processing Properties	<small>80.0 °C</small> Metric	<small>176 °F</small> English	Comments
Dry Time	2 - 4 hour	2 - 4 hour	

Descriptive Properties	Value	Comments
Injection Rate	Fast	

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