DSM Arnitel® UM551 Polyether Ester Elastomer (European Grade)

Category : Polymer , Thermoplastic , Elastomer, TPE , Polyester TPE , Polyester, TP , Polyether Ester Elastomer

Material Notes:

Product description: Arnitel® combines the advantages of engineering thermoplastics, being easy to process with excellent mechanical properties, at the same time with the flexibility of rubbers.Arnitel does not require vulcanization. This leads to substantial reductions in part cost. Arnitel can be used over a wide range of temperatures. Arnitel has exceptional fatigue, creep resistance and resistance to oils, greases and many other chemicals.Characteristics of Arnitel:Excellent strength over a wide range of temperaturesExcellent dynamic properties e.g. creep and fatigueHigh heat resistanceExceptional resistance to oils and greasesGood chemical resistanceHigh degree of versatility in processingEasy coloring using masterbatchesSurface quality from high gloss to texturedExcellent heat resistance (long term 165°C)Good electrical insulation propertiesLow moisture absorption, excellent dimensional stabilityEasy flow, fast cooling timesTypical Applications: Automotive: Arnitel® is extensively used in the automotive industry for applications requiring exceptional fatigue resistance and resistance to oil and greases. Examples are: Rack and Pinion Bellows, Constant Velocity Joint Boots (CVJ Boots), Air brake tubings.Arnitel in the Electronic and Consumer Goods Industry: Arnitel® finds enormous potential and is also widely used in consumer electronic companies. Arnitel® is a good choice for low noise gears where their exceptional processability without any defects such as flash, makes it the material solution of choice. Arnitel® is also used in highly demanding applications such as in mobile phone antennas.Arnitel® has exceptional flexibility and can perform or even outperform functions that normally require conventional rubbers. Available in a wide range of hardnesses, Arnitel can replace metals, thermoplastics, leather and rubber, often with a reduction in finished part costs.Information provided by DSM.

Order this product through the following link:
http://www.lookpolymers.com/polymer_DSM-Arnitel-UM551-Polyether-Ester-Elastomer-European-Grade.php

Physical Properties	Metric	English	Comments
Density	1.26 g/cc	0.0455 lb/in³	ISO 1183
Water Absorption	0.60 %	0.60 %	Sim. to ISO 62
Moisture Absorption at Equilibrium	0.25 %	0.25 %	Humidity Absorption; Sim. to ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	13.4 MPa @Strain 10.0 %	1940 psi @Strain 10.0 %	ISO 527-1/-2
	24.0 MPa @Strain 100 %	3480 psi @Strain 100 %	ISO 527-1/-2
Elongation at Break	>= 300 %	>= 300 %	ISO 527-1/-2
Elongation at Yield	22 %	22 %	ISO 527-1/-2
Tensile Modulus	0.200 GPa	29.0 ksi	ISO 527-1/-2
	0.600 J/cm²	2.86 ft-lb/in²	

Mechanical Properties	Metric	English	Comments
Charpy Impact Unnotched	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.600 J/cm² @Temperature -30.0 °C	2.86 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	160 µm/m-°C @Temperature 20.0 °C	88.9 µin/in-°F @Temperature 68.0 °F	ISO 11359-1/-2
Melting Point	195 °C	383 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	80.0 °C	176 °F	ISO 75-1/-2
Vicat Softening Point	85.0 °C	185 °F	50°C/h 50N; ISO 306
Flammability, UL94	HB @Thickness 0.750 mm	HB @Thickness 0.0295 in	IEC 60695-11-10
	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	IEC 60112

Descriptive Properties	Value	Comments
Film Extrusion	Yes	
Heat stabilized or stable to heat	Yes	
High impact or impact modified	Yes	
Injection molding	Yes	
Light stabilized or stable to light	Yes	
U.V. stabilized or stable to weather	Yes	
Without Fillers	Yes	

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