

DSM Arnitel® EM740 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 temperatures Excellent dynamic properties e.g. creep and fatigue High heat resistance Exceptional resistance to oils and greases Good chemical resistance High degree of versatility in processing Easy coloring using masterbatches Surface quality from high gloss to textured Excellent heat resistance (long term 165°C) Good electrical insulation properties Low moisture absorption, excellent dimensional stability Easy flow, fast cooling times

Typical 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-EM740-Polyether-Ester-Elastomer-European-Grade.php

Physical Properties	Metric	English	Comments
Density	1.27 g/cc	0.0459 lb/in ³	ISO 1183
Water Absorption	0.58 %	0.58 %	Sim. to ISO 62
Moisture Absorption at Equilibrium	0.15 %	0.15 %	Humidity Absorption; Sim. to ISO 62
Melt Flow	7.239 g/10 min @Load 2.16 kg, Temperature 240 °C	7.239 g/10 min @Load 4.76 lb, Temperature 464 °F	Calculated from Volume Flow Rate of 5.7 cm ³ /10min.; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	74	74	3s; ISO 868
Tensile Strength, Yield	35.0 MPa	5080 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	ISO 527-1/-2
Elongation at Yield	20 %	20 %	ISO 527-1/-2
Tensile Modulus	0.900 GPa	131 ksi	ISO 527-1/-2

Mechanical Properties	0.600 J/cm² Metric	2.86 ft-lb/in² English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.50 J/cm²	7.14 ft-lb/in²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	140 µm/m-°C	77.8 µin/in-°F	ISO 11359-1/-2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
CTE, linear, Transverse to Flow	140 µm/m-°C	77.8 µin/in-°F	ISO 11359-1/-2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Melting Point	221 °C	430 °F	10°C/min; ISO 11357-1/-3
Vicat Softening Point	160 °C	320 °F	50°C/h 50N; ISO 306
Flammability, UL94	HB	HB	IEC 60695-11-10
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 60093
Surface Resistance	1.00e+11 ohm	1.00e+11 ohm	IEC 60093
Dielectric Constant	3.4	3.4	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	23.0 kV/mm	584 kV/in	IEC 60243-1
Dissipation Factor	0.040	0.040	IEC 60250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Descriptive Properties	Value	Comments
High impact or impact modified	Yes	
Injection molding	Yes	
Other Extrusion	Yes	
Release Agent	Yes	
Without Fillers	Yes	

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