

DSM Arnitel® PL650 Polyether Ester Elastomer (European and Asian 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-PL650-Polyether-Ester-Elastomer-European-and-Asian-Grade.php

Physical Properties	Metric	English	Comments
Density	1.26 g/cc	0.0455 lb/in³	ISO 1183
Melt Flow	37.8 g/10 min @Load 2.16 kg, Temperature 230 °C	37.8 g/10 min @Load 4.76 lb, Temperature 446 °F	Calculated from Volume Flow Rate of 30 cm ³ /10min.; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	63	63	3s; ISO 868
Tensile Strength at Break	34.4 MPa	4990 psi	ISO 527-1/-2
Tensile Strength, Yield	17.1 MPa @Strain 5.00 %	2480 psi @Strain 5.00 %	ISO 527-1/-2
	22.9 MPa @Strain 10.0 %	3320 psi @Strain 10.0 %	ISO 527-1/-2
	23.2 MPa @Strain 100 %	3360 psi @Strain 100 %	ISO 527-1/-2

Mechanical Properties	Metric	English	Comments
	@Strain 50.0 %	@Strain 50.0 %	ISO 527-1/-2
Elongation at Break	350 %	350 %	ISO 527-1/-2
Tensile Modulus	0.570 GPa	82.7 ksi	ISO 527-1/-2
Izod Impact, Notched (ISO)	5.00 kJ/m ² @Temperature -20.0 °C	2.38 ft-lb/in ² @Temperature -4.00 °F	ISO 180/1A
	21.0 kJ/m ² @Temperature 23.0 °C	9.99 ft-lb/in ² @Temperature 73.4 °F	ISO 180/1A
Charpy Impact, Notched	0.700 J/cm ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	2.30 J/cm ² @Temperature 23.0 °C	10.9 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA
Graves Tear Strength	150 kN/m	856 pli	without nick; ISO 34

Thermal Properties	Metric	English	Comments
Melting Point	221 °C	430 °F	10°C/min; ISO 11357-1/-3
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	IEC 60695-11-10

Descriptive Properties	Value	Comments
High impact or impact modified	Yes	
Injection molding	Yes	
Without Fillers	Yes	

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