

DSM Arnitel® PL460-S 46 Shore D, Injection Grade, Flame Retardant Copolyester Elastomer (North America)

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

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-PL460-S-46-Shore-D-Injection-Grade-Flame-Retardant-Copolyester-Elastomer-North-America.php

Physical Properties	Metric	English	Comments
Density	1.39 g/cc	0.0502 lb/in ³	ISO 1183
Water Absorption	3.5 %	3.5 %	Sim. to ISO 62
Moisture Absorption at Equilibrium	0.40 %	0.40 %	Humidity Absorption; Sim. to ISO 62
Melt Flow	34.75 g/10 min @Load 2.16 kg, Temperature 240 °C	34.75 g/10 min @Load 4.76 lb, Temperature 464 °F	Calculated from Volume Flow Rate of 25 cm ³ /10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	61	61	3 s; ISO 868
Tensile Strength at Break	21.3 MPa	3090 psi	ISO 527-1/-2
Tensile Strength, Yield	7.90 MPa @Strain 5.00 %	1150 psi @Strain 5.00 %	ISO 527-1/-2

Mechanical Properties	10.6 MPa Metric	1540 psi English	Comments 2
	@Strain 10.0 %	@Strain 10.0 %	
	14.1 MPa	2050 psi	ISO 527-1/-2
	@Strain 50.0 %	@Strain 50.0 %	
	16.1 MPa	2340 psi	ISO 527-1/-2
	@Strain 100 %	@Strain 100 %	
Elongation at Break	235 %	235 %	ISO 527-1/-2
Tensile Modulus	0.240 GPa	34.8 ksi	ISO 527-1/-2
Charpy Impact, Notched	2.20 J/cm ²	10.5 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.00 J/cm ²	28.6 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Melting Point	220 °C	428 °F	10°C/min; ISO 11357-1/-3
Flammability, UL94	V-0	V-0	IEC 60695-11-10
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Descriptive Properties	Value	Comments
Flame Retardant	Yes	
Flame Retarding Agent	Yes	
High impact or impact modified	Yes	
Injection molding	Yes	
Without Fillers	Yes	

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