

Teknor Apex Sarlink® 4180 Thermoplastic Elastomer

Category : Polymer , Thermoplastic , Elastomer, TPE , Thermoplastic Olefinic Elastomer (TPO)

Material Notes:

A highly engineered Thermoplastic Elastomer for use in demanding applications. Sarlink® 4180 is a medium hardness grade possessing exceptional tensile strength, superior compression set, chemical resistance and high temperature performance. It can be easily processed by injection molding, blow molding or extrusion for various applications such as boots and bellows, seals, gaskets as well as other profiles and articles. Processing and Handling (See more in property table) Sarlink® 4180 is a polypropylene based elastomer, which can be processed on conventional thermoplastic equipment for injection molding, extrusion and blow molding. This product has a wide processing window in most applications. Melt temperatures from 360°F to 430°F can be used. Do not exceed 450°F. Drying is recommended for extrusion and blow molding and any time the material is used from an unsealed package. Extrusion screen pack is 20 to 60 mesh. PURGING This product has excellent melt stability. Empty the barrel for idle periods of thirty (30) minutes or longer. Purge thoroughly before and after use of this product with polyethylene or polypropylene. RECYCLING/REGRIND This product can be reprocessed. Physical properties are generally not degraded. Dry regrind prior to reprocessing. COLORING The use of polyolefin based color concentrates is recommended. Apply back pressure in injection molding to disperse color. BONDING/ASSEMBLY Thermal bonding techniques can be used to form high strength bonds. Adhesive bonding can be achieved with specialized adhesives. Bond strength is limited due to the polypropylene base of this material. STORAGE and HANDLING This product is available in 55 lb. foil lined bags (up to 2,200 lbs. per pallet) or 1,100 lb. polyethylene lined gaylords. It has a storage life at normal temperatures of several years. Please refer to the Material Safety Data Sheet for this grade prior to first time handling. Sarlink® was sold from DSM to Teknor Apex

Order this product through the following link:

http://www.lookpolymers.com/polymer_Teknor-Apex-Sarlink-4180-Thermoplastic-Elastomer.php

Physical Properties	Metric	English	Comments
Density	0.960 g/cc	0.0347 lb/in ³	ASTM D792
Viscosity	348000 cP	348000 cP	ASTM D3835
	@Shear Rate 206 1/s, Temperature 200 °C	@Shear Rate 206 1/s, Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	79	79	extruded sample; 5 sec. delay; ASTM D2240
	83	83	injection molded sample; 5 sec. delay; ASTM D2240
Tensile Strength at Break	8.00 MPa	1160 psi	Die C; Flow direction; ASTM D412
	10.50 MPa	1523 psi	Die C; Cross direction; ASTM D412
Elongation at Break	396 %	396 %	Die C; Flow direction; ASTM D412
	501 %	501 %	Die C; Cross direction; ASTM D412
100% Modulus	0.00470 GPa	0.682 ksi	Die C; Cross direction; ASTM D412

Mechanical Properties	Metric	English	Comments
	0.00530 GPa	0.765 ksi	Die C; Flow direction; ASTM D412
Tear Strength	48.0 kN/m	274 pli	Die C; Cross direction; ASTM D624
Compression Set	32 %	32 %	22h/23Â°C; ASTM D395B
	51 %	51 %	22hr; ASTM D395B
	@Temperature 100 Â°C	@Temperature 212 Â°F	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	182 - 204 Â°C	360 - 400 Â°F	Extrusion
	177 - 216 Â°C	350 - 420 Â°F	Injection Molding
Middle Barrel Temperature	182 - 204 Â°C	360 - 400 Â°F	Extrusion Transition Zone
	177 - 216 Â°C	350 - 420 Â°F	Injection Molding
	188 - 210 Â°C	370 - 410 Â°F	Extrusion Metering Zone
Front Barrel Temperature	177 - 216 Â°C	350 - 420 Â°F	Injection Molding
	188 - 210 Â°C	370 - 410 Â°F	Extrusion
Nozzle Temperature	188 - 221 Â°C	370 - 430 Â°F	Injection Molding
Die Temperature	193 - 216 Â°C	380 - 420 Â°F	Extrusion
Melt Temperature	182 - 221 Â°C	360 - 430 Â°F	Injection Molding
	193 - 216 Â°C	380 - 420 Â°F	Extrusion
Mold Temperature	10.0 - 65.6 Â°C	50.0 - 150 Â°F	Injection Molding
Roll Temperature	21.1 - 48.9 Â°C	70.0 - 120 Â°F	Extrusion
Drying Temperature	82.2 Â°C	180 Â°F	
Dry Time	3 hour	3 hour	
Injection Pressure	0.0689 - 1.03 MPa	10.0 - 150 psi	Injection Molding Back Pressure
Screw Speed	100 - 200 rpm	100 - 200 rpm	Injection Molding

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