

PolyOne Dynaflex™ G7970-1 NSFG Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer, TPE

Material Notes:

Dynaflex™ G7970-1 NSFG is a NSF 51 (food equipment) approved material suitable for a wide variety of applications. -NSF 51 approved - FDA (see Notes) -Overmold Adhesion to Polypropylene -Soft Touch, Rubbery FeelDynaflex™ G7970-1 NSFG can be recycled as a filler or impact modifier for polyolefins, or can be recycled by grinding and reintroduction to the molding process. Similar to PP or PE recycling process, if separated appropriately, it can be recycled many times. Municipality waste stream recycle code is 7 which is designated for Other. Please contact GLS Thermoplastic Elastomers for a copy of our Recyclability Compliance letter. Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (PE) carriers are most suitable for coloring Dynaflex™ G7970-1 NSFG. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40 g/10 min). Typical loadings for color concentrates are 1% to 5% by weight. Liquid color can be used, but mineral oil based carriers may have a significant effect on the final hardness value. Concentrates based on PVC should not be used. A high color match consistency can be obtained by using precolored compounds available from GLS. The final determination of color concentrate suitability should be determined by customer trials. Purge thoroughly before and after use of this product with a low flow (0.5 - 2.5 MFR) polyethylene (PE) or polypropylene (PP). Regrind levels up to 20% can be used with Dynaflex™ G7970-1 NSFG with minimal property loss, provided that the regrind is free of contamination. To minimize losses during molding, the melt temperature should remain as low as possible. The final determination of regrind effectiveness should be determined by the customer. Dynaflex™ G7970-1 NSFG has excellent melt stability. Maximum residence times may vary, depending on the size of the barrel. Generally, the barrel should be emptied if it is idle for periods of 8 - 10 minutes or longer. Drying is not Required Injection Speed: 1 to 3 in/sec 1st Stage - Boost Pressure: 350 to 900 psi 2nd Stage - Hold Pressure: 30% of Boost Hold Time (Thick Part): 3 to 10 sec Hold Time (Thin Part): 1 to 3 secInformation provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Dynaflex-G7970-1-NSFG-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Viscosity	9900 cP	9900 cP	ASTM D3835
	@Shear Rate 11200 1/s, Temperature 200 °C	@Shear Rate 11200 1/s, Temperature 392 °F	
Linear Mold Shrinkage, Flow	0.0060 - 0.012 cm/cm	0.0060 - 0.012 in/in	ASTM D955
Melt Flow	1.0 g/10 min	1.0 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
	36 g/10 min	36 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 200 °C	@Load 11.0 lb, Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
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Hardness, Shore A Mechanical Properties	70 Metric	70 English	10 sec; ASTM D2240 Comments
Tensile Strength at Break	6.58 MPa @Temperature 23.0 °C	954 psi @Temperature 73.4 °F	Die C2 hr; ASTM D412
Tensile Stress	2.62 MPa @Strain 100 %, Temperature 23.0 °C	380 psi @Strain 100 %, Temperature 73.4 °F	Die C2 hr; ASTM D412
	3.10 MPa @Strain 300 %, Temperature 23.0 °C	450 psi @Strain 300 %, Temperature 73.4 °F	Die C2 hr; ASTM D412
Elongation at Break	720 % @Temperature 23.0 °C	720 % @Temperature 73.4 °F	Die C2 hr; ASTM D412
Tear Strength	28.0 kN/m	160 pli	ASTM D624
Compression Set	20 % @Temperature 23.0 °C, Time 79200 sec	20 % @Temperature 73.4 °F, Time 22.0 hour	ASTM D395B

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	166 - 177 °C	331 - 351 °F	
Middle Barrel Temperature	177 - 193 °C	351 - 379 °F	
Front Barrel Temperature	188 - 227 °C	370 - 441 °F	
Nozzle Temperature	193 - 227 °C	379 - 441 °F	
Mold Temperature	15.6 - 37.8 °C	60.1 - 100 °F	
Back Pressure	0.000 - 0.827 MPa	0.000 - 120 psi	
Screw Speed	40 - 100 rpm	40 - 100 rpm	

Descriptive Properties	Value	Comments
Agency Ratings	FDA 21 CFR 177.1210	Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.
	NSF 51	
Appearance	Natural Color	
Features	Good Colorability	
	Good Flow	

Descriptive Properties	Good Processability Value	Comments
	Good Processing Stability	
	Recyclable Material	
Forms	Pellets	
Generic Material	TPE	
Generic Name	Thermoplastic Elastomer (TPE)	
Manufacturer / Supplier	GLS Thermoplastic Elastomers	
Processing Method	Injection Molding	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
RoHS Compliance	RoHS Compliant	
Suggested Max Regrind	20%	
Uses	Consumer Applications	
	Flexible Grips	
	Food Service Applications	
	Gaskets	
	Household Goods	
	Kitchenware	
	Non-specific Food Applications	
	Overmolding	
	Seals	
	Soft Touch Applications	

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