

PolyOne Dynaflex™ G7680-1 (Natural) Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer, TPE

Material Notes:

Dynaflex™ G7680-1 (Natural) is an easy processing, general purpose TPE designed for a wide variety of applications, including those where FDA compliance is required. - Overmold Adhesion to Polypropylene - Rubbery Feel - Soft TouchColor concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (PE) carriers are most suitable for coloring Dynaflex™ G7680-1 (Natural). 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™ G7680-1 (Natural) 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™ G7680-1 (Natural) 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 sec Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Dynaflex-G7680-1-Natural-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Viscosity	10900 cP	10900 cP	ASTM D3835
	@Shear Rate 11200 1/s, Temperature 200 °C	@Shear Rate 11200 1/s, Temperature 392 °F	
Linear Mold Shrinkage, Flow	47300 cP	47300 cP	ASTM D3835
	@Shear Rate 1340 1/s, Temperature 200 °C	@Shear Rate 1340 1/s, Temperature 392 °F	
Linear Mold Shrinkage, Flow	0.0060 - 0.014 cm/cm	0.0060 - 0.014 in/in	ASTM D955
Melt Flow	33 g/10 min	33 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 200 °C	@Load 11.0 lb, Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	81	81	10 sec; ASTM D2240
Tensile Strength at Break	7.93 MPa	1150 psi	Die C2 hr; ASTM D412

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Tensile Stress	3.90 MPa	566 psi	Die C2 hr; ASTM D412
	@Strain 100 %, Temperature 23.0 °C	@Strain 100 %, Temperature 73.4 °F	
	4.55 MPa	660 psi	Die C2 hr; ASTM D412
	@Strain 300 %, Temperature 23.0 °C	@Strain 300 %, Temperature 73.4 °F	
Elongation at Break	660 %	660 %	Die C2 hr; ASTM D412
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tear Strength	34.1 kN/m	195 pli	ASTM D624
Compression Set	23 %	23 %	ASTM D395B
	@Temperature 23.0 °C, Time 79200 sec	@Temperature 73.4 °F, Time 22.0 hour	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	166 - 188 °C	331 - 370 °F	
Middle Barrel Temperature	177 - 188 °C	351 - 370 °F	
Front Barrel Temperature	188 - 216 °C	370 - 421 °F	
Nozzle Temperature	188 - 227 °C	370 - 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.
Appearance	Natural Color	
Features	General Purpose	
	Good Colorability	
	Good Flow	
	Good Processability	
	Good Processing Stability	

Forms Descriptive Properties	Pellets Value	Comments
Generic Material	TPE	
Generic Name	Thermoplastic Elastomer (TPE)	
Manufacturer / Supplier	GLS Thermoplastic Elastomers	
Processing Method	Extrusion Injection Molding	
Regional Availability	Asia Pacific	
RoHS Compliance	RoHS Compliant	
Suggested Max Regrind	20%	
Uses	Consumer Applications Flexible Grips Gaskets General Purpose Overmolding Seals Soft Touch Applications Sporting Goods	

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