Dynaflex™ G7650-1 (Natural)

Thermoplastic Elastomer

Key Characteristics

Product Description			
Dynaflex™ G7650-1 (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 Touch			
General			
Material Status	• Commercial: Active		
Regional Availability	• Asia Pacific		
Features	• General Purpose • Good Colorability	• Good Flow • Good Processability	• Good Processing Stability
Uses	• Consumer Applications • Flexible Grips • Gaskets	• General Purpose • Overmolding • Seals	• Soft Touch Applications • Sporting Goods
Agency Ratings	• FDA 21 CFR 177.1210 [1]		
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.18	1.18	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	9.0 g/10 min	9.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.011 to 0.019 in/in	1.1 to 1.9 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	220 psi	1.52 MPa	ASTM D412
Tensile Stress [3, 4] (300% Strain, 73°F (23°C))	420 psi	2.90 MPa	ASTM D412
Tensile Strength [3, 4] (Break, 73°F (23°C))	620 psi	4.27 MPa	ASTM D412
Tensile Elongation [3, 4] (Break, 73°F (23°C))	560 %	560 %	ASTM D412
Tear Strength	117 lbf/in	20.5 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	12 %	12 %	ASTM D395B
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	50	50	ASTM D2240
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 1340 sec^-1	48.3 Pa·s	48.3 Pa·s	
392°F (200°C), 11200 sec^-1	9.44 Pa·s	9.44 Pa·s	

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	320 to 370 °F	160 to 188 °C
Middle Temperature	350 to 390 °F	177 to 199 °C
Front Temperature	380 to 420 °F	193 to 216 °C
Nozzle Temperature	380 to 440 °F	193 to 227 °C
Mold Temperature	60 to 100 °F	16 to 38 °C
Back Pressure	0.00 to 150 psi	0.00 to 1.03 MPa
Screw Speed	25 to 100 rpm	25 to 100 rpm

Injection Notes

Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (PE) carriers are most suitable for coloring Dynaflex™ G7650-1 (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. Concentrates based on PVC should not be used. 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™ G7650-1 (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™ G7650-1 (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: 250 to 800 psi
2nd Stage - Hold Pressure: 30% of Boost
Hold Time (Thick Part): 3 to 10 sec
Hold Time (Thin Part): 1 to 3 sec

Notes

[1] Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.

[2] Typical values are not to be construed as specifications.

[3] Die C

[4] 2 hr

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