Dynaflex™ G2780-0001

Thermoplastic Elastomer

Key Characteristics

Product Description

Dynaflex™ G2780-0001 is an easy processing TPE designed for injection molding and extrusion applications that require FDA compliance.

- Excellent Colorability
- Overmold Adhesion to Polypropylene
- Bonds to Low Density Polyethylene (LDPE)
- Rubbery Feel
- Soft Touch

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Latin America • North America	
Features	• Good Colorability • Ozone Resistant	• Recyclable Material • UV Resistant	
Uses	• Blow Molding Applications • Consumer Applications	• Overmolding • Personal Care	• Sheet • Transparent or Translucent Parts
Agency Ratings	• FDA 21 CFR 177.2600 [1]		
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.900	0.900	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	5.0 g/10 min	5.0 g/10 min	
200°C/5.0 kg	16 g/10 min	16 g/10 min	
Molding Shrinkage - Flow	9.0E-3 to 0.015 in/in	0.90 to 1.5 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	840 psi	5.79 MPa	ASTM D412
Tensile Stress [3, 4] (300% Strain, 73°F (23°C))	1140 psi	7.86 MPa	ASTM D412
Tensile Strength [3, 4] (Break, 73°F (23°C))	1100 psi	7.58 MPa	ASTM D412
Tensile Elongation [3, 4] (Break, 73°F (23°C))	350 %	350 %	ASTM D412
Tear Strength	250 lbf/in	43.8 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	18 %	18 %	ASTM D395B
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	84	84	ASTM D2240
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec^-1	22.0 Pa·s	22.0 Pa·s	

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Additional Information

Dynaflex™ G2780-0001 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.

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	270 to 340 °F	132 to 171 °C
Middle Temperature	340 to 370 °F	171 to 188 °C
Front Temperature	370 to 405 °F	188 to 207 °C
Nozzle Temperature	370 to 405 °F	188 to 207 °C
Mold Temperature	60 to 80 °F	16 to 27 °C
Back Pressure	0.00 to 150 psi	0.00 to 1.03 MPa
Screw Speed	40 to 100 rpm	40 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™ G2780-0001. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40g/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™ G2780-0001 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.

The Dynaflex™ G2780-0001 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 5 in/sec
1st Stage - Boost Pressure: 100 to 500 psi
2nd Stage - Hold Pressure: 70% of Boost
Hold Time (Thick Part): 4 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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