

Dynaflex™ G2709-1000-00

Thermoplastic Elastomer

Key Characteristics

Product Description

Dynaflex™ G2709-1000-00 is an easy processing TPE designed for injection molding and extrusion applications that require FDA compliance.

- Excellent Colorability
- Overmold Adhesion to Polypropylene
- 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	• Consumer Applications	• Overmolding	• Personal Care
Agency Ratings	• EU 10/2011 ¹	• FDA 21 CFR 177.1210 ²	
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties³

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.890	0.890	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	8.0 g/10 min	8.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.011 to 0.018 in/in	1.1 to 1.8 %	ASTM D955
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress ^{4, 5} (100% Strain, 73°F (23°C))	240 psi	1.65 MPa	ASTM D412
Tensile Stress ^{4, 5} (300% Strain, 73°F (23°C))	400 psi	2.76 MPa	ASTM D412
Tensile Strength ^{4, 5} (Break, 73°F (23°C))	953 psi	6.57 MPa	ASTM D412
Tensile Elongation ^{4, 5} (Break, 73°F (23°C))	710 %	710 %	ASTM D412
Tear Strength	140 lbf/in	24.5 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)	53	53	ASTM D2240
Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity 392°F (200°C), 11200 sec ⁻¹	12.1 Pa·s	12.1 Pa·s	ASTM D3835

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Additional Information

Dynaflex™ G2709-1000-00 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)
Rear Temperature	310 to 350 °F	154 to 177 °C
Middle Temperature	350 to 370 °F	177 to 188 °C
Front Temperature	370 to 440 °F	188 to 227 °C
Nozzle Temperature	370 to 440 °F	188 to 227 °C
Mold Temperature	60 to 80 °F	16 to 27 °C
Back Pressure	50.0 to 150 psi	0.345 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 (LDPE) carrier are most suitable for coloring Dynaflex™ G2709-1000-00. 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 affect 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).

Dynaflex™ G2709-1000-00 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.

Regrind levels up to 20% can be used with Dynaflex™ G2709-1000-00 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.

Drying is not Required

- Injection Speed: 1 to 5 in/sec
- 1st Stage - Boost Pressure: 275 to 700 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 EU compliance letter.
- ² Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.
- ³ Typical values are not to be construed as specifications.
- ⁴ Die C
- ⁵ 2 hr

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CONTACT INFORMATION**North America**

Avon Lake, United States
33587 Walker Road
Avon Lake, OH, United States ,
44012
+1 440 930 1000
+1 844 4AVIENT

South America

Sao Paulo, Brazil
Av. Francisco Nakasato, 1700
13295-000 Itupeva
Sao Paulo, Brazil
+55 11 4593 9200

Asia

Shanghai, China
2F, Block C
200 Jinsu Road
Pudong, 201206
Shanghai, China
+86 (0) 21 6028 4888

Europe

Pommerloch, Luxembourg
19 Route de Bastogne
Pommerloch, Luxembourg , L-9638
+352 269 050 35



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