



# Dynaflex™ G7670-1 (Natural)

## Thermoplastic Elastomer

### Key Characteristics

#### Product Description

Dynaflex™ G7670-1 (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	<ul style="list-style-type: none"> <li>• General Purpose</li> <li>• Good Colorability</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Consumer Applications</li> <li>• Flexible Grips</li> <li>• Gaskets</li> </ul>
Agency Ratings	• FDA 21 CFR 177.1210 <sup>1</sup>
RoHS Compliance	• RoHS Compliant
Appearance	• Natural Color
Forms	• Pellets
Processing Method	<ul style="list-style-type: none"> <li>• Extrusion</li> <li>• Injection Molding</li> </ul>

### Technical Properties <sup>2</sup>

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)	21 g/10 min	21 g/10 min	ASTM D1238
Molding Shrinkage - Flow	6.0E-3 to 0.014 in/in	0.60 to 1.4 %	ASTM D955
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress <sup>3,4</sup> (100% Strain, 73°F (23°C))	405 psi	2.79 MPa	ASTM D412
Tensile Stress <sup>3,4</sup> (300% Strain, 73°F (23°C))	525 psi	3.62 MPa	ASTM D412
Tensile Strength <sup>3,4</sup> (Break, 73°F (23°C))	1020 psi	7.03 MPa	ASTM D412
Tensile Elongation <sup>3,4</sup> (Break, 73°F (23°C))	670 %	670 %	ASTM D412
Tear Strength	170 lbf/in	29.8 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	19 %	19 %	ASTM D395B
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	71	71	ASTM D2240
Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec <sup>-1</sup>	9.60 Pa·s	9.60 Pa·s	

**Processing Information**

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	330 to 350 °F	166 to 177 °C
Middle Temperature	350 to 380 °F	177 to 193 °C
Front Temperature	370 to 440 °F	188 to 227 °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 120 psi	0.00 to 0.827 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™ G7670-1 (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™ G7670-1 (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™ G7670-1 (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

**Notes**

<sup>1</sup> Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.

<sup>2</sup> Typical values are not to be construed as specifications.

<sup>3</sup> Die C

<sup>4</sup> 2 hr