



# Dynaflex™ G7640-9 (Black)

## Thermoplastic Elastomer

### Key Characteristics

#### Product Description

Dynaflex™ G7640-9 (Black) 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
- Soft Touch, Rubbery Feel

#### General

Material Status	• Commercial: Active
Regional Availability	• Asia Pacific
Features	<ul style="list-style-type: none"> <li>• General Purpose</li> <li>• Good Flow</li> <li>• Good Processability</li> <li>• Good Processing Stability</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Consumer Applications</li> <li>• Flexible Grips</li> <li>• Gaskets</li> <li>• General Purpose</li> <li>• Overmolding</li> <li>• Seals</li> <li>• Soft Touch Applications</li> <li>• Sporting Goods</li> </ul>
Agency Ratings	• FDA 21 CFR 177.1210 <sup>1</sup>
RoHS Compliance	• RoHS Compliant
Appearance	• Black
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
Specific Gravity	1.18	1.18	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	3.0 g/10 min	3.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.013 to 0.021 in/in	1.3 to 2.1 %	ASTM D955
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress <sup>3,4</sup> (100% Strain, 73°F (23°C))	170 psi	1.17 MPa	ASTM D412
Tensile Stress <sup>3,4</sup> (300% Strain, 73°F (23°C))	360 psi	2.48 MPa	ASTM D412
Tensile Strength <sup>3,4</sup> (Break, 73°F (23°C))	490 psi	3.38 MPa	ASTM D412
Tensile Elongation <sup>3,4</sup> (Break, 73°F (23°C))	520 %	520 %	ASTM D412
Tear Strength	100 lbf/in	17.5 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	11 %	11 %	ASTM D395B
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	40	40	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>	8.80 Pa·s	8.80 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 380 °F	177 to 193 °C
Front Temperature	360 to 410 °F	182 to 210 °C
Nozzle Temperature	380 to 420 °F	193 to 216 °C
Mold Temperature	60.0 to 100 °F	15.6 to 37.8 °C
Back Pressure	0.00 to 100 psi	0.00 to 0.689 MPa
Screw Speed	25 to 100 rpm	25 to 100 rpm

**Injection Notes**

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™ G7640-9 (Black) with minimal property losses, provided that the regrind is free of contamination. To minimize losses during molding, the melt temperature should be as low as possible. The final determination of regrind effectiveness should be determined by the customer.

The Dynaflex™ G7640-9 (Black) 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: 175 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**

- <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

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