



## Dynaflex™ G7660-9 (Black)

### Thermoplastic Elastomer

#### Key Characteristics

##### Product Description

Dynaflex™ G7660-9 (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
- Rubbery Feel
- Soft Touch

##### General

|                       |                                                          |                                                      |                                               |
|-----------------------|----------------------------------------------------------|------------------------------------------------------|-----------------------------------------------|
| Material Status       | • Commercial: Active                                     |                                                      |                                               |
| Regional Availability | • Asia Pacific                                           |                                                      |                                               |
| Features              | • General Purpose<br>• Good Flow                         | • Good Processability<br>• Good Processing Stability |                                               |
| Uses                  | • Consumer Applications<br>• Flexible Grips<br>• Gaskets | • General Purpose<br>• Overmolding<br>• Seals        | • Soft Touch Applications<br>• Sporting Goods |
| Agency Ratings        | • FDA 21 CFR 177.1210 <sup>1</sup>                       |                                                      |                                               |
| RoHS Compliance       | • RoHS Compliant                                         |                                                      |                                               |
| Appearance            | • Black                                                  |                                                      |                                               |
| Forms                 | • Pellets                                                |                                                      |                                               |
| Processing Method     | • Extrusion                                              | • Injection Molding                                  |                                               |

#### 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                                 | 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 <sup>3,4</sup> (100% Strain, 73°F (23°C)) | 310 psi                 | 2.14 MPa           | ASTM D412   |
| Tensile Stress <sup>3,4</sup> (300% Strain, 73°F (23°C)) | 440 psi                 | 3.03 MPa           | ASTM D412   |
| Tensile Strength <sup>3,4</sup> (Break, 73°F (23°C))     | 960 psi                 | 6.62 MPa           | ASTM D412   |
| Tensile Elongation <sup>3,4</sup> (Break, 73°F (23°C))   | 720 %                   | 720 %              | ASTM D412   |
| Tear Strength                                            | 150 lbf/in              | 26.3 kN/m          | ASTM D624   |
| Compression Set (73°F (23°C), 22 hr)                     | 17 %                    | 17 %               | ASTM D395B  |
| Hardness                                                 | Typical Value (English) | Typical Value (SI) | Test Method |
| Durometer Hardness (Shore A, 10 sec)                     | 60                      | 60                 | ASTM D2240  |
| Fill Analysis                                            | Typical Value (English) | Typical Value (SI) | Test Method |
| Apparent Viscosity                                       |                         |                    | ASTM D3835  |
| 392°F (200°C), 1340 sec <sup>-1</sup>                    | 44.7 Pa·s               | 44.7 Pa·s          |             |
| 392°F (200°C), 11200 sec <sup>-1</sup>                   | 9.20 Pa·s               | 9.20 Pa·s          |             |

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## Processing Information

| Injection             | Typical Value (English) | Typical Value (SI) |
|-----------------------|-------------------------|--------------------|
| Suggested Max Regrind | 20 %                    | 20 %               |
| Rear Temperature      | 320 to 350 °F           | 160 to 177 °C      |
| Middle Temperature    | 350 to 380 °F           | 177 to 193 °C      |
| Front Temperature     | 370 to 430 °F           | 188 to 221 °C      |
| Nozzle Temperature    | 380 to 440 °F           | 193 to 227 °C      |
| Mold Temperature      | 60.0 to 100 °F          | 15.6 to 37.8 °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

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™ G7660-9 (Black) 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™ G7660-9 (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: 350 to 900 psi  
 2nd Stage - Hold Pressure: 30% of Boost  
 Hold Time (Thick Part): 3 to 10 sec  
 Hold Time (Thin Part): 2 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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