



# Dynaflex™ G7970-9 NSFG

## Thermoplastic Elastomer

### Key Characteristics

#### Product Description

- Dynaflex™ G7970-9 NSFG is a NSF 51 (food equipment) approved material suitable for a wide variety of applications.
- NSF 51 approved
  - FDA (see Notes)
  - Overmold Adhesion to Polypropylene
  - Soft Touch, Rubbery Feel

#### General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Latin America • North America	
Features	• Good Flow • Good Processability	• Good Processing Stability • Recyclable Material	
Uses	• Consumer Applications • Flexible Grips • Food Service Applications • Gaskets	• Household Goods • Kitchenware • Non-specific Food Applications • Overmolding	• Seals • Soft Touch Applications
Agency Ratings	• FDA 21 CFR 177.2600 <sup>1</sup>	• NSF STD-51	
RoHS Compliance	• RoHS Compliant		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

### 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)	54 g/10 min	54 g/10 min	ASTM D1238
Molding Shrinkage - Flow	6.0E-3 to 0.012 in/in	0.60 to 1.2 %	ASTM D955
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress <sup>3,4</sup> (100% Strain, 73°F (23°C))	380 psi	2.62 MPa	ASTM D412
Tensile Stress <sup>3,4</sup> (300% Strain, 73°F (23°C))	450 psi	3.10 MPa	ASTM D412
Tensile Strength <sup>3,4</sup> (Break, 73°F (23°C))	955 psi	6.58 MPa	ASTM D412
Tensile Elongation <sup>3,4</sup> (Break, 73°F (23°C))	720 %	720 %	ASTM D412
Tear Strength	160 lbf/in	28.0 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	20 %	20 %	ASTM D395B
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	70	70	ASTM D2240
Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity 392°F (200°C), 11200 sec <sup>-1</sup>	9.90 Pa·s	9.90 Pa·s	ASTM D3835

**Additional Information**

Dynaflex™ G7970-9 NSFG 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	330 to 350 °F	166 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 100 °F	16 to 38 °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**

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™ G7970-9 NSFG 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 the regrind effectiveness should be determined by the customer.

The Dynaflex™ G7970-9 NSFG 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: 175 to 575 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**

<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