

# Dynaflex™ G7690-1 (Natural)

## Thermoplastic Elastomer

### Key Characteristics

#### Product Description

Dynaflex™ G7690-1 (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	• 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)	14 g/10 min	14 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))	660 psi	4.55 MPa	ASTM D412
Tensile Stress <sup>3, 4</sup> (300% Strain, 73°F (23°C))	900 psi	6.21 MPa	ASTM D412
Tensile Strength <sup>3, 4</sup> (Break, 73°F (23°C))	1600 psi	11.0 MPa	ASTM D412
Tensile Elongation <sup>3, 4</sup> (Break, 73°F (23°C))	600 %	600 %	ASTM D412
Tear Strength	265 lbf/in	46.4 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	38 %	38 %	ASTM D395B
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	89	89	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>	74.0 Pa·s	74.0 Pa·s	
392°F (200°C), 11200 sec <sup>-1</sup>	14.3 Pa·s	14.3 Pa·s	

Copyright © 2020 Avient Corporation. Avient makes no representations, guarantees, or warranties of any kind with respect to the Information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the Information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the Information. Avient makes no warranties or guarantees respecting suitability of either Avient's products or the Information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the Information and/or use or handling of any product. Avient MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the Information or products reflected by the Information. This data sheet shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.

**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™ G7690-1 (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™ G7690-1 (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™ G7690-1 (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

**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



avient.com

Copyright ©, 2020 Avient Corporation. Avient makes no representations, guarantees, or warranties of any kind with respect to the Information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the Information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. Values reported as "typical" or stated without a range do not state minimum or maximum properties; consult your sales representative for property ranges and min/max specifications. Processing conditions can cause material properties to shift from the values stated in the Information. Avient makes no warranties or guarantees respecting suitability of either Avient's products or the Information for your process or end-use application. You have the responsibility to conduct full-scale end-product performance testing to determine suitability in your application, and you assume all risk and liability arising from your use of the Information and/or use or handling of any product. Avient MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, either with respect to the Information or products reflected by the Information. This data sheet shall NOT operate as permission, recommendation, or inducement to practice any patented invention without permission of the patent owner.