# Dynaflex™ G7980-1C Natural

## Thermoplastic Elastomer

### Key Characteristics

| Product Description | | | |
|---|---|---|---|
| Dynaflex™ G7980-1C Natural is an easy processing, general purpose TPE designed for a wide variety of applications, including those where FDA compliance is required.<br>• Overmold Adhesion to Polypropylene<br>• Rubbery Feel<br>• Soft Touch | | | |
| **General** | | | |
| Material Status | • Commercial: Active | | |
| Regional Availability | • Asia Pacific | | |
| Features | • General Purpose<br>• Good Colorability | • Good Flow<br>• Good Processability | • Good Processing Stability |
| Uses | • Consumer Applications<br>• Flexible Grips<br>• Gaskets | • Household Goods<br>• Overmolding<br>• Seals | • Sporting Goods |
| Agency Ratings | • FDA 21 CFR 177.2600 [1] | | |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

### Technical Properties [2]

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 1.18 | 1.18 | ASTM D792 |
| **Elastomers** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Tensile Stress [3, 4] (300% Strain, 73°F (23°C)) | 660 psi | 4.55 MPa | ASTM D412 |
| Tensile Strength [3, 4] (Break, 73°F (23°C)) | 1160 psi | 8.00 MPa | ASTM D412 |
| Tensile Elongation [3, 4] (Break, 73°F (23°C)) | 660 % | 660 % | ASTM D412 |
| **Hardness** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Durometer Hardness (Shore A, 10 sec) | 80 | 80 | ASTM D2240 |
| **Fill Analysis** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Apparent Viscosity | | | ASTM D3835 |
| 392°F (200°C), 11200 sec^-1 | 10.2 Pa·s | 10.2 Pa·s | |

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## Processing Information

| Injection | Typical Value (English) | Typical Value (SI) |
|---|---|---|
| Suggested Max Regrind | 20 % | 20 % |
| Rear Temperature | 330 to 370 °F | 166 to 188 °C |
| Middle Temperature | 350 to 370 °F | 177 to 188 °C |
| Front Temperature | 370 to 420 °F | 188 to 216 °C |
| Nozzle Temperature | 370 to 440 °F | 188 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™ G7980-1C 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™ G7980-1C 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™ G7980-1C 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

[1] Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.

[2] Typical values are not to be construed as specifications.

[3] Die C

[4] 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

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