# Versaflex™ G2705 N

## Thermoplastic Elastomer

### Key Characteristics

| Product Description | | | |
|---|---|---|---|
| Versaflex™ G2705 N is an easy processing material designed for applications where FDA regulations are required. The material exhibits high resilience, low compression set, and good puncture resealing characteristics. It is also steam sterilizable.<br><br>Versaflex™ G2705 N supplied as a dense pellet. | | | |
| **General** | | | |
| Material Status | • Commercial: Active | | |
| Regional Availability | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America | • North America |
| Agency Ratings | • FDA 21 CFR 177.1210<br>• FDA 21 CFR 177.2600 | • ISO 10993 Part 4<br>• ISO 10993 Part 5 | • USP Class VI [1] |
| RoHS Compliance | • RoHS Compliant | | |
| Appearance | • Translucent | | |
| Forms | • Pellets | | |
| Processing Method | • Extrusion | • Injection Molding | |

### Technical Properties [2]

| Physical | Typical Value (English) | Typical Value (SI) | Test Method |
|---|---|---|---|
| Density / Specific Gravity | 0.890 | 0.890 | ASTM D792 |
| **Elastomers** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Tensile Stress [3, 4] (300% Strain) | 528 psi | 3.64 MPa | ASTM D412 |
| Tensile Strength [3, 4] (Break) | 670 psi | 4.62 MPa | ASTM D412 |
| Tensile Elongation [3, 4] (Break) | 470 % | 470 % | ASTM D412 |
| Tear Strength [3, 4] | 129 lbf/in | 22.6 kN/m | ASTM D624 |
| Compression Set | | | |
| 73°F (23°C) | 20 % | 20 % | ASTM D395 |
| 158°F (70°C), 22 hr | 43 % | 43 % | ASTM D395B |
| **Hardness** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Durometer Hardness [4] | | | ASTM D2240 |
| Shore A, 10 sec, 73°F (23°C) | 60 | 60 | |
| **Fill Analysis** | **Typical Value (English)** | **Typical Value (SI)** | **Test Method** |
| Apparent Viscosity | | | ASTM D3835 |
| 392°F (200°C), 11200 sec^-1 | 14.9 Pa·s | 14.9 Pa·s | |

### Processing Information

| Injection | Typical Value (English) | Typical Value (SI) |
|---|---|---|
| Rear Temperature | 340 to 390 °F | 171 to 199 °C |
| Middle Temperature | 360 to 420 °F | 182 to 216 °C |
| Front Temperature | 360 to 420 °F | 182 to 216 °C |
| Nozzle Temperature | 380 to 440 °F | 193 to 227 °C |
| Mold Temperature | 80 to 120 °F | 27 to 49 °C |
| Back Pressure | 100 to 200 psi | 0.689 to 1.38 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 Versaflex™ G2705 N 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.

Versaflex™ G2705 N 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

| Extrusion | Typical Value (English) | Typical Value (SI) |
|---|---|---|
| Melt Temperature | 375 to 460 °F | 191 to 238 °C |
| Die Temperature | 375 to 460 °F | 191 to 238 °C |

| Extrusion Notes |
|---|

Purge thoroughly before and after use of this product with a low flow (0.5 - 2.5 MFR) polyethylene (PE or polypropylene (PP)

Drying is not required.
Screw Speed = 100-700 RPM

### Notes

[1] Please contact PolyOne GLS Thermoplastic Elastomers for a complete copy of the GLS Healthcare Policy.
1. The Customer must notify GLS of any FDA Class I and/or European Union Class I medical devices for each specific product and application.
2. The Customer shall not knowingly manufacture, use, sell or otherwise supply, directly or indirectly products or compounds made from GLS products in any of the following without prior written approval by GLS for each specific product or application:
a. Cosmetics
b. Drugs and other Pharmaceuticals
c. Temporary or permanent implantation in the human body, regardless of the intended duration of implantation
d. Class II and Class III Medical Devices as defined in 21 CFR 860.3 ("Medical Devices")
e. Class IIa, IIb and III as defined in Directive 93/42/EEC

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

[3] Die C

[4] 2 hr

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