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.

Versaflex™ G2705 N supplied as a dense pellet.

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Agency Ratings	• FDA 21 CFR 177.1210 • FDA 21 CFR 177.2600	• ISO 10993-4 • ISO 10993-5	• 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

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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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