Versaflex™ D2109 N

Thermoplastic Elastomer

Key Characteristics

Product Description			
Versaflex™ D2109 N is an easy processing, general purpose material designed for a wide variety of applications			
General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Agency Ratings	• FDA • ISO 10993-4	• ISO 10993-5 • USP Class VI [1]	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.930	0.930	ASTM D792
Molding Shrinkage			ISO 294-4
Across Flow	2.5 to 2.9 %	2.5 to 2.9 %	
Flow	2.3 to 2.9 %	2.3 to 2.9 %	
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tear Strength	134 lbf/in	23.5 kN/m	ASTM D624
Compression Set			ASTM D395
73°F (23°C), 22 hr	13 %	13 %	
158°F (70°C), 22 hr	90 %	90 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness [3]			ASTM D2240
Shore A, 10 sec, 73°F (23°C)	45	45	
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec^-1	21.5 Pa·s	21.5 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	310 to 380 °F	154 to 193 °C
Middle Temperature	320 to 390 °F	160 to 199 °C
Front Temperature	330 to 390 °F	166 to 199 °C
Nozzle Temperature	330 to 390 °F	166 to 199 °C
Mold Temperature	70 to 100 °F	21 to 38 °C
Injection Pressure	500 to 700 psi	3.45 to 4.83 MPa
Injection Rate	Moderate-Fast	Moderate-Fast
Back Pressure	50.0 to 150 psi	0.345 to 1.03 MPa
Screw Speed	25 to 75 rpm	25 to 75 rpm

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Injection Notes

Color concentrates with ethylene vinyl acetate (EVA) carriers are most suitable for coloring Versaflex™ D2109 N. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow rate of 25 - 40 g/10 min). Typical loadings for color concentrates are 1% to 5% by weight. A high color match consistency may be obtained by using pre-colored compounds available from GLS. Concentrates based on PVC should not be used. 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).

Versaflex™ D2109 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

Notes

[1] 1Please 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] 2 hr

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