

Versaflex™ VDT 5110-50N

Thermoplastic Elastomer

Key Characteristics

Product Description			
Versaflex™ VDT 5110-50N is a vibration and impact damping TPE formulated to bond to polar resins including Polycarbonate (PC), ABS, PC/ABS, and Copolyester			
General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Adhesion • Vibration Damping		
Uses	• Appliance Components • Automotive Applications • Consumer Applications	• Flexible Grips • General Purpose • Overmolding	• Power/Other Tools • Soft Touch Applications • Sporting Goods
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.05	1.05	ASTM D792
Molding Shrinkage - Flow	0.015 to 0.023 in/in	1.5 to 2.3 %	ASTM D955
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress ^{2,3} (100% Strain, 73°F (23°C))	250 psi	1.72 MPa	ASTM D412
Tensile Stress ^{2,3} (300% Strain, 73°F (23°C))	400 psi	2.76 MPa	ASTM D412
Tensile Strength ^{2,3} (Break, 73°F (23°C))	825 psi	5.69 MPa	ASTM D412
Tensile Elongation ^{2,3} (Break, 73°F (23°C))	740 %	740 %	ASTM D412
Tear Strength ² (73°F (23°C))	161 lbf/in	28.2 kN/m	ASTM D624
Compression Set (73°F (23°C))	21 %	21 %	ASTM D395B
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	52	52	ASTM D2240
Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity			ASTM D3835
392°F (200°C), 1340 sec ⁻¹	60.3 Pa·s	60.3 Pa·s	
392°F (200°C), 11200 sec ⁻¹	11.5 Pa·s	11.5 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	125 to 140 °F	52 to 60 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Suggested Max Moisture	0.030 %	0.030 %
Suggested Max Regrind	20 %	20 %
Rear Temperature	340 to 360 °F	171 to 182 °C

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Injection	Typical Value (English)	Typical Value (SI)
Middle Temperature	360 to 410 °F	182 to 210 °C
Front Temperature	370 to 420 °F	188 to 216 °C
Nozzle Temperature	380 to 430 °F	193 to 221 °C
Mold Temperature	55 to 85 °F	13 to 29 °C
Back Pressure	0.00 to 50.0 psi	0.00 to 0.345 MPa

Injection Notes

Color concentrates based on Versaflex™ VDT 5110-50N are most suitable for coloring Versaflex™ VDT 5110-50N. Typical loadings for color concentrates are 1% to 4% by weight. 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 polypolyene (PP).

Regrind levels up to 20% can be used with Versaflex™ VDT 5110-50N 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™ VDT 5110-50N 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.

Suggested Dewpoint: -40°F

Injection Speed: 0.5 to 2 in/sec

1st Stage - Boost Pressure: 500 to 1000 psi

2nd Stage - Hold Pressure: 20-60% of Boost

Hold Time (Thick Part): 2 to 4 sec

Hold Time (Thin Part): 1 to 2 sec

Notes

¹ Typical values are not to be construed as specifications.

² Die C

³ 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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