

Versaflex™ VDT 5110-50N

Thermoplastic Elastomer

PolyOne Corporation

Message:

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 Information	
Features	Shock absorption
	Good adhesion
Uses	overmolding
	Power/other tools
	Home appliance components
	Application in Automobile Field
	Soft touch application
	Soft handle
	Sporting goods
	General
	Consumer goods application field
RoHS Compliance	RoHS compliance
Appearance	Natural color
Forms	Particle
Processing Method	Extrusion
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.05	g/cm ³	ASTM D792
Molding Shrinkage - Flow	1.5 - 2.3	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 10 sec)	52		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ¹			ASTM D412
100% strain, 23°C ²	1.72	MPa	ASTM D412
300% strain, 23°C ³	2.76	MPa	ASTM D412
Tensile Strength (Break, 23°C)	5.69	MPa	ASTM D412
Tensile Elongation (Break, 23°C)	740	%	ASTM D412
Tear Strength ⁴ (23°C)	28.2	kN/m	ASTM D624
Compression Set (23°C)	21	%	ASTM D395B

Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity			ASTM D3835
200°C, 1340 sec ⁻¹	60.3	Pa·s	ASTM D3835
200°C, 11200 sec ⁻¹	11.5	Pa·s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	51.7 - 60.0	°C	
Drying Time	3.0 - 4.0	hr	
Suggested Max Moisture	0.030	%	
Suggested Max Regrind	20	%	
Rear Temperature	171 - 182	°C	
Middle Temperature	182 - 210	°C	
Front Temperature	188 - 216	°C	
Nozzle Temperature	193 - 221	°C	
Mold Temperature	12.8 - 29.4	°C	
Back Pressure	0.00 - 0.345	MPa	

Injection instructions

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 polypropylene (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

NOTE

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|----|-------------|
| 1. | 2 hr |
| 2. | Mouth die c |
| 3. | C mould |
| 4. | C mould |

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