Versaflex™ CE 3180

Thermoplastic Elastomer

Key Characteristics

Product Description			
Versaflex™ CE 3180 is targeted for consumer electronics applications where excellent abrasion resistance, chemical resistance and silky feel are required. Versaflex™ CE 3180 can also overmold to a variety of substrates including PC, ABS, PC/ABS, and Copolyester.			
General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East	• Asia Pacific	• North America
Features	• Abrasion Resistant • Chemical Resistant • Good Colorability	• Good Processability • Low Friction • Pleasing Surface Appearance	• UV Resistant
Uses	• Appliances • Communication Applications • Computer Components • Consumer Applications	• Electrical/Electronic Applications • Flexible Grips • Overmolding • Soft Touch Applications	• Thick-walled Parts • Thin-walled Parts
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Natural Color	
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.17	1.17	ASTM D792
Molding Shrinkage - Flow (380°F (193°C))	6.0E-3 to 0.012 in/in	0.60 to 1.2 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [2, 3] (300% Strain, 73°F (23°C))	1160 psi	8.00 MPa	ASTM D412
Tensile Strength [2, 3] (Break, 73°F (23°C))	2320 psi	16.0 MPa	ASTM D412
Tensile Elongation [2, 3] (Break, 73°F (23°C))	580 %	580 %	ASTM D412
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	79	79	ASTM D2240
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec^-1	23.0 Pa·s	23.0 Pa·s	
Additional Information	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Mass Loss - 500 Cycle Abrasion Resistance [4] (73°F (23°C))	2.0 mg	2.0 mg	ASTM D3389

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 %

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Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	340 to 360 °F	171 to 182 °C
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
Processing (Melt) Temp	380 to 425 °F	193 to 218 °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
Screw Speed	50 to 100 rpm	50 to 100 rpm

Injection Notes

Typical colorant letdown ratios are 50:1 to 25:1 - loading levels should be as low as possible to minimize the effect on adhesion. A high color match consistency can be obtained by the use of precolored 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. Contact GLS for more information on appropriate color concentrate base resins.

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

Versaflex™ CE 3180 should not be left in the barrel for extended idle periods (greater than 5 minutes).

Suggested Dewpoint: -40°F

Injection Speed: 0.5 to 2 in/sec
1st Stage - Boost Pressure: 500 to 1,000 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

[4] Abrasion wheel: H-18
Mass Lost

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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