Versaflex™ OM 4052-1 NATURAL

Thermoplastic Elastomer

Key Characteristics

Product Description

Versaflex™ OM 4052-1 Natural is designed for overmolding onto polycarbonate (PC), ABS, and PC/ABS substrates.

- Excellent Bond to PC, ABS, PC/ABS
- Rubbery Feel
- Soft Touch

General			
Material Status	• Commercial: Active		
Regional Availability	• North America		
Features	• Good Processing Stability	• Soft	
Uses	• Consumer Applications • Flexible Grips	• Medical/Healthcare Applications • Overmolding	• Soft Touch Applications
Agency Ratings	• FDA [1]		
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.01	1.01	ASTM D792
Molding Shrinkage - Flow	8.0E-3 to 0.014 in/in	0.80 to 1.4 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	297 psi	2.05 MPa	ASTM D412
Tensile Stress [3, 4] (300% Strain, 73°F (23°C))	557 psi	3.84 MPa	ASTM D412
Tensile Strength [3, 4] (Break, 73°F (23°C))	1680 psi	11.6 MPa	ASTM D412
Tensile Elongation [3, 4] (Break, 73°F (23°C))	670 %	670 %	ASTM D412
Compression Set (73°F (23°C), 22 hr)	27 %	27 %	ASTM D395B
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A, 10 sec, 73°F (23°C)	56	56	
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec^-1	13.2 Pa·s	13.2 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	120 to 140 °F	49 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	320 to 380 °F	160 to 193 °C
Middle Temperature	350 to 380 °F	177 to 193 °C
Front Temperature	360 to 400 °F	182 to 204 °C
Nozzle Temperature	380 to 420 °F	193 to 216 °C
Processing (Melt) Temp	360 to 420 °F	182 to 216 °C
Mold Temperature	70 to 90 °F	21 to 32 °C
Back Pressure	0.00 to 125 psi	0.00 to 0.862 MPa
Screw Speed	75 to 125 rpm	75 to 125 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™ OM 4052-1 Natural has good 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 5 - 8 minutes or longer.

Suggested Dewpoint: -40°F

Injection Speed: 1 to 3 in/sec
1st Stage - Boost Pressure: 100 to 800 psi
2nd Stage - Hold Pressure: 30% of Boost
Hold Time (Thick Part): 4 to 10 sec
Hold Time (Thin Part): 1 to 3 sec

Notes

[1] Please contact Avient 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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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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