

Versaflex™ OM 1040X-1

Thermoplastic Elastomer

Avient Corporation

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Technical Data

Product Description

The Versaflex™ OM 1040X-1 is a medical compliant overmolding TPE with very good adhesion to PC or ABS-based plastics.

- Good Surface Aesthetics
- Rubbery Feel
- Soft Touch
- Very Good Bond to PC, ABS, PC/ABS

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet
Search for UL Yellow Card	• Avient Corporation • Versaflex™
Availability	• Africa & Middle East • Asia Pacific • Latin America • North America
Features	• Good Colorability • Good Moldability • Good Processability • Good Processing Stability • Good Surface Finish
Uses	• Flexible Grips • Medical/Healthcare Applications • Overmolding • Soft Touch Applications • Transparent or Translucent Parts
Agency Ratings	• FDA • ISO 10993-4 • ISO 10993-5 • USP Class VI ²
RoHS Compliance	• RoHS Compliant
Appearance	• Translucent
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	0.918 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)		ASTM D1238
190°C/2.16 kg	9.0 g/10 min	
200°C/5.0 kg	16 g/10 min	
Molding Shrinkage - Flow	2.0 to 2.6 %	ASTM D955

Elastomers	Nominal Value Unit	Test Method
Tensile Stress ^{4, 5}		ASTM D412
100% Strain, 23°C	1.24 MPa	
300% Strain, 23°C	2.08 MPa	
Tensile Strength ^{4, 5} (Break, 23°C)	3.47 MPa	ASTM D412
Tensile Elongation ^{4, 5} (Break, 23°C)	580 %	ASTM D412
Tear Strength	17.5 kN/m	ASTM D624
Compression Set (23°C, 22 hr)	22 %	ASTM D395B

Hardness	Nominal Value Unit	Test Method
Durometer Hardness (Shore A, 10 sec)	42	ASTM D2240

Fill Analysis	Nominal Value Unit	Test Method
Apparent Viscosity (200°C, 11200 sec ⁻¹ -1)	11.7 Pa·s	ASTM D3835

Injection	Nominal Value Unit
Suggested Max Regrind	20 %



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Injection	Nominal Value Unit
Rear Temperature	166 to 188 °C
Middle Temperature	182 to 199 °C
Front Temperature	188 to 204 °C
Nozzle Temperature	193 to 216 °C
Processing (Melt) Temp	188 to 210 °C
Mold Temperature	21 to 32 °C
Back Pressure	0.00 to 0.862 MPa
Screw Speed	75 to 125 rpm

Injection Notes

Color concentrates with EVA, polypropylene (PP) or LDPE carrier are most suitable for coloring Versaflex™ OM 1040X-1. Typical 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.

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™ OM 1040X-1 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.

The Versaflex™ OM 1040X-1 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 8 - 10 minutes or longer.

Drying is not Required

Injection Speed: 1 to 5 in/sec

1st Stage - Boost Pressure: 200 to 600 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 These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² Please 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

³ Typical properties: these are not to be construed as specifications.

⁴ Die C

⁵ 2 hr



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Where to Buy

Supplier

Avient Corporation

Cleveland, Cleveland USA

Telephone: 1-844-4AVIENT

Web: <https://www.avient.com>

Distributor

Formerra

Formerra is a next generation distributor of performance material solutions for the world's leading brand owners and manufacturers. Bringing you commercial and technical expertise, industry know-how, and access to more than 5,000 materials from 40+ premium suppliers faster and easier than ever before.

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Availability: Global

