



Versaflex™ OM 1040X-1

Thermoplastic Elastomer

Key Characteristics

Product Description

The Versaflex™ OM 1040X-1 is a cost-effective 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		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • North America	• South America
Features	• Good Surface Finish		
Agency Ratings	• FDA Unspecified Rating • ISO 10993 Part 4	• ISO 10993 Part 5 • USP Class VI	
Appearance	• Natural Color		
Processing Method	• Injection Molding		

Technical Properties ¹

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Specific Gravity	0.920	0.918 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	9.0 g/10 min	9.0 g/10 min	
200°C/5.0 kg	16 g/10 min	16 g/10 min	
Molding Shrinkage - Flow	0.020 to 0.026 in/in	2.0 to 2.6 %	ASTM D955
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress ^{2,3} (100% Strain, 73°F (23°C))	180 psi	1.24 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))	520 psi	3.59 MPa	ASTM D412
Tensile Elongation ^{2,3} (Break, 73°F (23°C))	490 %	490 %	ASTM D412
Tear Strength	100 lbf/in	17.5 kN/m	ASTM D624
Compression Set (73°F (23°C), 22.0 hr)	22 %	22 %	ASTM D395B
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	42	42	ASTM D2240

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	330 to 370 °F	166 to 188 °C
Middle Temperature	360 to 390 °F	182 to 199 °C
Front Temperature	370 to 400 °F	188 to 204 °C
Nozzle Temperature	380 to 420 °F	193 to 216 °C
Processing (Melt) Temp	370 to 410 °F	188 to 210 °C
Mold Temperature	70.0 to 90.0 °F	21.1 to 32.2 °C
Back Pressure	0.00 to 125 psi	0.00 to 0.862 MPa
Screw Speed	75 to 125 rpm	75 to 125 rpm

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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 Typical values are not to be construed as specifications.

² Die C

³ 2 hr

PolyOne Americas

33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000
+1 866 POLYONE

PolyOne Asia

No. 88 Guoshoujing Road
Z.J Hi-tech Park, Pudong
Shanghai, 201203, China
+86 (0) 21 5080 1188

PolyOne Europe

6 Giallewee
Please Call Assesse
Belgium Phone Number +32
(0) 83 660 211

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