Versaflex™ OM 6160-1

Thermoplastic Elastomer

Key Characteristics

Product Description

Versaflex™ OM 6160-1 is specifically designed to bond to a variety of standard and modified nylon materials, including those which are glass-filled, heat stabilized and/or impact modified.

- Excellent Surface Appearance
- Exceptional Colorability
- Outstanding Adhesion in Both Two-Shot and Insert Molding Processes
- Soft, Rubbery Grip
- Very Easy to Process

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Adhesion • Good Colorability	• Good Processability • Good Surface Finish	
Agency Ratings	• FDA	• UL 94	
Appearance	• Natural Color		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.11	1.11	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	5.0 g/10 min	5.0 g/10 min	
200°C/5.0 kg	38 g/10 min	38 g/10 min	
Molding Shrinkage - Flow	0.017 to 0.021 in/in	1.7 to 2.1 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [2, 3] (100% Strain, 73°F (23°C))	330 psi	2.28 MPa	ASTM D412
Tensile Stress [2, 3] (300% Strain, 73°F (23°C))	363 psi	2.50 MPa	ASTM D412
Tensile Strength [2, 3] (Break, 73°F (23°C))	410 psi	2.83 MPa	ASTM D412
Tensile Elongation [2, 3] (Break, 73°F (23°C))	390 %	390 %	ASTM D412
Tear Strength	140 lbf/in	24.5 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	31 %	31 %	ASTM D395B
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	60	60	ASTM D2240
Flammability	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Flame Rating (0.06 in (1.5 mm))	HB	HB	UL 94
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec^-1	20.0 Pa·s	20.0 Pa·s	

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	330 to 380 °F	166 to 193 °C
Middle Temperature	480 to 500 °F	249 to 260 °C
Front Temperature	490 to 530 °F	254 to 277 °C
Nozzle Temperature	490 to 530 °F	254 to 277 °C
Processing (Melt) Temp	500 to 530 °F	260 to 277 °C
Mold Temperature	60 to 100 °F	16 to 38 °C
Back Pressure	0.00 to 100 psi	0.00 to 0.689 MPa
Screw Speed	75 to 125 rpm	75 to 125 rpm

Injection Notes

Color concentrates with PS, EVA, or LDPE carriers are most suitable for coloring Versaflex™ OM 6160-1. Typical 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. Polypropylene (PP) based color concentrates are not recommended because they can significantly affect adhesion of the TPE to the nylon. 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 6160-1 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.

Versaflex™ OM 6160-1 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: 2.5 to 5 in/sec
1st Stage - Boost Pressure: 400 to 600 psi
2nd Stage - Hold Pressure: 70% of Boost
Hold Time (Thick Part): 3 to 6 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

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