Versaflex™ CL40

Thermoplastic Elastomer

Key Characteristics

Product Description

Versaflex™ CL40 is an easy processing compound designed for use in injection molding applications where water-clarity and excellent colorability are required.

- Excellent Clarity
- Excellent Colorability
- Overmold Adhesion to Polypropylene
- Soft Touch

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Latin America • North America	
Features	• Good Colorability	• High Clarity	
Uses	• Consumer Applications • Flexible Grips	• Optical Applications • Overmolding	• Soft Touch Applications • Transparent or Translucent Parts
Agency Ratings	• FDA	• UL 94	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.890	0.890	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg	13 g/10 min	13 g/10 min	
200°C/5.0 kg	38 g/10 min	38 g/10 min	
Molding Shrinkage - Flow	0.016 to 0.020 in/in	1.6 to 2.0 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [2, 3] (100% Strain, 73°F (23°C))	200 psi	1.38 MPa	ASTM D412
Tensile Stress [2, 3] (300% Strain, 73°F (23°C))	329 psi	2.27 MPa	ASTM D412
Tensile Strength [2, 3] (Break, 73°F (23°C))	815 psi	5.62 MPa	ASTM D412
Tensile Elongation [2, 3] (Break, 73°F (23°C))	760 %	760 %	ASTM D412
Tear Strength	130 lbf/in	22.8 kN/m	ASTM D624
Compression Set (73°F (23°C), 22 hr)	12 %	12 %	ASTM D395B
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	43	43	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	16.0 Pa·s	16.0 Pa·s	

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	330 to 370 °F	166 to 188 °C
Middle Temperature	350 to 380 °F	177 to 193 °C
Front Temperature	360 to 440 °F	182 to 227 °C
Nozzle Temperature	370 to 440 °F	188 to 227 °C
Mold Temperature	60 to 100 °F	16 to 38 °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

Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (LDPE) carriers are most suitable for coloring Versaflex™ CL40. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40 g/10 min). Typical loadings for color concentrates are 1% to 5% by weight. Liquid color can be used, but mineral oil based carriers may have a significant effect on the final hardness value. Concentrates based on PVC should not be used. A high color match consistency can be obtained by using precolored compounds available from GLS. 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) polypropylene (PP) or polyethylene (PE).

Regrind levels up to 20% can be used with Versaflex™ CL40 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.

Drying is not Required

Injection Speed: 1 to 5 in/sec
1st Stage - Boost Pressure: 400 to 1000 psi
2nd Stage - Hold Pressure: 30% of Boost
Hold Time (Thick Part): 3 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

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