Versaflex™ HC 1100-40 Translucent EU

Thermoplastic Elastomer

Key Characteristics

Product Description

The Versaflex™ HC 1100-40 Translucent EU is an 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
- may be appropriate where FDA compliance is required

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East	• Europe	
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 21 CFR 177.1210 [1]	• ISO 10993-5 [2]	• USP Class VI [2]
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [3]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.919	0.919	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/5.0 kg)	75 g/10 min	75 g/10 min	ISO 1133
Molding Shrinkage - Flow	0.020 to 0.026 in/in	2.0 to 2.6 %	ISO 294-4
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [4]			ISO 37
100% Strain, 73°F (23°C), 0.0787 in (2.00 mm)	145 psi	1.00 MPa	
Tensile Stress [4]			ISO 37
300% Strain, 73°F (23°C), 0.0787 in (2.00 mm)	290 psi	2.00 MPa	
Tensile Strength [4]			ISO 37
Break, 73°F (23°C), 0.0787 in (2.00 mm)	783 psi	5.40 MPa	
Tensile Elongation [4]			ISO 37
Break, 73°F (23°C), 0.0787 in (2.00 mm)	730 %	730 %	
Tear Strength	103 lbf/in	18.0 kN/m	ISO 34
Compression Set (73°F (23°C), 22 hr)	22 %	22 %	ASTM D395B
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Shore Hardness (Shore A, 10 sec)	44	44	ISO 48-4

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Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity			Internal Method
392°F (200°C), 11200 sec^-1	10.5 Pa·s	10.5 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	329 to 374 °F	165 to 190 °C
Middle Temperature	356 to 392 °F	180 to 200 °C
Front Temperature	365 to 401 °F	185 to 205 °C
Nozzle Temperature	383 to 419 °F	195 to 215 °C
Processing (Melt) Temp	365 to 410 °F	185 to 210 °C
Mold Temperature	68 to 104 °F	20 to 40 °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 EVA, polypropylene (PP) or LDPE carrier are most suitable for coloring Versaflex™ HC 1100-40 Translucent EU. 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. 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™ HC 1100-40 Translucent EU 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™ HC 1100-40 Translucent EU 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] Product rating may be influenced by end product design and/or conditions of use. Please contact GLS Thermoplastic Elastomers for information addressing FDA (21 CFR 177.1210) compliance.

[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 values are not to be construed as specifications.

[4] 7.9 in/min (200 mm/min)

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