Versaflex™ FFC 2882-87 EU

Thermoplastic Elastomer

Key Characteristics

Product Description			
Versaflex™ FFC 2882-87 EU is designed to pass several fatty food extraction conditions identified in EU Directive 10/2011 and FDA 21 CFR 177.2600. Versaflex™ FFC 2882-87 EU will also overmold and co-extrude to polypropylene and may be appropriate where FDA and EU 10/2011 compliances are required.			
General			
Material Status	• Commercial: Active		
Regional Availability	• Europe	• North America	
Features	• Food Contact Acceptable		
Uses	• Consumer Applications • Containers	• Gaskets • Kitchenware	• Non-specific Food Applications • Overmolding
Agency Ratings	• EU 10/2011 [1]	• FDA 21 CFR 177.2600 [1]	
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.882	0.882	ISO 1183
Molding Shrinkage - Flow (Injection Molded)	9.0E-3 to 0.015 in/in	0.90 to 1.5 %	ISO 294-4
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	1020 psi	7.00 MPa	ISO 37
Tensile Strength [3, 4] (Break, 73°F (23°C))	1740 psi	12.0 MPa	ISO 37
Tensile Elongation [3, 4] (Break, 73°F (23°C))	850 %	850 %	ISO 37
Tear Strength [5] (0.0787 in (2.00 mm))	400 lbf/in	70.0 kN/m	ISO 34-1
Compression Set			ISO 815
73°F (23°C), 72 hr	20 %	20 %	
158°F (70°C), 22 hr	65 %	65 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	87	87	ISO 868
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ISO 11443
392°F (200°C), 11200 sec^-1	32.0 Pa·s	32.0 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	380 to 400 °F	193 to 204 °C
Middle Temperature	390 to 420 °F	199 to 216 °C
Front Temperature	400 to 440 °F	204 to 227 °C
Nozzle Temperature	410 to 460 °F	210 to 238 °C

Injection	Typical Value (English)	Typical Value (SI)
Processing (Melt) Temp	400 to 440 °F	204 to 227 °C
Mold Temperature	55 to 90 °F	13 to 32 °C
Back Pressure	0.00 to 80.0 psi	0.00 to 0.552 MPa
Screw Speed	50 to 100 rpm	50 to 100 rpm

Injection Notes

Color concentrates based on polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (LDPE) are most suitable for coloring Versaflex™ FFC 2882-87 EU. 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 the use of 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) polyethylene (PE) or polypropylene (PP).

Regrind levels up to 20% can be used with Versaflex™ FFC 2882-87 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.

Versaflex™ FFC 2882-87 EU has excellent 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 3 in/sec
1st Stage - Boost Pressure: 500 to 700 psi
2nd Stage - Hold Pressure: 10 to 30% of Boost
Hold Time (Thick Part): 2 to 4 sec
Hold Time (Thin Part): 1 to 2 sec

Extrusion	Typical Value (English)	Typical Value (SI)
Melt Temperature	400 to 440 °F	204 to 227 °C
Die Temperature	420 to 460 °F	216 to 238 °C

Extrusion Notes

Rear: 380-400F
Center: 390-420F
Front: 400-440F
Screw: 100-500rpm

Notes

[1] Product rating may be influenced by end product design and/or conditions of use. Please contact GLS Thermoplastic Elastomers for information addressing EU (EU, 10/2011) and FDA (21 CFR 177.2600) compliance.
Extraction testing was performed at an independent laboratory and conducted on injection molded plaques of said product. Test results are available from GLS Thermoplastic Elastomers upon request. It is still Customer's responsibility to test for final part compliance.

[2] Typical values are not to be construed as specifications.

[3] Die C

[4] 2 hr

[5] 7.9 in/min (200 mm/min)