

PolyOne Versaflex™ CL E90 Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer, TPE

Material Notes:

Versaflex™ CL E90 is an exceptional clarity, high performance and autoclavable solution ideal for healthcare and food packaging.

Versaflex™ CL E90 is also formulated without the use of plasticizers. New Product. Commercial specifications have not been established. -

Flexible - Formulated without Plasticizers - High ClarityColor concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (PE) carriers are most suitable for coloring Versaflex™ CL E90. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40g/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) polyethylene (PE) or polypropylene (PP). Drying is not Required. Rear Zone = 330-370F Center Zone

= 350-400F Front Zone = 360-420F Screw Speed = 100-500 RPM Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Versaflex-CL-E90-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.898 g/cc	0.898 g/cc	ASTM D792
Oxygen Transmission	260 cc-mm/m ² -24hr-atm	660 cc-mil/100 in ² -24hr-atm	ASTM D3985
	@Thickness 1.80 mm, Temperature 21.0 °C	@Thickness 0.0709 in, Temperature 69.8 °F	
Oxygen Transmission Rate	280 cc-mm/m ² -24hr-atm	711 cc-mil/100 in ² -24hr-atm	ASTM D3985
	@Thickness 0.120 mm, Temperature 21.0 °C	@Thickness 0.00472 in, Temperature 69.8 °F	
Oxygen Transmission Rate	140 cc/m ² /day	9.02 cc/100 in ² /day	ASTM D3985
	@Thickness 1.80 mm, Temperature 21.0 °C	@Thickness 0.0709 in, Temperature 69.8 °F	
Viscosity	2300 cc/m ² /day	148 cc/100 in ² /day	ASTM D3985
	@Thickness 0.120 mm, Temperature 21.0 °C	@Thickness 0.00472 in, Temperature 69.8 °F	
Viscosity	34000 cP	34000 cP	ASTM D3835
	@Shear Rate 11200 1/s, Temperature 200 °C	@Shear Rate 11200 1/s, Temperature 392 °F	
Viscosity	162000 cP	162000 cP	ASTM D3835
	@Shear Rate 1340 1/s, Temperature 200 °C	@Shear Rate 1340 1/s, Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	90	90	10 sec; ASTM D2240
Tensile Strength at Break	12.6 MPa @Temperature 23.0 °C	1830 psi @Temperature 73.4 °F	Die C2 hr; ASTM D412
Tensile Stress	6.89 MPa @Strain 100 %, Temperature 23.0 °C	999 psi @Strain 100 %, Temperature 73.4 °F	Die C2 hr; ASTM D412
	8.51 MPa @Strain 300 %, Temperature 23.0 °C	1230 psi @Strain 300 %, Temperature 73.4 °F	Die C2 hr; ASTM D412
Elongation at Break	570 % @Temperature 23.0 °C	570 % @Temperature 73.4 °F	Die C2 hr; ASTM D412
Compression Set	27 % @Temperature 22.0 °C, Time 79200 sec	27 % @Temperature 71.6 °F, Time 22.0 hour	ASTM D395B
	67 % @Temperature 70.0 °C, Time 79200 sec	67 % @Temperature 158 °F, Time 22.0 hour	ASTM D395B
	73 % @Temperature 100 °C, Time 79200 sec	73 % @Temperature 212 °F, Time 22.0 hour	ASTM D395B

Processing Properties	Metric	English	Comments
Die Temperature	171 - 199 °C	340 - 390 °F	
Melt Temperature	182 - 204 °C	360 - 399 °F	

Descriptive Properties	Value	Comments
Agency Ratings	FDA 21 CFR 177.1210	Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.
	ISO 10993 Part 4	
	ISO 10993 Part 5	
	USP Class VI	
Appearance	Clear/Transparent	
Features	Good Flexibility	

Descriptive Properties	Value	Comments
Forms	Pellets	
Generic Material	TPE	
Generic Name	Thermoplastic Elastomer (TPE)	
Manufacturer / Supplier	GLS Thermoplastic Elastomers	
Processing Method	Extrusion	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
RoHS Compliance	RoHS Compliant	
Uses	Bottles	
	Film	
	Medical/Healthcare Applications	
	Personal Care	

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