

PolyOne Versalloy™ HC 9220-90 Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer, TPE

Material Notes:

Versalloy™ HC 9220-90 is a TPV alloy targeted for extrusion and injection molding healthcare applications such as medical tubing, disposable medical items and soft-touch overmolding for surgical grips. Product exhibits exceptional flow properties and surface aesthetics. * Excellent Extrudability * Good Flow for Injection Molding * Exceptional Colorability * Overmold Adhesion to Polypropylene * Superior Surface Aesthetics Versalloy™ HC 9220-90 can be recycled as a filler or impact modifier for polyolefins, or can be recycled by grinding and reintroduction to the molding process. Similar to PP or PE recycling process, if separated appropriately, it can be recycled many times. Municipality waste stream recycle code is 7 which is designated for Other. Please contact GLS Thermoplastic Elastomers for a copy of our Recyclability Compliance letter. Color concentrates with polypropylene (PP) carrier are most suitable for coloring Versalloy™ HC 9220-90. 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. 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 Versalloy™ HC 9220-90 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. Versalloy™ HC 9220-90 has good melt stability. Empty the barrel for idle periods of fifteen (15) minutes or longer. Injection Speed: 1 to 5 in/sec 1st Stage - Boost Pressure: 300 to 700 psi 2nd Stage - Hold Pressure: 30% of Boost Hold Time (Thick Part): 4 to 10 sec Hold Time (Thin Part): 1 to 3 sec Information provided by PolyOne

Order this product through the following link:

http://www.lookpolymers.com/polymer_PolyOne-Versalloy-HC-9220-90-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.933 g/cc	0.933 g/cc	ASTM D792
Viscosity	28600 cP @Shear Rate 11200 1/s, Temperature 200 °C	28600 cP @Shear Rate 11200 1/s, Temperature 392 °F	ASTM D3835
Linear Mold Shrinkage	0.019 cm/cm	0.019 in/in	Across Flow; ISO 294-4
	0.021 cm/cm	0.021 in/in	Flow; ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	90	90	10 sec; ASTM D2240
Tensile Strength at Break	13.0 MPa @Temperature 21.0 °C	1890 psi @Temperature 69.8 °F	Die C Flow 2 hr; ASTM D412
	13.9 MPa	2020 psi	Die C Across Flow 2 hr; ASTM D412

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Tensile Stress	7.10 MPa	1030 psi	
	@Strain 100 %, Temperature 21.0 °C	@Strain 100 %, Temperature 69.8 °F	Across Flow 2 hr; ASTM D412
	8.16 MPa	1180 psi	
	@Strain 300 %, Temperature 23.0 °C	@Strain 300 %, Temperature 73.4 °F	Die C Across Flow 2 hr; ASTM D412
	9.16 MPa	1330 psi	
	@Strain 100 %, Temperature 21.0 °C	@Strain 100 %, Temperature 69.8 °F	Die C Flow 2 hr; ASTM D412
	10.5 MPa	1520 psi	
	@Strain 300 %, Temperature 21.0 °C	@Strain 300 %, Temperature 69.8 °F	Die C Flow 2 hr; ASTM D412
Elongation at Break	540 %	540 %	
	@Temperature 21.0 °C	@Temperature 69.8 °F	Die C Flow 2 hr; ASTM D412
	700 %	700 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	Die C Across Flow 2 hr; ASTM D412
Tear Strength	67.4 kN/m	385 pli	Across Flow; ASTM D624
	72.4 kN/m	413 pli	Flow; ASTM D624
Compression Set	25 %	25 %	
	@Temperature 23.0 °C, Time 79200 sec	@Temperature 73.4 °F, Time 22.0 hour	ASTM D395B
	25 %	25 %	
	@Temperature 23.0 °C, Time 605000 sec	@Temperature 73.4 °F, Time 168 hour	ASTM D395B
	41 %	41 %	
	@Temperature 70.0 °C, Time 79200 sec	@Temperature 158 °F, Time 22.0 hour	ASTM D395B
	55 %	55 %	
	@Temperature 100 °C, Time 79200 sec	@Temperature 212 °F, Time 22.0 hour	ASTM D395B
	59 %	59 %	
	@Temperature 70.0 °C, Time 605000 sec	@Temperature 158 °F, Time 168 hour	ASTM D395B
	69 %	69 %	
	@Temperature 100 °C, Time 79200 sec	@Temperature 212 °F, Time 22.0 hour	ASTM D395B

Mechanical Properties	Metric	English	Comments
Processing Properties	Metric	English	Comments
Rear Barrel Temperature	177 - 193 °C	351 - 379 °F	
Middle Barrel Temperature	182 - 218 °C	360 - 424 °F	
Front Barrel Temperature	193 - 218 °C	379 - 424 °F	
Nozzle Temperature	193 - 224 °C	379 - 435 °F	
Zone 1	166 - 182 °C	331 - 360 °F	
Zone 2	177 - 204 °C	351 - 399 °F	
Zone 3	182 - 216 °C	360 - 421 °F	
Die Temperature	182 - 210 °C	360 - 410 °F	
Mold Temperature	15.6 - 26.7 °C	60.1 - 80.1 °F	
Drying Temperature	80.0 °C	176 °F	
	80.0 °C	176 °F	
Dry Time	3.00 hour	3.00 hour	
	3.00 hour	3.00 hour	
Back Pressure	0.000 - 0.689 MPa	0.000 - 99.9 psi	
Screw Speed	50 - 100 rpm	50 - 100 rpm	

Descriptive Properties	Value	Comments
Agency Ratings	ISO 10993 Part 4	
	ISO 10993 Part 5	
	USP Class VI	
Appearance	Natural Color	
Features	Good Colorability	
	Good Processability	
	Good Surface Finish	
	Non-Phthalate Plasticizer	
	Recyclable Material	

Forme Descriptive Properties	Pellets Value	Comments
Generic Material	TPE	
Generic Name	Thermoplastic Elastomer (TPE)	
Manufacturer / Supplier	GLS Thermoplastic Elastomers	
Processing Method	Extrusion	
	Injection Molding	
Regional Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	
RoHS Compliance	RoHS Compliant	
Suggested Max Regrind	20%	
Uses	Flexible Grips	
	Medical/Healthcare Applications	
	Overmolding	
	Soft Touch Applications	
	Tubing	

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