

PolyOne Versalloy™ HC 9210-45N Thermoplastic Elastomer (TPE)

Category : Polymer , Thermoplastic , Elastomer , TPE

Material Notes:

Versalloy™ HC 9210-45N is a USP Class VI, TPV alloy targeted for injection molding healthcare applications such as disposable medical items, syringe stoppers, and soft-touch overmolding onto surgical grips. Product exhibits exceptional flow properties and surface aesthetics. * Excellent Flow for Long, Thin Flow Paths * Exceptional Colorability * Overmold Adhesion to Polypropylene * Superior Surface Aesthetics * USP Class VI

Versalloy™ HC 9210-45N 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 9210-45N. 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. 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 Versalloy™ HC 9210-45N 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 9210-45N 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: 300 to 700 psi 2nd Stage - Hold Pressure: 70% 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-9210-45N-Thermoplastic-Elastomer-TPE.php

Physical Properties	Metric	English	Comments
Specific Gravity	0.888 g/cc	0.888 g/cc	ASTM D792
Viscosity	116 cP	116 cP	ASTM D3835
	@Shear Rate 11200 1/s, Temperature 200 °C	@Shear Rate 11200 1/s, Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	45	45	10 sec; ASTM D2240
Tensile Strength at Break	3.34 MPa	484 psi	Die C2 hr; ASTM D412
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Stress	1.10 MPa	160 psi	Die C2 hr; ASTM D412
	@Strain 100 %, Temperature 21.0 °C	@Strain 100 %, Temperature 69.8 °F	

Mechanical Properties	2.21 MPa Metric	321 psi English	Comments Die C2 hr; ASTM D412
	@Strain 300 %, Temperature 23.0 °C	@Strain 300 %, Temperature 73.4 °F	
Elongation at Break	480 % @Temperature 23.0 °C	480 % @Temperature 73.4 °F	Die C2 hr; ASTM D412
Tear Strength	17.5 kN/m @Temperature 21.0 °C	99.9 pli @Temperature 69.8 °F	Die C2 hr; ASTM D624
Compression Set	19 % @Temperature 23.0 °C, Time 79200 sec	19 % @Temperature 73.4 °F, Time 22.0 hour	ASTM D395B
	34 % @Temperature 70.0 °C, Time 79200 sec	34 % @Temperature 158 °F, Time 22.0 hour	ASTM D395B
	39 % @Temperature 100 °C, Time 79200 sec	39 % @Temperature 212 °F, Time 22.0 hour	ASTM D395B

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	149 - 188 °C	300 - 370 °F	
Middle Barrel Temperature	160 - 199 °C	320 - 390 °F	
Front Barrel Temperature	171 - 210 °C	340 - 410 °F	
Nozzle Temperature	171 - 210 °C	340 - 410 °F	
Mold Temperature	15.6 - 26.7 °C	60.1 - 80.1 °F	
Back Pressure	0.689 - 1.38 MPa	99.9 - 200 psi	
Screw Speed	50 - 100 rpm	50 - 100 rpm	

Descriptive Properties	Value	Comments
Agency Ratings	USP Class VI	
Appearance	Natural Color	
Features	Good Colorability	
	Good Processability	
	Good Surface Finish	
	Halogen Free	

Descriptive Properties	Value	Comments
	Non-Phthalate Plasticizer	
	Recyclable Material	
Forms	Pellets	
Generic Material	TPE	
Generic Name	Thermoplastic Elastomer (TPE)	
Manufacturer / Supplier	GLS Thermoplastic Elastomers	
Processing Method	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	
	Personal Care	
	Soft Touch Applications	
	Thin-walled Parts	

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